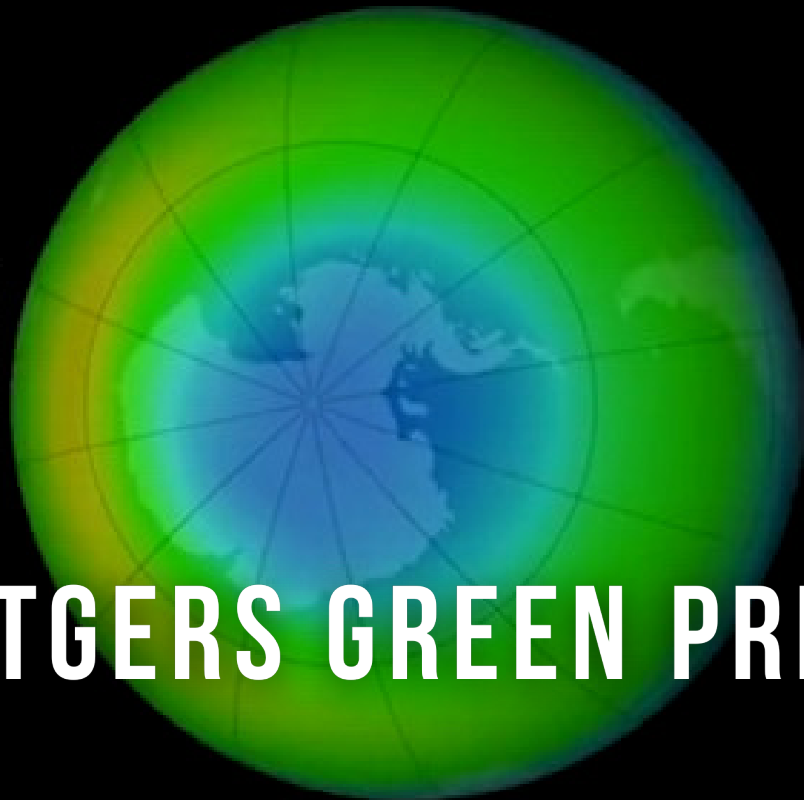


WINTER 2023 | ISSUE NO. 47 | FEBRUARY

2017



2041



RUTGERS GREEN PRINT

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EDITOR'S NOTE

Dear Green Print Readers,

Thank you for reading this article and supporting the writers, editors, layout designers and e-board behind our mission. We hope you learn something and maybe, just maybe are inspired to contribute to future issues.

This winter has been an obscure one to say the least. From the lack of snow to the 60 degree weather in the middle of February, there has been an ominous undertone to these glimpses of summer in what should be the depths of winter. I know I am not alone in my concern and I need not look further than the Green Print connoisseurs to find people who not only care deeply but incite those around them and call humankind to action. Through our work with environmentalism, Green Print challenges us to become our most eco-friendly selves. It is hard to break old habits, especially those built for convenience like paper bowls, plastic cutlery, disposable water bottles etc. These neurological pathways become so ingrained and breaking free borders on impossible. Every time you do something though, it becomes a bit easier. It takes one time to break the loop. Two times to make that connection and repetition to make a habit. We are still young with malleable brains. We are the generation who can save this planet. I hope you read this issue and feel called to action.

Enjoy the magazine and we thank you for your support.

Best,

Liora Picker

Editor In Chief

The image features four globes arranged horizontally, each representing a different year: 1971, 2017, 2041, and 2065. The globes show a progression of the ozone layer's recovery. The 1971 globe shows a significant depletion of the ozone layer, indicated by a large blue and purple area at the top. The 2017 globe shows a smaller blue and purple area, indicating partial recovery. The 2041 globe shows a further reduction in the blue and purple area. The 2065 globe shows a nearly complete recovery, with the ozone layer appearing mostly green and yellow, similar to the 1971 globe but without the large depletion area.

A SIGN OF HOPE: THE OZONE LAYER IS SLOWLY HEALING

1971

2017

2041

2065

ASHLEY ECHEVERRIA

Since the 1970s, scientists have begun to realize the effects of ozone depleting chemicals such as chlorofluorocarbons (CFCs), compounds that contain chlorine and/or fluorine attached to carbon, as well as halons, compounds with bromine or iodine. They discovered that these chemicals have the ability to remain in the atmosphere for decades to more than a century long. In turn, this has caused drastic effects on the earth's invisible shield that protects animals, plants, ecosystems, and us from harmful ultraviolet radiation from the sun: the ozone layer.

