

Colombia's

biodiversity



#COP16

ILLUSTRATION BY: ALEJANDRO COLLAZOS

By: Carmen M, Martina S, Mariana de la E, Emilia V, Ignacio H, Ana Gabriela E, Mateo C, Juan Antonio V, Daniel B, Pedro S, Salomon K, Samuel M, and Alejandro C, Martin G.

Table of contents

Colombia's Biodiversity

Table of contents	02
Regions	03
Pink dolphins & Contamination	10
Bluebirds & Global warming	12



Jaguars & Habitat Destruction	16
Jaguars & Deforestation	19
Spectacled Bear	26
Colombia: Second-Greatest Biodiversity	22
Squirrel Monkey Reproduction	24

COP16	27
Poems & Activities	32



BIODIVERSITY IN THE PACIFIC

The Pacific region in Colombia is located at the border of the Pacific Ocean near Panama. This area is mostly flat and covered by rain forests, rivers, swamps and mangroves.

The main biodiversity problems of this area is the deforestation where most of the rainforest in this area is less. Also, violence, coca production and drug trafficking have spiked along Colombia's Pacific coast since the 2016 peace agreement between the government and FARC guerrillas. New and old armed groups fight for control over communities, territory and illegal business, triggering ongoing displacement and low-intensity warfare.

The Pacific Region is the region with most rain fall in all the year. Also this region hosts the most biodiversity in all the country.

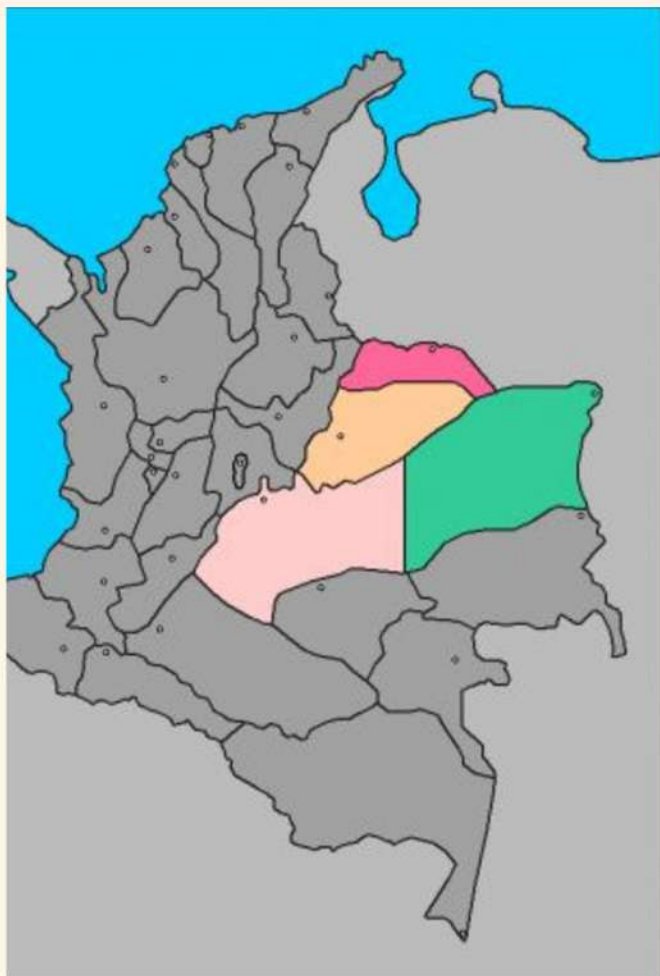
There is a high variety of ecosystems in this region. You can find páramos, cloud forest tropical rainforest, mangroves, swamps, rocky seaboards, and extensive beaches.

In this region, there is a variety of flora like the African palm, cococut palm and wax palm, The Pacific Region holds jurisdiction over Gorgona Natural Park, Utría Natural Park, and Malpelo Natural Park, even if the three are located in continental and oceanic islands.

