



Man vs. Animal

SPECIES AT RISK

By Amy Tilmont and Jeff Garside with Mark Stewart

Series Objectives

The **SECOND NATURE** series equips students with the tools needed to understand the complex relationships between human activity and the natural world. Each book explores a big-picture topic by assembling smaller, more intimate snapshots—all taken through the “lens” of environmental science. The words and pictures in this book have been carefully crafted to engage young minds, and to serve as a launching pad for further learning.

In This Book

Man vs. Animal evaluates the relationship between humans, animals and their ecosystems from every scientific angle. The goal is to promote integrated thinking on the part of students, teaching them to regard all living creatures as part of the same big picture, and to counter the “us or them” mentality that permeates much of adult thinking about our animal neighbors. Every species that blips out of existence diminishes people in some way. When human activity causes habitat destruction or pushes a species toward extinction, we become our own worst enemy. This book offers ample opportunity to discuss how and when this happens. Ask your students the right questions and the rest should take care of itself.

Classroom Plan

Chapter One: *What’s the Problem?*

Most young people are aware of the animals that share their world. So too are they interested in their success and survival. The greater their appreciation of local ecosystems and animal populations, the easier it will be to foster that feeling into adulthood. This chapter lays the groundwork for developing this point of view. It uses the 2010 disaster in the Gulf of Mexico as an extreme example of ways that human activity can devastate the environment when there is a lack of forethought and basic precautions. Add to this a growing (and hungry) global population and a changing climate, and Man vs. Animal doesn’t look like a very fair fight.

Ask your students to discuss the fate of the polar bear. Kids see these creatures struggling to survive on the melting Arctic ice, but don't hear about the situation described on pages 9 & 10. This is a good place to introduce the dollars-and-cents issues that are so often at the heart of habitat destruction controversies. Is it okay to jeopardize polar bear habitats in Alaska if it lowers the price of gasoline by 5 cents a gallon? What if it lowered the price by 50 cents? Or 3 dollars? These are the calculations grown-ups make all the time on environmental issues.

Note: Use the World View spread to provide your class a feel for some of the larger, high-profile animal species at risk. **Ask your students** whether they think it is easier to preserve populations of large animals or populations of small animals. Large animals are easier to track and monitor, but there are fewer individuals. Small animals such as birds, rodents, fish and insects are more abundant—but almost impossible to track. In both cases, subtle changes in habitat and food supply can impact animal populations dramatically. This drives home the point that “saving” endangered animals requires a lot of study, field work and a strong background in environmental science.

Chapter Two: How We Got Here

As the planet's top predators, humans have outcompeted animals for resources wherever they have settled. Any animal unlucky enough to become a resource has seen its population crash. This chapter gives some historical perspective on the many ways people can have an impact on animals, and includes details on some of the most famous extinction stories. The print on page 18 is a good way to start a discussion about whether humans are always justified in their pursuit of a species.

Ask your students if they can imagine a scenario in which a species extinction triggered by humans might come back to threaten human survival in some way. This is a dramatic way to illustrate one of the most important themes in environmental science. If your kids need prompting, offer up the idea that we destroy the rainforest habitat of an insect that is immune to a very aggressive form of a virus. That animal—and its virus-fighting secret—is lost forever. Then we find out that all humans have been exposed to this virus in some way. It should make for an interesting discussion!

Chapter Three: If We Do Nothing

Most young people have heard about the last mass extinction, which occurred 65 million years ago. An object from space crashed into earth and wiped out the dinosaurs. Will the next extinction event come from the sky...or will it be triggered by human activity? This chapter looks at some of the extinction scenarios that may be developing right under our noses.

Ask your students to discuss ways in which the things people do every day can impact biodiversity. In this chapter there is an example of how climate change is creating stress in the mountains of Canada and the United States. Can they think of others? For a clue, look at the side bar on page 27.

Chapter Four: *Bright Ideas*

Scientists have learned frogs are amazing barometers for the environmental health of our planet. This chapter shows how people are thinking “outside the box” to come up with solutions to habitat destruction.

Ask your students what they would like to see in a revamped energy plan for the United States. New rules? Funding for new strategies and studies? You can take their ideas and build a class project that culminates in a letter to politicians outlining the best of these ideas. This underscores a very important point: Kids have a say in the world they will inherit—if they are willing to make the effort to be heard.

Chapter Five: *Trailblazers*

This chapter offers short profiles on people who are using their experience and expertise to even the odds in the struggle between people and animals. **Ask your students** what kind of job they might be doing in 20 years—and then challenge them to think of ways that job might benefit animals. For example, a builder could invent a clever way for migrating species to cross roads safely. Or a pharmacist could create a clever way to remind customers not to flush old medicine down the toilet and into our waterways, where it can affect fish populations.

Chapter Six: *Field Tested*

This chapter looks at the amazing success of the California Condor program. Point out the role zoos played in this story (also, review the sidebar on page 21) and **ask your students** if they feel zoos are good places for projects like this. What type of threatened species might not do well in a zoo? You can expand this discussion to clarify what zoos are and aren't. Too many parents present them to kids as “amusement parks”—missing a huge teaching opportunity!

Chapter Seven: *Career Opportunities*

This chapter presents the idea that people who care about animals can make a difference in a number of different careers—including ones where they have no contact with animals at all. People working in the green energy field or those who develop sustainability strategies can have a greater impact than people who work directly with animals. **Ask your students** which of them could see themselves as zookeepers. If you've already talked about the role of zoos, this is a good time to dig deeper and explore the role of the zookeeper.

Chapter Eight: *Expert Opinions*

People who care about animals tend to get emotional when they are asked to speak about them. If you have looked at the Expert Opinions in other Second Nature books, you may have already noticed the difference. Ask your students to identify the words in each quote that makes them feel that emotion: Dirty, Rescued, Silver Bullet, Ground Zero, Monsters. It is an early lesson about choosing good words when composing important sentences.

Chapter Nine: *What Can I Do?*

This chapter offers ideas on how you can extend the classroom experience and become involved in a biodiversity project at your school or in your town. Ask your students if they would be interested in joining a local effort—such as Tampa Bay Watch—that helps protect local species at risk. Make sure, of course, that the group is well-organized and has supervised programs for young people.