The ozone layer is one layer of the earth's stratosphere, the second layer of the earth's atmosphere. With elevation, the stratosphere becomes warmer because ozone gasses that sit in the upper layers absorb intense UV radiation that comes from the sun. Although we do need some of the sun's radiation to live, too much of it can cause detrimental effects to living things.

The job of ozone is to trap a type of radiation known as ultraviolet radiation or UV light, which has the potential to penetrate in an organism's protective layers, like our skin, causing damage to DNA molecules in plants and animals. Two major types of UV light are UVB and UVA. UVB is responsible for causing skin conditions like sunburns and cancers including basal cell carcinoma and squamous cell carcinoma. UVA on the other hand, was once believed to be harmless because it doesn't cause burns and is used in tanning beds, however, scientists have proven that it is actually more harmful than UVB, causing deadly skin cancer, melanoma, and premature aging.

Because of the abundance of chlorofluorocarbons and halons, the ozone layer is getting thinner and thinner by the year. These chemicals can be found everywhere, mostly in refrigerants, plastic products and air conditioners.

Businesses and consumers use them because they are inexpensive, aren't as flammable as substitutes, and are not poisonous to living organisms. Once these chemicals are blown into the stratosphere, they begin to deplete the ozone layer, causing what we know as the "ozone hole."

The ozone layer is the thinnest near the poles. In an attempt to fix this problem, scientists have spoken up to raise alarm about the potential dangers this could cause. In 1985, governments adopted the Vienna Convention for the Protection of the Ozone Layer. According to the UN Environmental Programme, this "provided the framework for the Montreal Protocol to phase out ozone-depleting substances, including chlorofluorocarbons (CFCs)," which came into effect in 1989 and "by 2008, it was the first and only UN environmental agreement to be ratified by every country in the world."

The results of this protocol have been dramatic. Recent studies have reported to the UN Environmental Programme showing that "around 99 per cent of ozone-depleting substances have been phased out and the protective layer above Earth is being replenished." Because of this, the Montreal Protocol has been praised as one of the most successful global environmental agreements in all history.

Scientists expect that the Antarctic ozone hole will close by the 2060s and the other regions will return to the way it was before it was damaged. "Every year, an estimated two million people are saved from skin cancer and there are broader benefits too, as many of the ozone-depleting gasses also drive up global temperatures"(UNEP).

Not only has the Montreal Protocol had a positive effect on the ozone layer, but studies have shown that it also has already benefited efforts to lessen climate change by aiding in avoiding global warming by around 0.5°C. In 2016, an additional agreement to the Montreal Protocol was added, the Kigali Amendment, which "required a phase-down of the production and consumption of some hydrofluorocarbons (HFCs)"(UN News). HFCs don't directly deplete ozone but contribute to global warming and climate change, nonetheless. It is estimated that the amendment will help in avoiding another 0.3–0.5°C of global warming by 2100.

While there have been positive effects on our climate because of the healing of the ozone layer, it does not mean that climate change and global warming is becoming less of a concern. Human activities that release pollutants into our atmosphere are still a big issue and one of the main causes of our climate crisis. The healing of the ozone layer is a sign of hope that we will one day beat the climate crisis, only if we work together. It's proof that when we take action, we can make a difference.

7 Native Species to Spot on Campus

MOSS

It is likely that you've heard about invasive and native species before, especially considering the presence of spotted lanternflies on campus during the fall. You might also recognize the sprawling English ivy that can envelop entire trees, but as important as it is to be able to recognize invasive species in your area, knowing native species can help you gain an appreciation for your local environment, after all, it's no fun only seeing the negative aspects of nature. That is why I want to show you seven native plants you can spot on your way to class, or just on a walk around campus.

This list will focus on native plants (mostly trees) in the region of New Brunswick, New Jersey. This is because I have a background in plant identification, and plants have that ever so wonderful aspect of staying still and waiting politely for you to observe them. Hopefully spotting these plants can become part of your daily routine on campus, and help you notice more of New Jersey's native flora in your everyday life.



Quercus palustris, or Pink Oak is a species of oak tree that prefers to grow in wet environments and can be identified by how its first few layers of branches slope downwards. Its leaves are deeply lobed and pointed at the tips. Next time you're staring at the ground during your walk to class, see if you can spot any brown, fallen Pink Oak leaves.

