

Mia Thuro

Annotated Bibliography

1. National Geographic. (2017). *Keystone Species*.

This National Geographic article talks about zoologist Robert T. Paine, who came up with the term “keystone species” and did the first major research on them. This article also explains the different types of keystone species such as, nutrient vectors, keystone prey, keystone hosts, and keystone trophics. The article provides several examples and explanations for each type. This article was helpful as a beginning place for me to find basic information on different types of keystone species.

2. Greentumble.com. (2017). *12 Examples of Keystone Species*.

This article lists 12 very important keystone species. It also goes into some more detail about what each of these species does, and what makes them a keystone species. This is helpful to me so that I can understand why these species are important and so that I can begin to narrow down which species I want to draw, and do further research on each of these species.

3. Defenders of Wildlife. (2017). *Basic Facts About Prairie Dogs*.

This Defenders of Wildlife article focuses on important facts about Prairie Dogs. The article gives information about their diet, behaviors, habitats, and why they are keystone species. It talks about how Prairie Dogs’ burrows provide habitats to many other species, how they are prey to many species, and how they aerate and fertilize the land so that more plants can grow. All of this information is helpful to me in better understanding the importance of Prairie Dogs in their habitats, and how I can portray them in my drawings to relay this information.

4. Thompson, J. (2017). *Community Ecology*. Encyclopedia Britannica.

This Encyclopedia Britannica article goes into great depth about community ecology by discussing the organization and functions of many different habitats and species within those habitats. This article only briefly talks about keystone species, but it has a lot of information on many other aspects of habitats and ecology that are important to know so as to have a better understanding of how ecosystems work. Having a better understanding of ecosystems as a whole will in turn be beneficial to me in understanding the ecosystems that certain keystone species are in, and knowing why they are so important.

5. Nunez, M. and DeMarco, R. (2012). Keystone Species. In: *THE BERKSHIRE ENCYCLOPEDIA OF SUSTAINABILITY: ECOSYSTEM MANAGEMENT AND SUSTAINABILITY*. Berkshire Publishing Group.

This encyclopedia article goes into depth about several keystone species such as beavers, elephants, corals, sea stars, bears, hummingbirds, and briefly touches on a couple more. This article also talks about the effects that keystone species have on their habitats, problems with certain definitions of keystone species, and the future of keystone species conservation. The section about problems with certain definitions was useful to me because it made me realize that I need to make sure that different articles I read are accurate when they state what species are keystone species. Some sources may regard a species as a keystone species, when it should not be regarded as so, and this article allowed me to understand that is something I need to be aware of.

6. Conover, Denis. "Keystone Role of Beavers in a Restored Wetland (Ohio)." *Ecological Restoration*, vol. 29, no. 3, Sept. 2011. *Environment Complete*.

This journal article discusses the role of Beavers in ephemeral lakes in the Shaker Trace Restored Wetlands in Ohio. Denis Conover explains how the actions of the beavers benefits the ecosystem. Such as cutting down trees, which provides light to other vegetation, allowing it to grow more successfully, and churning the soil to expose seeds that were deeper in the earth, allowing them to also grow more successfully. The beavers also dug canals that provided water for aquatic organisms. This article was helpful because it focused only on beavers, which gave me a better understanding of the effect that they have in their habitats.

7. Light, Daniel S, et al. "Using Small Populations of Wolves for Ecosystem Restoration and Stewardship." *Bioscience*, vol. 60, no. 2, Feb. 2010. *Environment Complete*.

This journal article talks about the roles that Timber wolves have as keystone species in their habitats. Timber wolves prey on ungulates, such as elk, which in turn keeps the entire ecosystem balanced by keeping elk populations down, which allows more plant growth. The article also talks about the "cascade" of negative impacts that happened when wolves were nearly completely extirpated from the Rocky Mountains. This article also suggests different and new approaches to policy and conservation efforts to keep Timber wolf populations healthy in the United States. This article was beneficial to me because it went into more depth about why wolves are so important, and it also explained the issues with past and current conservation and policy issues regarding wolves.

