

Jaguar Conflict Resolution

Grade: 6 - 8

Subject: Critical Thinking, Reading Comprehension, Social Studies

Group size: Whole class, small groups

Duration: Two 50 minute class periods

Materials:

1. Copies of “Jaguars in Your Community” article
2. Stakeholder perspective cards
3. Activity sheets 1-5
4. Two large pieces of paper for each group
5. Markers
6. Colored circle stickers

Objectives:

Students will be able to:

1. Explain why human-wildlife conflicts occur and give examples.
2. Define the term stakeholder.
3. Understand that different stakeholders will have different perspectives on the same issue
4. Use their knowledge to find possible solutions to conflicts.

Vocabulary:

compensation
compromise
conflict
degraded
disperse
endangered
habitat loss
need

negotiate
poaching
stakeholder
recover
refuge
reserve
restore
want

Procedure:

Class period 1

1. Introduce vocabulary and review together as a class
2. Pass out the “Jaguars in your community” article. Read the article to the class (or have students read aloud). Students must underline all words they don’t know while reading. Review together after reading.
3. Explain concept of town meeting. Who is involved? What happens? What is the goal? Announce that there will be a “town meeting” to discuss the issues between people and jaguars and identify solutions.
4. Divide students into small groups and have them draw a stakeholder perspective card from the pile.
5. Have students complete Activity Sheet 1: Stakeholder Needs and Wants. Ask students: what is the difference between a need and a want? What is something you need? What is something you want? Is there a difference? In their

stakeholder groups, students should discuss the differences between their stakeholder's needs and wants. Ask them to rank their needs and wants in order of importance. Number one is the most important need or want for the stakeholder.

Class period 2

6. Distribute large paper and markers to each group. Students should use their need/wants information to propose five solutions for the jaguar conflict that reflect their stakeholder's interests (Activity Sheet 2: Proposed Solutions). Teacher may want to give an example to model the activity for the students. Proposed solutions also should be written on a large piece of paper that can be presented for everyone to see at the meeting.
7. Convene the "town meeting" and allow a representative from each stakeholder group to present their proposed solutions. Students should take notes about the other groups' solutions on Activity Sheet 3: Town Meeting Notes.
8. Students break back into small groups and revise their five solutions. Students should consider the needs and wants of other stakeholder groups in their revision. The revised solutions should be a compromise between their stakeholder needs and wants and those of the other stakeholders. Revised solutions should be written on Activity Sheet 4: Revised Solutions and on a large piece of paper.
9. Reconvene the town meeting and have students discuss their compromises. Have students place their "revised solutions" paper on the board. They should explain how/why their revised solutions reflect a compromise. After this discussion, give students colored circle stickers or markers. Have students go to the board and vote on their preferred solutions by placing a colored circle next to the five solutions that they like best (even if they still think it needs some re-wording). Have the class examine the five solutions with the most votes. Discussion continues until the class can agree on the wording for five solutions that best represent the combined interests of all stakeholders. Have students write down the five solutions they have agreed upon as a group on Activity Sheet 5: Solutions.
10. Reflection. Discuss with students what they learned from and how they felt about the process. Questions include:
 - a. How different are the "Solutions" on Activity Sheet 5 from your original "Proposed Solutions" on Activity Sheet 2?
 - b. Which of your stakeholder's interests were represented in the final solution? Which were not? What did your stakeholder have to give up/compromise in order to reach a final solution? What did they gain?
 - c. Do you feel that the compromise was fair? Why/why not?
 - d. How did the process make you feel as a stakeholder?
 - i. Did you feel your voice was heard?
 - e. What new skills did you learn?
 - i. How could you apply these to another conflict situation in your life?

