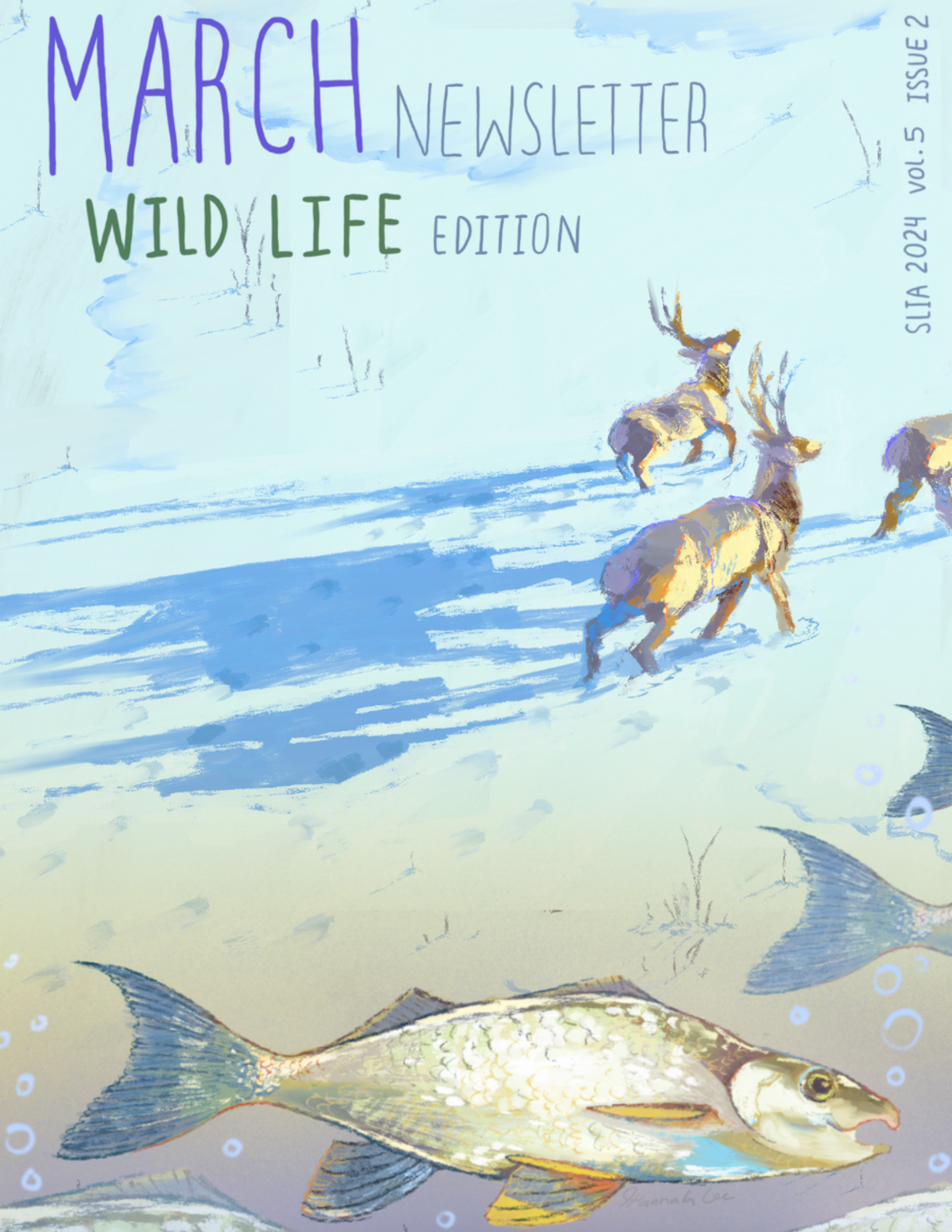


# MARCH NEWSLETTER

## WILD LIFE EDITION

SLIA 2024 VOL.5 ISSUE 2



*Haarab, Lee*

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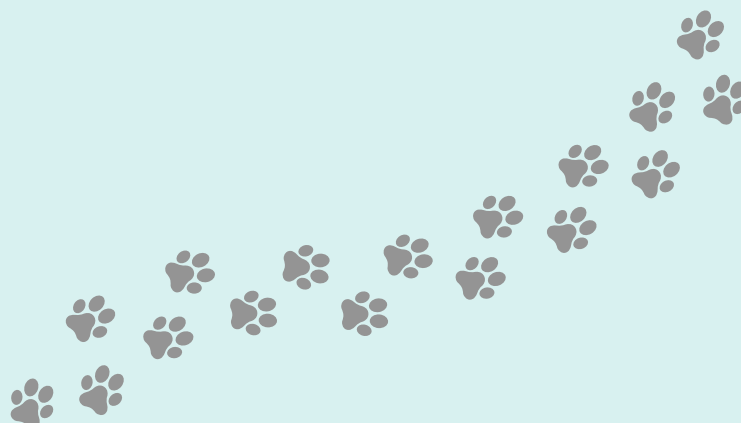
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# Wildlife and Landscapes: How Animals Change the Environment