Ilex verticillata, or Winterberry, is a shrub species that, as the name suggests, whose females are adorned with red berries in the winter (if there is a male close by). Other ways to identify it are its ovate shaped leaves, and its bunched stalks at the base of the shrub. There is a labeled specimen outside of Foran Hall.





Ilex opaca, or American Holly, is commonly seen as a landscaped bush, but can grow to 30 ft tall. Its waxy, spiky, dark green leaves, and red berries make it stand out in the landscape. Examples of large holly trees on campus can be seen near the Allison Road bus stop on Busch campus.



Acer rubrum, or Red Maple could practically be Rutgers new mascot if they wanted. It is planted extremely frequently on campus due to its red fall color being in line with Rutgers' signature scarlet (according to Dendrology Professor Dr. Grabosky). In the winter once the leaves have fallen it's not as easy to identify, but if you see a medium height tree with red buds, it's likely a Red Maple.



Betula nigra, or River Birch, is a tree easily identifiable by the papery bark that flakes off of its trunk and branches. This tree is planted a lot on campus, and is used often around the Newell apartments. I enjoy its unique appearance despite it being a little grotesque.

Pinus strobus, or Eastern White Pine, is a pine tree with long needles that come in sets of five. I've seen them frequently on Douglass campus but you can easily check by looking at needles on the ground. If there are five needles joined together at the base it's likely you have an Eastern White Pine on your hands!



Taxodium distichum, or Bald Cypress, is a tree that prefers to grow in wetlands. Its bark looks almost soft, and is made of many small strips. It has needles that are composed in a way that resembles feathers, but it loses its needles in the fall. There is a row of them outside the Institute for Food, Nutrition, and Health (aka where campus food favorite Harvest is). It also grows “pneumatophores” (bumpy protrusions) up through the soil on the bank of Passion Puddle. Its roots do this so they can get more air in the saturated soils around the pond.

A Guide to Reducing Your Carbon Footprint

SOFIA BATTOGLIA

It is important to understand how we as individuals impact climate change and the use of fossil fuels. Obviously we all cannot stop partaking in every event that causes an increase in climate change, but we can understand the little things that can slowly help. A carbon footprint is the amount of greenhouse gasses that are produced by our actions everyday. But why should we even care about our carbon footprint?

When every person attempts to reduce their energy usage, it allows for cleaner air, cleaner water, and overall a healthier environment for everyone. Here are 6 easy examples of how to reduce your carbon footprint.



1

Instead of using a plastic coffee cup or water bottle, get reusable ones instead. They can also look cute :)



2

Instead of throwing away old furniture or clothing, donate them to a thrift store or organization for those in need. This then limits the amount of materials wasted and also can find your items a new home.



3

When entering your dorm or apartment, try to take the stairs more often! This will reduce the amount of electricity used every day from the elevators.



4

When printing out papers for a class, try to print on both sides of the paper. Using less amounts of paper for one assignment is a simple way to reduce the amount of paper wasted.

5

I know we have all heard it before but taking shorter showers is a huge way to reduce individual carbon footprint. Less water used means less energy used to heat it!

6

The most simple way to reduce individual carbon footprint is by powering off your computer all the way and unplugging any outlets that are not being used at the moment. Any way to prevent extra electronic energy from being used is the best way to stop waste.

The Beauty of Simplicity

GABRIELLA MILIANO

I feel that sometimes we get so caught up in the business of life that we forget to enjoy the little things around us, nature being a primary one. Spring is creeping up on us, and oftentimes we forget to take notice. As a freshman, it has been eye-opening to see the seasons changing right in front of me in a new place. From seeing the brightly colored trees sway with the breeze, enjoying the light dusting of snow we had a few weeks ago, and experiencing our home in rain and shine, every day is a new opportunity to find a new tree, a new favorite spot, or a new place to walk to. Now that the weather is warming up, I've started to pay more attention to the sights Rutgers has to offer.

I have found that taking a walk around College Ave while the sun sets allows me to take a moment away from the stress of classes and activities while also enjoying the bright purple and orange hues. I've also found that no matter where you are on campus, there is always an amazing view of the moon. As Spring comes closer, take the smaller moments while walking from class to class to enjoy the nature blooming around you. Instead of texting on your phone, use it to snap photos of the flowers poking through the soil or the shape of clouds forming in the sky. There is so much beauty around us, we just need to take a moment to find it.