Jaguars in your community

Protecting jaguars

It seems that jaguar numbers are declining in the Mexican state of Sonora because of habitat loss and hunting and poaching by humans. Jaguars are endangered and Mexico's Department of Environment and Natural Resources wants to help them recover, but must also consider the needs of the local community and other resource users. Some conservation groups have suggested expanding an existing jaguar reserve to increase the amount of land protected and hopefully to help the population grow. People are not allowed to hunt or kill jaguars within these reserves, so this land is an important refuge for the jaguar population in Sonora. Expanding the reserve would involve purchasing several ranches from their owners; this would provide more protected habitat for jaguars. A large conservation group in the United States has offered to buy land from several ranchers in the area to increase the size of the reserve.

Jaguars on the reserve

A recent study evaluated some of the issues involved with expanding the reserve. Those results are now available to the public and are summarized here. Scientists estimate that approximately 80-120 jaguars currently live in the reserve, but they cannot provide more precise population numbers because jaguars are difficult to track. It appears that plenty of wild jaguar prey, such as deer and rabbits exist in the reserve. On the ranches that will be purchased, however, the land has been trampled and degraded by huge herds of cattle and it will need to be restored before it can be suitable habitat for jaguars.

Effects from jaguars

Increasing the number of jaguars in the area may mean that they leave the reserve and attack cattle on local ranches more often. This would affect rancher's income, and would increase negative feelings toward jaguars, and possibly increase the number of jaguars killed by people. There is not enough information available at this time, but currently jaguar predation on cattle does not occur on a large scale. It is very likely that jaguars will prey on a few cattle, but will largely stay on the reserve and hunt there as long as it can maintain adequate numbers of natural prey species.

Ranchers and other local residents are concerned about the impact of the jaguars on the local economy. Ranching has been a part of the culture in Sonora for generations. Some also worry about jaguars attacking their pets and children. Scientists agree, however, that in order for jaguars to possibly recover in the US southwest, the reserve must be expanded and the population increased.

How should we proceed?

Many solutions related to the proposed reserve expansion have been discussed. A US conservation group has suggested buying the reserve and then asking local organizations and Mexico's Department of Environment and Natural Resources to manage the expanded reserve. Ranchers could be compensated by the government for livestock losses. Some have suggested a program that provides incentives not to kill jaguars called the Feline Photo Program. This program installs automatic camera "traps" on private land and ranches and the landowner receives money from the US

conservation group if the camera “captures” a photo of a jaguar. These photos can help with research as well as provide income to people in return for not harming jaguars on their land. Ecotourism is another potential economic benefit of the jaguars. Many people take vacations centered around outdoor activities and wildlife viewing and the reserve could draw people to Sonora for that reason. The local communities could benefit by owning small hotels, restaurants, and tour groups to provide services to the tourists. Despite these possible solutions and benefits, many people oppose the jaguar reserve expansion because they still have concerns that haven’t been addressed. The community is very divided on this issue.

Town meeting

A town meeting has been called to discuss the proposed expansion of the jaguar reserve and to identify solutions that each group can agree to. Representatives of the key stakeholder groups will speak and offer their perspectives and proposed solutions. The representatives will discuss all possible options. Results of the meeting will help to determine whether or not the reserve will be expanded and if so, how it will be managed.

Name

Date

**Activity Sheet 2:
Solutions**

Directions: List your stakeholder's solutions to the issue. **REMEMBER:** your solutions should address the needs and wants of your stakeholder and should not hurt or negatively influence other groups.

Solution 1:

Solution 2:

Solution 3:

Solution 4:

Solution 5:

Name

Date

**Activity Sheet 3:
Town Meeting Notes**

Directions: Take notes while the other stakeholders present their solutions. After listening to all the presentations, you will consider all the information presented and develop new solutions that work for everyone. Keep the following questions in mind while you listen to the presentations and take notes.

1. What solutions do the other stakeholders suggest?
2. What do they need and/or want?
3. What is most important to the other stakeholders? Why?

Stakeholder name	Proposed Solution	Needs	Wants	Most important issue
1.				
2.				
3.				
4.				
5.				
6.				

Name

Date

**Activity Sheet 4:
Revised Solutions**

Directions: Consider what you have just heard in the town meeting and learned throughout this activity. Review your notes with your group members and share what you have written down. Consider the following throughout your discussion:

- How can you compromise between solutions and the solutions of the other stakeholders?