By Carmen Corona

It's common knowledge that animals affect their environment. A rabbit inhabits a patch of grass; the abundance of grass decreases. A deer finds shelter in a lush forest; pathways are created due to their trail marks. But what if this ability went farther? What if animals were capable of directly altering the ecosystem around them in ways that don't always form a clear connection, like the aforementioned rabbit changing the level of growth in trees? As research has shown, this evidence is already present, and with it, an interesting development has formed: wolves play a role in the direction of streams.

In 1926, 300 to 400 gray wolves (*canis lupus*) resided in Yellowstone National Park, Wyoming, just as they had since the park's opening in 1872. Along with them lived prey such as elk and buffalo. Indigenous people of the land saw the wolves as a symbol for strength, bravery, and loyalty. However, this perspective wasn't shared by everyone. Beginning in 1871, Westward expansion prompted thousands of settlers to head toward the region, and with them came livestock. With the goal of creating an agricultural powerhouse in the area, settlers hunted and replaced the native buffalo and elk of northwest Wyoming with domesticated animals such as cattle. Upon losing their main food source, wolves naturally began to hunt the livestock, resulting in resentment from the new ranchers. Despite the previously issued Yellowstone National Park Act of 1872, which was made to protect the wildlife in the park, settlers and park officials alike began hunting the wolves, resulting in their population lowering extensively. These wolves that had evolved to travel in packs were hunted until only a few lone wolves remained, as shown by studies done in 1970.

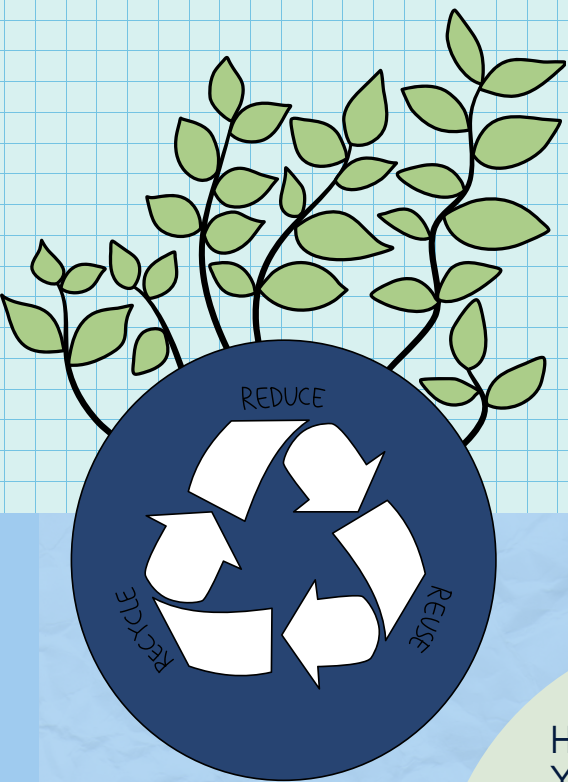


This population made a comeback, however, in the 1980's. After decades of being hunted and killed, the National Park Service decided to leave wolf populations in the Yellowstone area alone, prohibiting hunting and forced movement of the species. And it worked- in 1994, there was an estimated population of 50 to 60 wolves in the park, setting the precedent for a flourishing species. Although this regulation was only meant for the wolves, the change went on to affect numerous species.

So, how exactly did wolves affect the path of streams in Yellowstone Park? It all comes down to one term: trophic cascade, or in other words, impactful and indirect interactions within an ecosystem that affect the entire food chain. After almost a century of inactivity from wolves in Yellowstone, the ecosystem had undergone a vast change. Elk, the natural prey of wolves, experienced exponential growth in their population, leading to more browsing and consumption of aspen and willow trees. As a result, songbirds and other birds of flight in the region lost a majority of their habitat. In the same way, beavers also lost many precious resources from these trees for their dams. Without these dams, stream movement was altered.