8. Epps, Clinton W., et al. "An empirical evaluation of the African elephant as a focal species for connectivity planning in East Africa." *Diversity and Distributions*, vol. 17, no. 4, Dec. 2011, pp. 603–612. *Environment Complete*.

This journal article explains why elephants are keystone species in African Savannas. Elephants do a number of things, such as spread seeds, and tramp down the ground, which keeps the Savanna a grassland, where African animals can thrive. This article also looks at the effect that elephants have had on their habitat, and discusses whether conservation focusing only on elephants, could help conserve their entire ecosystem. This study found that focusing conservation efforts on only elephants, could be an effective way to conserve the entire habitat. This article was helpful to me because it allowed me to learn more about why elephants are so important in their habitats. It also gave me more insight to whether or not this type of focused conservation can work.

9. Hamrick, J. L., et al. "The Breeding Structure of Tropical Tree Populations." *Nature*, vol. 391, no. 6668, Feb. 1998. *Environment Complete*.

This journal article discusses why fig trees are keystone species in many habitats, because of their ability to provide fruit to many different species throughout the entire year. This article was helpful because it went into depth about how and why fig trees are so important. It also talked about the wasps that pollinate them. I was finding it difficult to come across more in depth information about fig trees, so this article was helpful for that.

10. Raju, A.J. Solomon. "Pollination and Fruiting Behavior of Pavetta Indica L., A Keystone Shrub Species In The Southern Eastern Ghats Forest, Andhra Pradesh, India." *Journal of Threatened Taxa*, vol. 8, no. 9, Aug. 2016. *Environment Complete*.

This journal article is about the plant species, Indian Pavetta. This plant is a keystone species in some parts of India. The article explains why this plant is a keystone species, and which insects and animals benefit from it. This article is very beneficial to me because it allowed me to find out about another plant keystone species. There is much less information on plant keystone species, than animals, and I wanted to find more about keystone species plants, so this article was helpful with providing that information.

11. “Projects.” *Institute of Critical Zoologists*.

The Institute of Critical Zoologists is, “an interdisciplinary center dedicated to promoting critical zoological dialogue and research”. This website consists of numerous projects, many involving photography, that are meant for research, education, conservation, and artistic purposes. Although these projects are quite different than mine, we do share an idea to learn about, and educate people about animals and conservation, through art. This website has been beneficial to me because I am able to see what other artists and scientists are doing to learn and talk about wild animals.

12. Tilley, Christopher, and Kate Cameron-Daum. “Art In and From The Landscape.” *Anthropology of Landscape*, UCL Press, 2017.

This chapter of *Anthropology of Landscape* discusses the relationship between artists and the landscape. And how being among natural landscapes influences environmental art. This chapter talks about how many artists feel that being in the environment and feeling connected to it, is very important in their art making process. Much of my drawing is done inside, but this article was beneficial to me in understanding the importance of surrounding myself with nature more as I draw it, so that I can have a deeper understanding and connection to my subject matter.

13. De la Rosa, G. (2017). *Between naturalism and fantasy: the art of Beatrix Potter*. National Trust.

This article discusses Beatrix Potter and how she would combine naturalism and realism to her fantastical children’s books drawings. Beatrix Potter often studied and observed many plants and animals. She would do scientific illustrations to better understand the species, and then she would draw personified versions in her children’s books. My artwork is very much influenced and inspired by the artwork of Beatrix Potter, so this article was very helpful to me in understanding her learning and drawing processes.

14. Potter, Beatrix. *Beatrix Potter - the Complete tales: The 23 Original Stories*. Penguin Publishers, 2006.

This book contains the 23 original children’s stories written and illustrated by Beatrix Potter. Beatrix Potter drew many different species of animals and plants, and then would personify the animals, having them wearing clothes, speaking and going on adventures. For my more imaginative drawings, I would like to base the drawing style somewhat off of Potter’s, so it is helpful for me to see how she illustrates animals doing things that animals do not actually do.