Please list your stakeholder's revised solutions below. Keep in mind that you are representing YOUR stakeholder's needs and wants, but you also need to think about what works for everyone else. Your solutions should not harm or negatively affect the other groups involved.

Revised Solution 1:

Revised Solution 2:

Revised Solution 3:

Revised Solution 4:

Revised Solution 5:

Name

Date

**Activity Sheet 5:
Solutions**

Directions: List the solutions that everyone at the town hall meeting agreed upon.

Solution 1:

Solution 2:

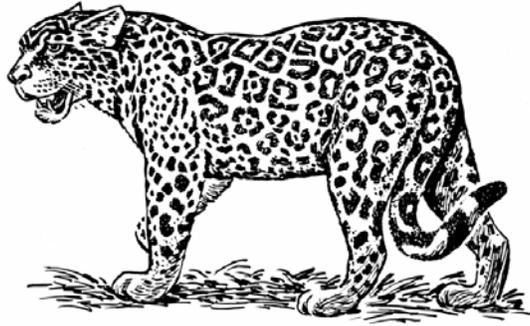
Solution 3:

Solution 4:

Solution 5:

Stakeholder perspective card

Jaguar



I am the largest cat in North America and the third largest in the world. I can live in many different habitats, from dense rainforest to deserts, but I like to have some forest cover and water. I am a carnivore, which means that I eat meat. I prey on deer, javelina, desert bighorn sheep, but I can also feed on birds, turtles, snakes, and fish. Sometimes I also prey on cattle, which leads to conflict with humans. When land is cleared for cattle ranches, the animals I prey on lose their homes, and I have to eat the cattle. As a result, ranchers will sometimes shoot any jaguar they see, whether or not it has preyed on their cattle. Habitat loss and conflicts with humans have caused a lot of jaguars to die, and I am now an endangered species. Protecting me is important for many reasons. By protecting my habitat (for example, rainforests) and me, many other animals and plants can be protected. I am an important symbol in many Latino cultures because of my beauty and incredible strength. Unless my population in Sonora, Mexico is protected by the expansion of the Jaguar Reserve, the jaguars in Mexico may be gone forever.

Stakeholder perspective card

Rancher



I make money and support my family by raising cattle and selling their meat. If a jaguar kills my cattle, I lose money. What if jaguars that live on the Jaguar Reserve prey on my animals? Ranching has been a part of the local culture and economy in Sonora, Mexico for generations, and I shouldn't have to give that up because of the jaguar. We have typically let our cattle roam so that they can find enough grass to eat, and now we are supposed to keep them away from the Jaguar Reserve. Making the reserve bigger will only mean that more jaguars live near my ranch and more of my cattle will die. I need to protect my cattle and my income. I have rights as a rancher and should be able to kill jaguars that threaten my cattle.

Stakeholder perspective card

Jaguar guardian



I live on the Jaguar Reserve and help to protect the jaguars and other wildlife that live there. I also collect information about the jaguars for scientists. I also track what happens to the jaguars that leave the reserve so we know if ranchers kill them. To do this, I need to talk to people who live in the local community to see if they have heard about jaguar shootings. My coworkers and I respect the ranchers, but we want to work with ranchers and other people that live in our town to find ways to protect jaguars. Ranchers need to build pens that keep their cattle far away from the reserve, or the jaguars will kill them. To motivate them, we want to help ranchers make money for protecting the jaguars.

Stakeholder perspective card

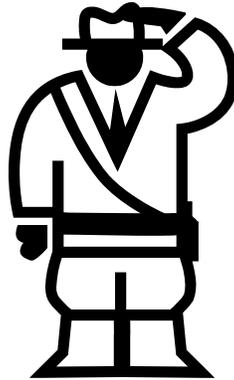
Conservation organization member



The jaguar is almost extinct in the southwestern United States and is endangered in Sonora, Mexico. We want the jaguar to live in the southwestern United States again, but this cannot happen without expanding the Jaguar Reserve to protect the jaguars living in Sonora. Then, there will be enough of them to disperse to good habitat in Arizona and New Mexico, where they used to live. We will pay to buy the land to expand the reserve. We do not want any ranchers to let their cattle on the Reserve and we don't want ranchers to ever kill jaguars, no matter where they are.