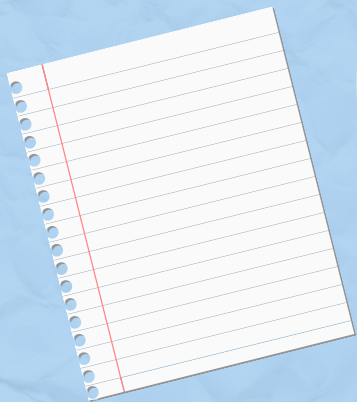
The trophic cascade of wolves in Yellowstone, as the top of the food chain, was incredible. Upon wolf reintroduction, the elk population decreased, leading to the widespread growth of aspen and willow trees without excessive damage from the elks. Birds now had access to healthier habitats, and, as the most indirect change of them all, streams in Yellowstone began to change due to the increase of dams built by beavers. As two seemingly unrelated topics, wolves and streams are connected together in the ecosystem of Yellowstone. This discovery is an important one, not only showing how crucial it is for us to leave wildlife undisturbed, but also displaying the power of ecosystems and the extraordinary interconnectedness of all the elements within them.





# ACTION OF THE MONTH: GOING PAPERLESS

By Alison Chiu



Having trouble reducing your paper usage as a student? You're not alone - according to CalRecycle, schools produce "562,442 tons of waste each year in California." In fact, on average, 31.4% of that waste is paper!

Unfortunately, schools are nevertheless so heavily reliant on paper that it is still a major part of their waste. However, that does not mean that the solution to paper waste in both schools as a whole and personal usage as a student necessarily requires that we all go 100% paperless.

Research has found that "writing on physical paper can lead to more brain activity when remembering the information an hour later." This is something affirmed by many students (and even SLIA members!). Given that "traditional note-taking methods" are heavily rooted in paper note-taking and many students refuse to switch from paper to digital notes or alternatives, possibly the most feasible pathway for the more stubborn students and schools to "going paperless" might be meeting this Action of the Month somewhere in the middle.

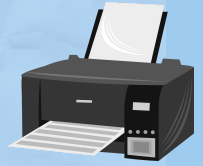




# Here are some ways that you can minimize your and others' paper usage:

1

**Printing double sided:** Printing on both sides of paper has an obvious effect - you can cut your paper usage in half by making sure that you maximize the efficiency of each piece of paper. Go to your printing settings and choose the print double-sided option to utilize this!



2

**Reusing scraps:** Sometimes, you have no choice but to do that piece of homework on paper or pull out your notebook to scribble down notes. However, you can make sure to reuse the piece of paper by using the scraps. Using scraps of paper can be great for other paper-intensive activities, taking little notes, and even making a scrapbook.



3

**Taking digital notes when possible (paperless notes):** Arguably, this is the most effective way to go paperless! If you can get consistent access to a computer or tablet, you can easily use a variety of note-taking programs. For instance, Google Docs and Microsoft Word are classic choices for word processing software. If you are looking to spice up your notes, you can use Notion (which SLIA loves!) and personalize your own notes pages, calendars, and even to-do lists!



4

**Spread education to others:** As with many other issues, spreading education to others is one of the actions you can take that can have the largest net benefit. Using your knowledge, you can also teach others to be conscious about their paper usage to start a chain reaction. If done correctly, you can even inspire others to take their own action to spread education themselves!



Ultimately, no matter which action you choose to take, the most important thing is to remain consistent. Because paper is so ubiquitous (especially for students and schools), one action only makes a small impact; however, if you repeat it consistently, you can reduce your paper usage by a large amount in the long run. Even better is to combine the different methods! Whatever action you take, you can become a part of a widespread collective effort to reduce paper usage!



6





# How to Make Your Garden Wildlife-Friendly

By Nina Damiano

One of the best ways to bring your garden to life is to make it a welcoming space for local wildlife! Not only will this attract animals that are interesting to watch, but it will also make your yard a sanctuary for many different types of species, some of which may even be endangered. Here are some simple tips to transform your garden into an animal-friendly space:

1

## Feed the Birds



Whether you're an avid bird-watcher or just want to hear birdsong outside your house, putting out a source of food for birds is a great way to attract wildlife to your garden! You can use a seed feeder to attract most types of birds, which is a container to store seeds in with small holes for birds to access the seeds inside. These can either be purchased online or at a local store. You can also purchase a hummingbird feeder and fill it with sugar water to attract hummingbirds!





2

## Plant Flowers for Pollinators

Growing particular types of flowers can help attract pollinators like bees and butterflies to your garden! This can be especially important to protect endangered or vulnerable species. For example, the Monarch butterfly, an endangered species, uses the milkweed plant as a primary source of food for its caterpillars. Honeysuckle plants are also especially good for attracting butterflies, while foxgloves are useful for attracting bees.

