

# Conservation through Storytelling

*Connecting to odd-looking species at risk*



Photo: Jeff Skevington

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By Karen Morley

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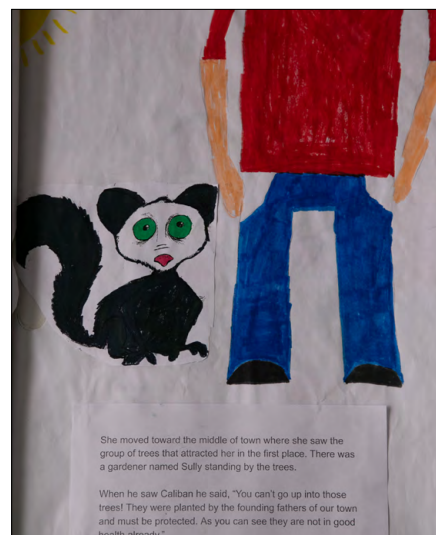
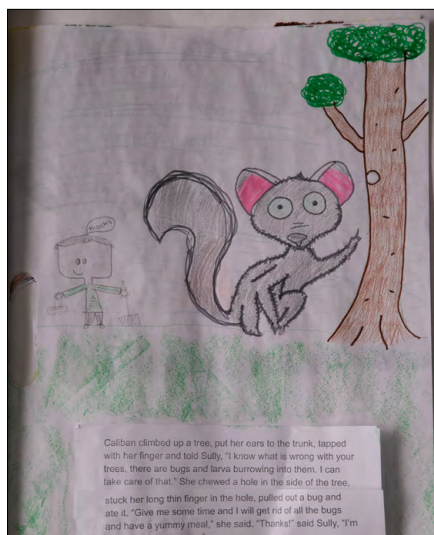
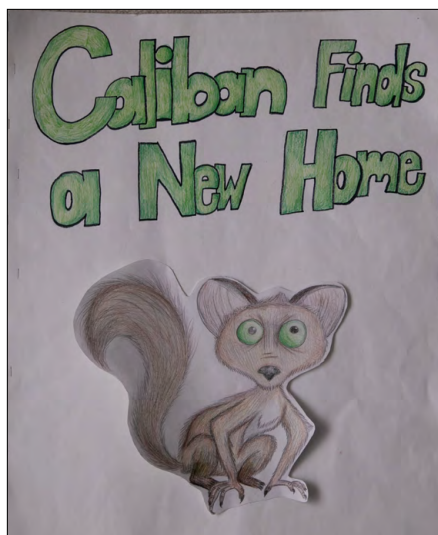
**A** BUTTERFLY, A SQUIRREL, or a bird can add a charming element to a backyard barbecue, but change those animals to a bee, a mouse, or a bat and the atmosphere suddenly changes. Why are some animals welcome and others not? I once saw a young child in a stroller watching a bee on a nearby flower with fascination. Her mother saw the bee and yanked her away with a scream. The young child started to cry, learning that bees are bad, and she should be afraid of them, possibly carrying this belief with her into adulthood. On a broader scale, some odd-looking creatures are facing extinction because folklore within certain cultures describes them as “evil” or “taboo.”<sup>1</sup> Ugliness is often associated with negative feelings such as uneasiness, dislike, and revulsion.<sup>2</sup> These feelings prevent people from contributing to conservation efforts needed to ensure the continued health of the species. This factor may make it necessary to change the image of the less attractive creatures. The following lesson plan is designed to alter negative images through storytelling. The lesson is intended for elementary level but can be easily adapted for older students. The class studies an animal on the endangered species list, writes a story about the animal, and creates a book that can be shared with others.

## Storytelling in nature

Storytelling can connect children to nature. Henegan states that children respond to the telling of environmental stories by becoming more environmentally literate and engaged with nature.<sup>3</sup> Firth claims that when we become immersed in a tale, it fosters an increasing empathy for the characters and situations of that tale.<sup>4</sup> Whether nature stories are told to the students by adults or the students create the nature stories themselves, the story and the discussion that accompanies it make students more aware of nature and, hopefully, gain an appreciation for its importance. In the case of an endangered, or feared animal, storytelling can be an effective tool to calm fears and to teach about the significance of the animal to its habitat and ecosystem. The students may share that information and appreciation with their parents and family members.<sup>5</sup>

## The lesson plan

The objective of the following lesson plan is to create stories about animals, particularly those that are endangered and/or often feared or reviled but actually play a beneficial role in their ecosystem. Evidence has been found that using active learning strategies and engaging students in the learning process improves comprehension.<sup>6</sup> This lesson plan demonstrates that process through teaching students



Photos: Karen Montley

about the aye-aye (*Daubentonia madagascariensis*), a strange looking lemur found in Madagascar, and presently on the IUCN Red List of Threatened Species.<sup>7</sup> The community that participated in this lesson was a local day camp class. It consisted of nine children, from ages six to eleven. The goal of this lesson was to engage the students by introducing the aye-aye, logging first impressions about the species, and observing how their perceptions changed as they learned more about and connected with the animal through active participation in storytelling. This lesson took place on four separate days for ninety minutes each day.