Orinoco Region

BY: PEDRO JUAN SIGHINOLFI
ANTONIO RAMÍREZ

The Orinoco River Delta is under increasing pressure from hunting, fishing, deforestation, and potential agricultural growth. A conservation project aims to address these threats by launching new initiatives within the Orinoco Delta Biosphere Reserve (ODBR), encouraging sustainable land practices, and adapting management approaches for the Lower Orinoco River Basin. The project will engage local communities and stakeholders, beginning with five pilot sites to manage access to critical areas, and gradually expanding across the Reserve to safeguard biodiversity.



The Orinoco River is about 2,140 kilometers long and starts in the Parima Mountains in Venezuela, flowing into the Atlantic Ocean. It goes through Venezuela and Colombia, emptying into the Gulf of Paria, where it creates a huge delta. Some of its biggest smaller rivers are the Meta, Vaupés, and Atabapo rivers. The Orinoco is super important for travel, helps people make money, and is full of different animals and plants, with cities like Ciudad Guayana and Puerto Ordaz along it.

Región insular

BY: IGNACIO HUERTAS



Insular region is a region completely composed by islands, animals, water, and more. Their traditional food is the Rondon and their traditional music is the Polka, Mazurka, Scottische, waltz, slow waltz, quadrille, pasillo and mento. Also, their traditional candy is called “Pie de coco”.

The surface of the insular region is of 300 km² (120 sq mi). They are rich on coconuts, bananas, lemons and plantains. Illegal sand extraction could lead to the damage of the ecosystem.



Many of the ecosystems in the Insular Region are under water, so they have corals, sea plants, and more. Sometimes they are also located in some swamps. Also many of the animals in the insular region are aquatic.



The oceans, rivers, swamp systems and lagoons are home of ecosystems that have a big importance, such as coral reefs, mangroves, coastal forests, dry forests, tropical humid forests, wetlands, mountains and paramos. These ecosystems are home to a big amount of animals.



This region is known for its enormous ocean, the Caribbean Ocean, which has lots of fish species that swim around it. Also there are different species of marine mammals in this region. On land, people can see some mammals including monkeys, jaguars and some other felines and mammals.

Amazon Region

The forests

By: Salomon Kishner

The Amazon region is the most important area in Colombia, as it covers 40% of the country's territory and holds 20% of its biodiversity. It is home to 427 species, 60% of which are at risk of disappearing, with 30% likely to disperse over the next hundred years due to hunters who kill animals for sport and factories that chop down trees for materials, destroying bird habitats. If pollution levels continue to rise, the Amazon rainforest—known as the "lungs of the Earth"—will become a vast, lifeless desert, impacting not only South America but the entire world. The only two "lungs" of the planet are the Darién Gap and the Amazon rainforest. In conclusion, we need to protect the forest; it's now or never.



The rivers

The rivers play a fundamental role in the Amazon region. Not only do they provide a beautiful landscape, but they also contain 30% of all aquatic biodiversity. In Colombia, these rivers cover an area of 30,000 km² and serve as essential waterways that allow Indigenous people to travel by small rafts. Beyond supporting human communities, the rivers are also vital habitats for fish and algae. Additionally, they supply water to help trees grow and animals survive, and they play a crucial role in preventing fires. However, these wonderful rivers are becoming drier due to factories draining water and boats overfishing. In conclusion, rivers are invaluable resources, and we must take care of them.



Biodiversity in the Andean Region

By: Mateo Camacho and Samuel Mejía

The Andean region in Colombia is a mountainous area full of different ecosystems like cloud forests, high-altitude páramos, and tropical rainforests. It is home to a huge variety of plants and animals. In the lower parts, there are big trees, orchids, and ferns. Higher up, you will find unique plants like frailejones, which only grow in the cold páramo. The animals here include species like the Andean condor, spectacled bear, and colorful birds like hummingbirds and toucans. There are also mammals like pumas, mountain tapirs, and foxes. Many of these species only live in the Andes, making it a very special place for nature.