3

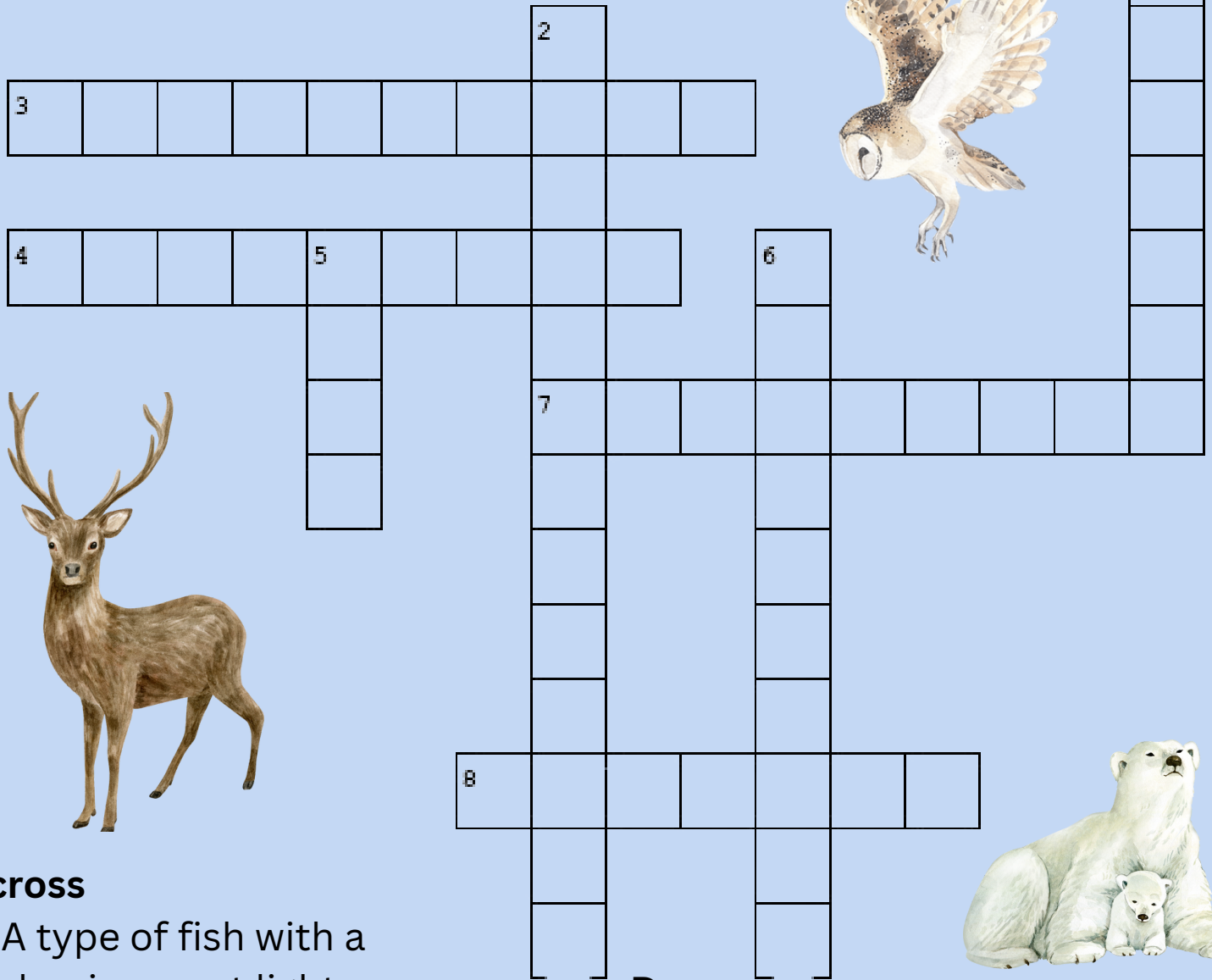
## Grow Native Plants

Native plants have evolved to fit their local ecosystems, making them the perfect plants for attracting native wildlife. Native plants tend to grow better, attract pollinators and birds, and deter invasive/non-native pests. Make sure to do research about what plants are native to your area before planting anything new!



# Wildlife Crossword

By Nina Damiano



## Across

- 3. A type of fish with a bioluminescent light
- 4. Fastest animal in the world: \_\_\_\_\_ falcon
- 7. Longest recorded python: \_\_\_\_\_ feet
- 8. Number of days a camel can go without water

## Down

- 1. World's deadliest animal
- 2. Oldest living land animal
- 5. Most common species of squirrel: \_\_\_\_\_ squirrel
- 6. Name for a group of owls

**Answers:** 1. Mosquito, 2. Giant Tortoise, 3. Anglerfish, 4. Peregrine, 5. Gray, 6. Parliament, 7. Thirty Two, 8. Fifteen



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EDUCATE

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**LEADERS IN ACTION**