### Day 1: Introducing the aye-aye

On the first day, the class was asked if they had ever heard of an aye-aye. They were then shown a projected picture of the first captive-born aye-aye in the U. K.<sup>8</sup> on a screen. Students were each given an Aye-aye Survey Worksheet (*Appendix A*) to complete with the information available only from this image. They picked three adjectives from the worksheet that they believed described the picture. Students classified the animal into a group with other animals and made three statements in response to the picture. Students were also asked if they would like to meet an aye-aye. Some of the observations used to describe the aye-aye were “ugly,” “scary,” “looks evil,” “has weird fingers,” “has creepy eyes,” “looks like a bat,” and “looks like a rat.” Most of them believed it was a rodent, and few of them wanted to meet one. Most of the students referred to it as “that animal.”

Students were shown two videos of aye-ayes: BBC: Last Chance to See — Cute Or Ugly Aye-Aye?<sup>9</sup> and World’s Weirdest: The Demon Primate.<sup>10</sup> Then, they were given the handout Top 10 Aye-aye Facts (*Appendix B*).

The core activity involved getting the students to collaborate in creating a children’s book that would change the reputation of the aye-aye so that people would be much less afraid of them. To achieve this, the students discussed traits of the aye-aye that could be helpful to humans. Their ability to find insects with their tapping finger could help eliminate destructive insects like termites and save the life of trees. Their love of nectar aids in pollination of flowers and seed dispersal. Echolocation and their comfort navigating in the dark could

be helpful in locating something that a person could not find in the dark, and their curiosity could help people find alternate solutions to common problems. Students’ story of an aye-aye would then highlight these traits. Students proposed different scenarios while the teacher took notes. The students decided as a group which direction the story would take, and everyone had a chance to voice his or her opinion. Any disagreements were discussed and solved by most of the class. The final story was also approved collectively. The protagonist was an aye-aye called Caliban — named after the aye-aye that lives at the Cleveland Metroparks Zoo. The teacher used the notes to develop the story, divided the script into nine sections, and printed each section on a separate piece of large construction paper.

### Day 2: Illustrating the story

The story was read to the class, and the children were asked if any changes needed to be made. They agreed on any plot edits, and then each student chose a part of the story to illustrate. A cartoon drawing of Caliban, the aye-aye, which was drawn by the college assistant to the class, was given to each student to color, cut, and place in their illustration where appropriate for their part of the story. The story was reread while the drawings were shared as a class.

### Day 3: Creating the video

Each student took turns reading their page of the book aloud while the story was filmed. The class discussed how the video could be used. A suggestion was made to share the video with the people of Madagascar so that they would not be afraid of the aye-ayes anymore and would stop killing them. The video was edited that evening to be shared with the class and their parents the next day. The following is the link to the video of the story written, read, and illustrated by the students: <https://youtu.be/wysHP77x82M>.

### Day 4: Sharing the story

The students viewed the video of their story. They were given another blank copy of the Aye-aye Survey to complete. Each student was then given copies of Top 10 Aye-aye Facts and asked to share it with their parents. The video was sent in an email to the parents of the students with an explanation of the

activity. The students were encouraged to watch the video with their parents. The book was put on display for other summer camps and parents to read.

The students' attitudes towards the aye-aye changed from negative feelings to all positive feelings after they had increased their awareness of the animal and created a story featuring an aye-aye as the main character. After the presentation about aye-ayes and the book activity, the students observed the following about the aye-aye: "it saves trees," "it eats bugs," "it is nocturnal," "it helps people," "its long finger helps it find bugs," "it uses echolocation," "its teeth grow forever," and "it has great hearing." They all identified the aye-aye as a primate, and they all wanted to meet the "real" Caliban at the Cleveland Metroparks Zoo. The adjectives changed from "creepy" and "ugly" to "friendly" and "interesting."

## Adaptations

This lesson can be adapted for several grade levels and can use any animal as the focus:

### *Adaptations for grades 5–8:*

Students are put into groups and are assigned a species from the IUCN Red List of Threatened Species. Each group is to research the species, make a Top 10 list of facts about the animal and create a story with it as the main character based on its beneficial attributes. Stories should include illustrations. Students share their findings and stories with the rest of the class. The stories can be combined into one book, copied, bound, and given to each student to share with their families. This could make an excellent display for Open House or parent night.