Stakeholder perspective card

Government official with Mexico's Department of Environment and Natural Resources



We have developed a government plan to save every endangered species in Mexico, including the jaguar. My job is to help create practical, successful ways to save jaguars that everyone can agree upon. I can help by providing employees and money to save the jaguars. My goal is to make sure that jaguars continue to live in Mexico.

Stakeholder perspective card

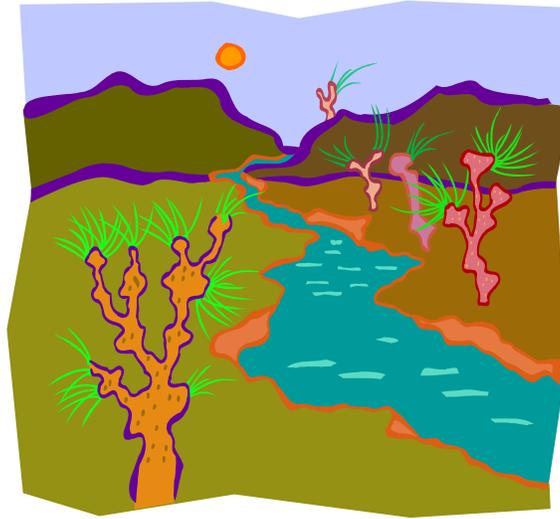
Community member



My family has lived in Sonora, Mexico for generations and jaguars have always been a part of life here. We have always been able to deal with jaguars in the way we thought was best. Now, conservationists are buying our land to expand the Jaguar Reserve, and they are telling us that we can't kill the jaguars, even if they are near our houses. How will I protect my children and pets from jaguars? Do I need to be worried about this? How will jaguars that roam away from the reserve be handled? I am also worried that the Jaguar Reserve will hurt our businesses. I own a business in town and many of the ranchers and their employees are my customers. If jaguars kill too many cattle, and ranchers lose too much money, it will hurt my business too. I am very worried about the Jaguar Reserve expansion but no one has talked to me about how it will affect my family and me.

Stakeholder perspective card

Jaguar researcher



We don't know enough about jaguars in Sonora, Mexico. They are mysterious animals and the desert in Sonora, where they live, is very rugged and difficult to get to. Keeping track of them and where they go is very difficult. In some places, jaguars eat a lot of cattle, and in other places, they hardly ever hunt and eat cattle. We need to know what will happen to the ranchers and their cattle/income if there are more jaguars in Sonora. We know that expanding the Jaguar Reserve will help to save the jaguars, but we have to think about what will happen to the ranchers and community if there are more jaguars in Sonora. The government can help us to create a plan to live peacefully with the jaguars.

Vocabulary List

Compensation – something, typically money, given to someone to make up for a loss, injury or suffering.

Compromise – an agreement between people or groups typically made to settle a conflict. Usually each side gives up something to make the other side happy.

Conflict – a serious disagreement or argument that occurs over long time frame.

Degrade – to lower the quality of something.

Disperse – to spread over a wide area.

Endangered - at risk of becoming extinct.

Extinct – no longer in existence; something that has ended or died out.

Habitat – the area where a plant or animal naturally grows or lives; native environment.

Need – something that is required, essential, or very important.

Negotiate – to try to reach an agreement by discussion with others.

Poaching – to illegally hunt or catch an animal.

Predation – the preying (killing and eating) of one animal on others

Prey – an animal that is hunted and killed by another for food.

Stakeholder – a person with an interest or concern in something.

Recover – for something to return to its original state. With animals, for the population to increase in numbers so that it is no longer endangered.

Refuge – an area of land that provides a safe and healthy place for animals to live.

Reserve – a protected area for wildlife.

Restore – to return an area of land or animal population to a healthy condition.

Want – something that is desired or preferred.