Climate - just a word?

HAMNA KHALID

Did you just read the word, climate? Why? Why is it important? How did it make you feel? Why is it important to you? Why is it not? Does it matter to anyone else? How does it function? We, humans, can create so many questions from just one word. We, humans, can create. We have been creating from the Ice Age to the Modern Age. Look around you, the wonders that have been bestowed because someone created them. We humans created, create, and will continue to create. From the first kindle of light to the Kindle by Amazon, you have used them to read your books. Technology has evolved because we humans created it. Isn't it beautiful to have things that help us live?

Think about it all, all that is around you. To be able to chat with your best friend across oceans. Isn't it amazing to come home where it's warm, safe, and sound? Isn't it amazing to be able to purchase a bottle of water on a hot summer's day? To have all the small things we don't see affecting our climate. Convenience is one form of luxury, and sometimes we take things we are immune to for granted without understanding the domino effect it may have. Yes, it's good, but what about the parts you ignore?

How about that empty bottle of water? Where does it go after you are done drinking from it? If it is not properly recycled, the chances of it ending up in a landfill or oceanic garbage patch are significantly higher. Studies have shown that only approximately 13% of global waste is recycled. We must all take an active part in properly mending nature back together; otherwise, our empty 16-ounce bottle of water will leave a footprint deposit for years. New research shows evidential traces of microplastics in fish and birds that eat what they think is food only to die from starvation because plastic will not decompose. Plastic fills their stomachs; they believe they are satiated, but they die of starvation due to a severe lack of nourishment. Whales are washing up on the shore with plastic-filled bellies. Why are you allowing this to happen? Why are you quiet? Why can't you carry with you a canteen filled with water, so you're not adding to the plastic garbage?

We will one day leave behind amazing technology and helpful skill sets for the benefit and survival of our children. But we are also leaving them with a problem we can help solve now. A problem we have created and are funding its growth. And what about their kids and thereafter? Don't they have the right to enjoy fresh water and clean air? Should they be deprived of nature? Are we headed toward our own doom? How fast are we going? Can we take a U-turn and make Earth healthy again?

In the last decade, we have witnessed too many climate disasters. This is unhealthy; climate patterns can last tens of thousands of years. I sure don't want to continue experiencing natural disasters and destruction. We have so much recorded history, factual evidence of climate patterns, and models of what Earth has experienced. With the use of wonderful technology, scientists use computer programs to predict future climate based on factual data on hand. They formulated global climate models, and unfortunately, the global temperature will continue to increase. Most of all of these models show the impact human decisions and behavior has on Earth.

What we choose today will determine how dramatically the climate will change in the future. These climate models are based on global patterns in the ocean and atmosphere; the recorded types of weather that have occurred globally under similar patterns indicate a higher chance of change. It is not normal to see snow in Texas and none in New Jersey. It's warmer or cooler, wetter, or drier than usual in different parts of our globe. Not to mention devastating hurricanes, tsunamis, and forest fires, which cause agricultural disturbances. Basically, that means a price increase for goods because the climate is shifting. It's shifting due to your choices. It's shifting based on our choices. It's a domino effect.

So, let's educate ourselves and teach each other the importance of positive choices for the environment. Start small with smaller actions towards a grand purpose. Begin with your first step and keep taking those steps so we are not adding to the already falling structure of the natural order of climate. Change your ways of life and take care of nature.

If you really think about it piece by piece, the climate is intertwined with all of our daily habits, from the fossil fuel used in our vehicles to the production of our vehicles. The convenience of picking up a cup of coffee (from Costa Rica) at our local coffee shops here in New Jersey. I get it, we all desire luxury without responsibility, but it is our fault climate change is happening. It is our responsibility to learn from our mistakes. It is our responsibility to correct our mistakes. As President Barack Obama said "Change will not come if we wait for some other person, or if we wait for some other time."

Honestly, if you treated Earth as if it belonged to you, would you treat it badly? If Earth could only whisper to you, what do you think it would say? Don't you think Earth has been whispering? Earth has been telling us it's unhealthy because of our attitudes and choices. Let's listen and help Earth recover, help bring the climate back to normal. Do your part, and do it better, so the person looking at you can start making the right choices themselves. Be the example you need for the change and not the problem-causing creature. In the end, I leave you with one word to think about. CLIMATE.



Sustainable Practices!

Why should we?

