



7 EXPLORING THE NUMBER ONE CAUSE OF PANTHER DEATHS



ESTIMATED TOTAL TIME
50 minutes

- ▶ **Grades 9-Adult**
- ▶ **Biology**
- ▶ **Data Literacy, and Language Arts Connections**

In this activity, students explore narratives and data about human-wildlife interactions in the Florida Wildlife Corridor as they consider the importance of protecting the Florida panther from vehicle collisions. They read informational texts and also analyze data in graphs and in online GIS maps. They then develop possible solutions for panther-vehicle collisions.

For younger audiences, such as introductory biology classes, this activity supports critical thinking and analysis through the use of a Claim-Evidence-Reasoning exercise.

For adult audiences, this activity provides an opportunity to consider the role that zoos, state governments, and other organizations serve in supporting panther rehabilitation. Consider putting additional time into discussing videos and drilling into map data for local areas.

KEY TERMS

- ▶ **human-wildlife conflict**
- ▶ **wildlife crossings**
- ▶ **wildlife corridors**

BACKGROUND

Panthers born in Florida today face pressures of living near cities and towns with rapid population growth and development. That proximity brings peril, especially in Southwest Florida, where expanding roads are constantly squeezing the wildlands.

The leading documented cause of death for panthers is collision with cars and trucks on the expanding network of roadways that cut through the Florida Wildlife Corridor. Vehicle collisions claim the lives of nearly 30 panthers each year. When a female panther is killed or

injured and leaves behind offspring, the kittens are often unable to survive on their own. For orphaned kittens and other panthers who have suffered from conflict or cannot be returned to the wild, Florida's accredited zoos offer sanctuary.



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OBJECTIVES

Students will:

- analyze vehicle collision numbers and locations;
- complete a Claim-Evidence-Reasoning exercise proposing new locations for wildlife crossings; and
- read informational text on seven panthers currently residing in Florida zoos to identify patterns and strategies.

PREPARATION

Gather and/or print materials:

- Slides: [Exploring the Number One Cause of Panther Deaths](#)
- Video: “Tres” (3:20) from *Path of the Panther*
- Video: “[Endangered Florida Panther On Wrong Side of Fence, Lured Back to Safety](#)” (0:35)
- Handout: Florida Panther Deaths From Vehicle Collisions (1 per student)
- Handout: Wildlife Crossings Claim-Evidence-Reasoning (1 per student)
- Video: “[Connecting with Broketail](#)” (11:51)
- Online Map: [FDOT Wildlife Bridge Crossings](#)
- Handout: Meet the Survivors (1 per student)

Set up technology:

Ideally, video clips and the online map will be projected for the whole class.

15 MIN ANALYZE DATA ABOUT VEHICLE COLLISIONS

1. Show students the video clip “Tres” (3:20) from *Path of the Panther* on vehicle collisions. Then show the news clip “Endangered Florida Panther On Wrong Side of Fence, Lured Back to Safety” (0:35).
2. Give one copy of the Florida Panther Deaths From Vehicle Collisions handout to each student. Use the slides to project the graphs in full color. Have students independently explore the data in the graphs and answer the questions.
Possible responses:
 1. Describe the overall trend depicted in the first graph. Use specific data points to support your response. *One trend shows an increase in vehicle collisions over time. Until 2003 there were fewer than 10 each year, but after 2003 the numbers increased to more than 30 in 2015, with a slight downward trend after 2015.*
 2. Around what year do you see a shift in the data? Why do you think that shift might have occurred? *Students may identify the increase in collisions (from 2000–2015), caused by factors such as growth in human population, more roads and vehicle traffic, less habitat due to development. Students may point out the slight decrease from 2015 to 2023, possibly a result of the building of pathways over or under roadways, speed limits, signage, public awareness about protecting panthers, etc.*
 3. Using the second graph, identify the county or counties with the highest number of panther-vehicle collisions. *Collier and Hendry.*
 4. Explain why you think the county or counties identified in the question above might have more collisions than other Florida counties. *Answers may vary, but may include high population density of people and/or panthers, increased development, decreased panther habitat, more roads, more vehicles on the roads, and/or higher speed limits.*

STANDARDS

This activity addresses the following:

NGSS: HS-ESS3-4: Construct an argument supported by evidence for how increases in human population and per-capita consumption of natural resources impact Earth’s systems.

Florida NGSS: SC.912.L.17.6: Discuss, compare, and negotiate methods to balance the needs of humans with the needs of the environment.

Florida NGSS: SC.912.L.17.17: Analyze the potential costs and benefits of various conservation practices and the role of technology in conservation efforts.



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20 MIN MAKE AND SUPPORT A CLAIM ABOUT WILDLIFE CROSSINGS

3. Distribute a copy of the Wildlife Crossings Claim-Evidence-Reasoning handout to each student. Show students the video “Connecting with Broketail” (11:51), featuring wildlife crossings, and have them answer questions 1 and 2 in the handout.
4. Allow students to work with a partner or small group. Have each pair analyze the online map “FDOT Wildlife Bridge Crossings” and answer questions 3–5 in the handout.
5. Next, have students complete the Claim-Evidence-Reasoning chart. They should develop a claim about where additional wildlife crossings are needed, supported with evidence from the data in the graphs, videos, or maps.
6. Have students describe their reasoning, answering the why and how of their claim and relating the evidence they provided from any of the resources they explored in the activity. Invite pairs to share their Claim-Evidence-Reasoning with the whole class.

15 MIN LOOK FOR PATTERNS AMONG PANTHERS SURVIVING HUMAN-WILDLIFE CONFLICT

7. Distribute copies of the Meet the Survivors handout to each student. Explain that they will read about seven Florida panthers currently residing in zoos.
8. Discuss the concept of patterns in data with students: Patterns are shared characteristics or events among data, although not all of the data may follow the pattern exactly. Ask students to identify patterns in the data (for example, interactions with humans result in capture, female panthers were unable to care for kittens, vehicle collisions).
9. Wrap up with a whole-class discussion using the following prompt: *Why are wildlife crossings that provide safe passage under or over roads so important for the Florida panther?*

TIP: To focus more deeply on gathering information from the readings and engaging students through stories of the “Survivors,” you can change the order to feature this section first. The Claim-Evidence-Reasoning presentations can be the final step in the activity.

MORE TO EXPLORE

RESEARCH WILDLIFE PROTECTION IN OTHER LOCATIONS

Research how a [mountain lion named P-22](#) living in the Hollywood Hills has inspired the building of an \$85 million wildlife crossing.

EXPLORE GLOBAL CORRIDOR CONNECTIONS

Connect to global issues with human-wildlife conflict including farmers and leopards/tigers in India, ranchers and wolves in North America, or elephants and crops in Africa. Show this [Wild Hope “Road Warriors” video](#) about innovative wildlife crossing projects in Brazil, including treetop overpasses for tree-dwelling species in the Amazon.