15. Fishman Snyder, R. (1993). Complexity in Creation: A Detailed Look at the Watercolors for The Birds of America. *The American Institute For Conservation*, 12.

This journal article talks about the different methods and materials used by John James Audubon in his series of paintings, *Birds of America*. The article says that Audubon would often first, go out and observe the birds and their habitats, and create graphite drawings. He would then use these graphite drawings as the bases for his famous watercolors. This article was beneficial to me, because it allowed me to learn the methods of an artist naturalist, and has inspired me to try these methods myself.

16. Audubon, John James. *The Birds of America*. 1838.

This book contains the many watercolor paintings by John James Audubon of the various types of birds that he saw in America. Audubon would observe and draw the birds, in their habitats and sometimes with their prey, such as fish. These drawings were used to learn about the many different bird species in America, as well as to teach the public about them. This series of paintings is beneficial to me because I am also creating scientific illustrations in hopes to educate people on different species, and advocate for their conservation.

17. *Andy Goldsworthy Digital Catalogue: Browse the Catalogue*, Crichton University Campus.

This website contains a digital catalogue of all of Andy Goldsworthy's works, organized by year, form, material, and place. Andy Goldsworthy is an environmental artist who creates pieces in the environment, using only natural objects so that he does not create art waste or use more products. All of his pieces are meant to be ephemeral and disappear with the natural flow of nature. This website is very beneficial to me because it has all of his artworks in one place. Although my environmental art is very different than Andy Goldsworthy's, it is still important and helpful for me to learn about the methods and materials used by other environmental artists.

18. Sabraw, John. *Toxic Sludge Paintings*.

John Sabraw has gone to abandoned mine sites in Ohio to collect water from streams and rivers that has been polluted with the heavy metals and other toxins that are released into the water as a result of mining. He then brings these collections to a lab, where they are mixed with polymers, and the toxic "sludge" is turned into paint for his art. John Sabraw's art is important because he is helping to clean up these waterways, and he is bringing awareness to the pollution to the water caused by mining. This series of paints is beneficial to me in learning about different methods of other environmental artists, as well as learning about different environmental issues and how artists are addressing them.

19. O'Keeffe, Georgia. *Pederal*. 1936.

Georgia O’Keeffe’s painting *Pedernal* depicts a landscape with mountains and trees. Many of O’Keeffe’s nature drawings have a sense of imagination to them, with exaggerated shapes and colors. This painting and many of her other flower and landscape paintings are very influential to my artwork.

20. Durer, Albrecht. *Young Hare*. 1502.

Albrecht Durer was one of the original artist naturalists who created many paintings of his observations of plants and animals. *Young Hare* is a painting of a rabbit that looks to be an observational drawing by Durer. Durer’s scientific illustrations of plants and animals are influential to my art because of the method of observation, as well as the style of the paintings.

21. Mills, L. Scott, and Daniel F. Doak. “The Keystone-Species Concept in Ecology and Conservation.” *BioScience*, vol. 43, no. 4, Apr. 1993, pp. 219–224.

22. Rafferty, John P. “Robert T. Paine.” *Encyclopædia Britannica*, Encyclopædia Britannica, inc., 18 July 2016.

23. *Robert Hooke*, University of Berkeley, www.ucmp.berkeley.edu/history/hooke.html.

24. Potter, Beatrix. *Beatrix Potter - the Complete tales: The 23 Original Stories*. Penguin Publishers, 2006.

25. Lear, Linda. "Natural history: A scientist's eye." *Nature News*. April 23, 2014.

26. DeWilde, Mandy L. "Victorian Restriction, Restraint, and Escape in the Children 's Tales of Beatrix Potter." *Masters Theses*, 2008. Grand Valley State University.

27. Ford, Brian J. *Images of Science: A History of Scientific Illustration*. New York: Oxford University Press, 1993.