JOEUN LEE

Little changes to live more sustainably on campus...

1 *Turn off those lights!*

When you leave the room, turn off the lights! Who are you keeping them on for? The monsters under your bed?

2 *Do you really need to shower for that long?*

It's not a must, but a need! Water is wasted every extra minute you take in the shower. Although the warmth of the water is better than the cold, it's a small sacrifice for the sake of the environment!

3 *The sink!*

Much like the previous point, water can be conserved just by turning it off when you are not using it. Why leave it running when your brushing your teeth?

4 *Doctor's note: walking is good for you.*

Rutgers Buses are unreliable anyways. Walk to classes nearby!

5 *Fix that horrible sleep schedule!*

Work with the hours of the sun. Get that vitamin D! When you work with the time of the sun you can even fix your circadian rhythm and even save electricity while you're at it!

Poppin Planet Playlist

SEMIHA KHAN

Most of us know the basics of being eco-friendly: reduce, reuse, recycle. Despite our awareness, why can it be so difficult to make those lifestyle changes? A prominent factor in our hesitance to act is caused by a collective disconnect with nature. Many people do not incorporate time outside into their daily life, and being connected to the environment is key to mobilization against climate change. To encourage a healthier relationship with nature, here are a few songs you can listen to on a walk or a bench to be more present in your surroundings:

BINZ BY SOLANGE

THE FLOWER CALLED

NOWHERE BY STEREOLAB

AFTER THE STORM BY KALI

UCHIS (FT. TYLER, THE

CREATOR, BOOTSY COLLINS)

HOT WIND BLOWS BY TYLER,

THE CREATOR

WOODS BY BON IVER
BIKING BY FRANK OCEAN
(FT. JAY Z & TYLER, THE
CREATOR)

YES I'M CHANGING BY TAME
IMPALA

WHY III LOVE THE MOON BY
PHONY PPL

BLUE WORLD BY MAC
MILLER

SUNDRESS BY A\$AP ROCKY

CRANES IN THE SKY BY
SOLANGE

DOS UNO NUEVE (219) BY
OMAR APOLLO

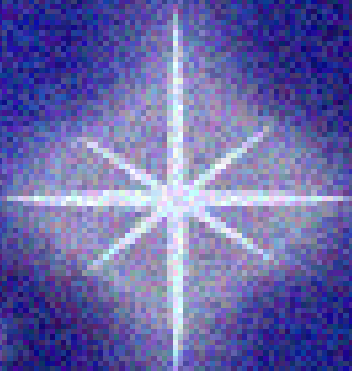


PROTOTYPE BY OUTKAST

**RIOT! BY EARL
SWEATSHIRT**

**DREAMS BY FLEETWOOD
MAC**

Listen on Spotify: (code and link)
<https://open.spotify.com/playlist/5N6BARJDvem9dZhq5EO3hT?si=d8d94c0e04df4395>