### *Adaptations for grades 9–12:*

Students individually select a species from the IUCN Red List of Threatened Species. Each student makes a Top Ten list and children's storybooks featuring the species as the main character, focusing on positive attributes of the animal and its contributions to its ecosystem. Books are illustrated and bound, and students pair up with students in grades 1–3 to share and discuss their stories. Books are donated to grades 1-3 classroom libraries.

Both adaptations would require additional time and individual or group meetings with the teacher to ensure quality and accuracy of the story.

## The bigger picture

Storytelling is an excellent way of building a bridge between people and endangered animals like the aye-aye. Understanding the aye-aye's unique and remarkable characteristics can take the phobia and aversion away from this creature and replace these feelings with a sense of fascination. Especially when working with children, creating a story that encourages familiarity with an animal can change negative perceptions into positive perceptions. In a study about the effect of animated characters on conservation, the researcher observed that people come to appreciate things the more familiar they become with them, and in turn are more likely to donate money for their conservation.<sup>11</sup>

The students who participate in this activity can share

the stories with parents, other adults in their lives, and people throughout their communities. Children participating in environmental education may be able to influence the knowledge and behavior of parents and family members.<sup>12</sup> Appreciating the aye-aye for its role in nature is a step toward participating in and supporting its conservation.

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**Karen Morley** works as a teacher at Magnificat High School. She completed this project as a part of her graduate work with Project Dragonfly at Miami University in Oxford, Ohio. She would like to thank Mrs. Susan Faler, director of Magnificat High School summer programming, Mr. Joe Mullen, facilitator of the day camp program and his students, Emma Vogel for creating the character of Caliban, and Bill Morley Photography for assistance in creating the video: Caliban Finds a New Home.

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**To print Appendix A, please visit**  
**<https://greenteacher.com/conservation-through-storytelling/>**

## **APPENDIX B:**

### **Top 10 aye-aye facts**

#### **1. The aye-aye is the largest nocturnal primate in the world.**

Aye-ayes live on the island of Madagascar. They are primates just like monkeys, apes, lemurs, and humans. They are nocturnal, which means that they are most active at night.

#### **2. Aye-ayes use echolocation.**

Echolocation is a way of locating something by making sounds that bounce off of objects and listening to their echoes. They use this method to find their way in the dark and to find food. This is the same process used by bats, dolphins, and whales. Aye-ayes are the only primates that use this process.

#### **3. The aye-aye can move its third finger independently.**

Aye-ayes have five fingers on their hands. One of the fingers looks very different and has a special purpose. The third, or middle finger, is very thin and is used by the aye-aye to tap trees to find bugs and larvae and to pick them out so they can eat them.

#### **4. Aye-ayes have a third eyelid.**

The third eyelid is called a nictitating membrane. It keeps their eyes moist and protects them from pieces of wood when they are chewing holes in trees.

#### **5. The aye-aye's teeth grow throughout its lifetime.**

Aye-ayes have large front teeth that are used for chewing wood. They continue to grow unless they have wood to chew on to keep them short. Many rodents have teeth like this as well. This is one of the reasons people used to think that aye-ayes were large rats.

#### **6. Female aye-ayes can reproduce until they die.**

Aye-ayes can only give birth to one baby at a time, but are able to reproduce throughout their lives.

#### **7. Scientists aren't sure why it's called "aye-aye."**

There are two theories: One is that people were so startled by its appearance that they proclaimed "AYE" when they saw it. Another is that when locals were asked the name of the animal, they responded "heh heh" which means "I don't know."

#### **8. Aye-ayes are considered a bad omen.**

Aye-ayes are considered a sign of bad luck because of their unusual appearance, nocturnal wandering, and their lack of fear of humans. There is a myth that if an aye-aye enters a village, someone will die. There is also a myth that an aye-aye will enter a house while people are sleeping and puncture an artery with their bony finger. Both of these myths are completely false, but have caused a fear of aye-ayes that causes the death of many of these harmless animals.

#### **9. Aye-ayes were once thought to be extinct and are currently endangered.**

The combination of loss of habitat and the fear and hunting of aye-ayes has made them endangered. At one time, they were believed to be extinct, but a few more have been found. Several aye-ayes can be found in captivity as well. To learn more about aye-aye conservation and how you can help go to The Duke Lemur Center at [lemur.duke.edu/discover/meet-the-lemurs/aye-aye/](http://lemur.duke.edu/discover/meet-the-lemurs/aye-aye/)

#### **10. You can see a live aye-aye at the Cleveland Metroparks Zoo.**

Aye-ayes can be found in protected areas of Madagascar, and according to IUCN (2017), there are 50 aye-ayes in zoological collections worldwide.

Source: IPFactly. (n.d.). Top 10 Aye-Aye Facts. Retrieved from: <http://ipfactly.com/aye-aye/>

*Note: The book we created is named after an aye-aye named Caliban. Meet the real Caliban in the primate building at the Cleveland Metroparks Zoo.*