Flora



Fauna



PINK DOLPHINS CONTAMINATION IN THE AMAZON

By: Mateo Camacho

The Amazon river is full of life. This river is home to tiny organisms and huge animals. This is the longest river in the world, but this river is contaminated. Every day the contamination of this river increases. Lots of biotic organisms are being affected. For example, pink dolphins are affected. But how are pink dolphins affected when people contaminate the Amazon river? They are affected in different ways. In order to understand this, we need to understand what pink dolphins are and of course what is the Amazon River. Finally we need to know how both are affected by contamination.

The Amazon River is home to lots of animals. This is the biggest river in the world. When the season changes, so does the river. In the dry season, the width can be 4 or 5 kilometers but when it rains, it extends up to 50 kilometers. This river travels through nine countries (WWF). So it's part of different ecosystems. This river is also the river that contains more biodiversity of the world. The Amazon River is important not just for animals but for humans. Since this river travels through nine countries, it is an important trade route. This important river pumps 200,000 liters of fresh water into the ocean every second. This means it contributes 20% of fresh water into the ocean (National Geographic). Some parts of the river are suitable for human consumption. Some amazon communities believe this river is sacred. This is why this river is important for both biotic and abiotic factors.

Sadly, this huge water body is contaminated. There are different reasons for why people contaminate it. One of the reasons is that people throw trash in it because they are not aware of the consequences. Most of these residues come from huge companies that just want money. These companies just focus on producing and selling, but they do not care about the environment. This trash also comes from its tributaries, and it ends in the huge and unexplored ocean. Trash is a problem in water bodies all over the world, but the main source of pollution in the Amazon River is mercury. In the Amazon jungle, people can find emeralds, gold and even copper. This means that all the jungle is like a huge mine. Illegal and small-scale mining are the reason for the mercury pollution (WWF). This is due to the tools they use to make a mine and extract the minerals. This pollution affects the water quality of the river; it means it changes the level of the ph, affecting the animals that live in this river.

The pink dolphins known as boto live in these fresh waters. They belong to the mammals group just like us, humans. The animal's scientific name is *Inia geoffrensis*. Their diet is based on meat, so they are predators and they get energy from other biotic organisms. They can weigh approximately 450 pounds and grow up to approximately 8 feet long. These animals are hunted to be used as bait to catch catfish and be sold at a high price in Brazil. These animals live in freshwater. When it rains, the rainforest gets flooded and it turns from a habitat for monkeys and tapirs to a habitat for pink dolphins and its food (National Geographic). Salt water is not an option to move for pink dolphins. These dolphins cannot be in that water. This is why it is important to take care of their habitat. These animals are really important in the life cycle of the animal kingdom.

In conclusion, we have to save the Amazon River. The Amazon River is home not just for pink dolphins but for thousands of animals. And it is also a great natural resource that we humans have because it provides water and also helps ecosystems that provide us with oxygen. If we do not take care of the Amazon River or the pink dolphins, bad implications will be shown in the future. If we do not take care of the Amazon River ,we will have less natural resources that this river provides or helps to provide. And with we don't take care of the pink dolphins two things will happen. First they will go extinct and second the food chain of this type of ecosystems could collapse. To answer the question: How are pink dolphins affected when people contaminate the Amazon river? It is pretty simple: as we contaminate, we destroy their habitat. So the best way to prevent making the Amazon River water unsuitable and protect the pink dolphins is to stop thinking on making money and think of what is next for our planet. Finally, the Amazon river is beautiful and full of life, and the pink dolphins are key in the life cycle.

COP 16

AN WORLDWIDE ENVIRONMENTAL DISCUSSION



What is COP 16

The Conference of the Parties (COP) is in charge of the Convention on Biological Diversity (CBD), which is a big international agreement made at the Earth Summit in Rio de Janeiro in 1992. Each time they meet, they try to make important decisions to help protect all the different kinds of plants and animals. This year, COP16 is happening in Cali, the main city of the Valle area.

Why does it matter?