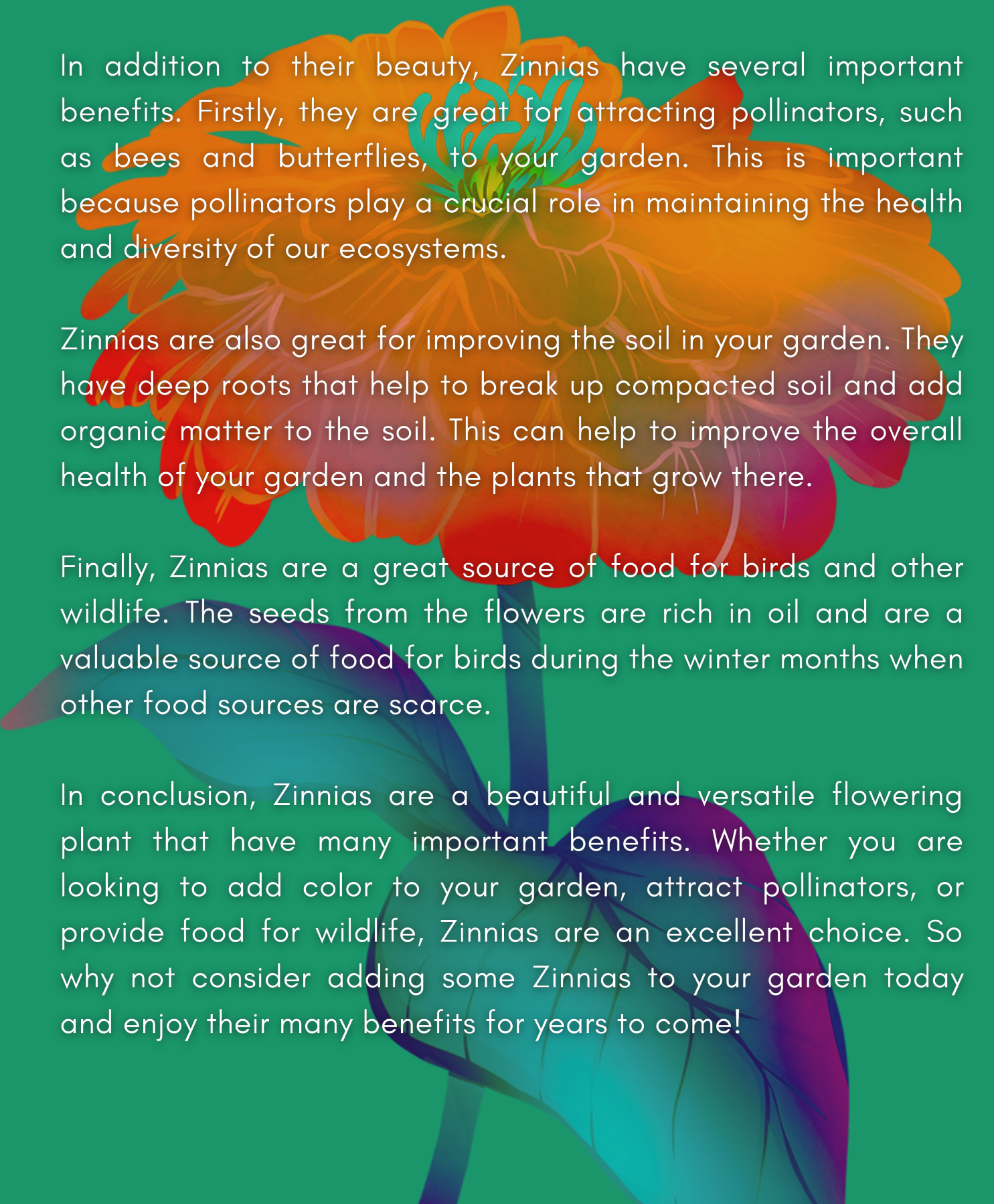


THE ZINNIA FLOWER

HAMNA KHALID

This painting is of a Zinnia flower I did a few years ago, here is a little about the beautiful flower depicted above. The Zinnia Flower is a beautiful and vibrant flowering plant native to Mexico. It is a member of the daisy family and is known for its bright and cheerful blooms that come in a wide range of colors including red, orange, yellow, pink, purple, and white. Zinnias are easy to grow and are often used in gardens, window boxes, and as cut flowers in a bouquet.

Zinnias were first introduced to Europe in the 1700s by the famous botanist, Carl Linnaeus. Since then, they have become popular all over the world and are now widely grown in many different countries.



In addition to their beauty, Zinnias have several important benefits. Firstly, they are great for attracting pollinators, such as bees and butterflies, to your garden. This is important because pollinators play a crucial role in maintaining the health and diversity of our ecosystems.

Zinnias are also great for improving the soil in your garden. They have deep roots that help to break up compacted soil and add organic matter to the soil. This can help to improve the overall health of your garden and the plants that grow there.

Finally, Zinnias are a great source of food for birds and other wildlife. The seeds from the flowers are rich in oil and are a valuable source of food for birds during the winter months when other food sources are scarce.

In conclusion, Zinnias are a beautiful and versatile flowering plant that have many important benefits. Whether you are looking to add color to your garden, attract pollinators, or provide food for wildlife, Zinnias are an excellent choice. So why not consider adding some Zinnias to your garden today and enjoy their many benefits for years to come!

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A Sign of Hope: The Ozone Layer is Slowly Healing

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7 Native Species to Spot on Campus

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- [Winterberry - Ilex verticillata](#) © F Delventhal, (CC BY 2.0)
- [Acer rubrum](#) © Alex Lomas, (CC BY 2.0)
- [Ilex opaca 'Miss Butler'](#) (Cultivar of American Holly) © Plant Image Library, (CC BY-SA 2.0)
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WINTER 2023 | ISSUE NO. 47 | FEBRUARY

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DESIGN BY: KIM BHANDARI