The goal is to make plans and promises to help protect nature and use its resources in a smart way. It also wants to make sure everyone gets a fair share of the benefits from using things like plants and animals. The saying "Peace with Nature" reminds us to think about how we treat the environment and to change our way of doing business so we don't just take and pollute without care.



Focus areas of COP 16

Right now, the Ministry of Environment and Sustainable Development is developing a plan to protect nature and its many species by 2030. They want to solve big problems like:

- More endangered and invasive species
- Overfishing and fewer fish
- Pollution affecting animals and plants
- Losing important ecosystems like glaciers, forests, and coral reefs
- Damage to landscapes and water sources
- Not enough pollinators like bees

These issues are caused by things like land grabbing, illegal activities, harmful farming practices, pollution, and introducing harmful species.



Fun facts

It's divided into a green and blue zone which rotate for different activities.



Importance of COP 16

Colombia is really important for fighting climate change! It's a place where leaders and experts come together to tackle the big problem of keeping our planet safe and making sure we have a good future.



YOU CAN HELP!

I think that everybody can contribute to this event. Even if you are or not in the event. Inside, you can do the activities planned. But outside, you can do a lot of things. Utilize bottle to plants food. That's a way to recycle. Also, you can build experiments with trash so you can help the environment and to entertain yourself. You can also start learning a new instrument built with plastic!



Colombia

By: Mariana de la Espriella

BLUEBIRDS GLOBAL WARMING



Bluebird

Colombia, is a beautiful biodiverse country with over two thousand different species of birds. It is the second most biodiverse country after Brazil, and it is the country with more species of birds. Colombia has almost all the ecosystems that exist on Earth because of our numerous rainforests, lakes, moorlands, etc. Sialia sialis (Bluebirds) are one of the most recognized Colombian birds because of their almost extinction in 2017. "This unfortunate event was caused by the horrible climate change, an unpredicted quantity of severe rising temperatures Earth has experienced since the mid-1900s"(Sonnleitner, 2022) Rapid shifts in migration routes and breeding latitude in North American bluebirds - ESA Journals <https://doi.org/10.1002/ecs2.4316>). Fortunately, thanks to these new habits, now Bluebirds are reproducing each time more quickly and laying normally about "4-5 eggs, or sometimes 3-7. To keep the nestlings safe, bluebirds always construct their nests of weeds, dry grass and twigs, and are constructed at high distances for chicks to feel secure and comfortable"(Marco Carbone, n.d.).



Their diet is also important for them to survive because this is one of the factors that define if they get endangered or if they overpopulate. Bluebirds are omnivores, which means “their diet is mostly based on different species of small animals and various types of berries.

Also, when they can not find anything else to eat, they occasionally hunt and eat small lizards or tree frogs. Bluebirds also feed on a wide variety of insects, including crickets, grasshoppers, beetles, spiders, earthworms, and snails, killing them with their sharp and dangerous claws”. These birds are an important part of the food chain because they are both predators and prey. Their prey are various types of insects and small animals.



On the other hand, their predators are different species of snakes, raccoons or larger birds that eat them to survive. Migration is another important behavior Bluebirds have. When the weather turns into a severe cold, Bluebirds need to migrate to another country where they have the necessary resources to survive.



The migration of Bluebirds is not as simple as just leaving the country; they need to calculate when to leave, when to return, and where to go. Each type of bird leaves at different times and lasts more or less time away. This depends on the type of migratory bird they are; there are four types. "Permanent residents are the type of birds that do not migrate because they are able to find adequate supplies for the year. Short-distance migrants are the type of birds that make relatively small movements, moving from higher to lower elevations. Medium-distance migrants are birds that cover distances and that fly a few hundred miles. Long-distance migrants fly typically from the USA or Canada to Central and South America"(Dune, 2021). Birds cannot migrate whenever they want; it needs to be at a specific moment. Bluebirds migrate when the temperature is extremely cold because in order to survive, their body temperature should be between 10-15 degrees. When they arrive to the place they will be staying, they find a nest or a cave to sleep in because the availability of shelter also affects birds. For it to be a secure place, it needs to be a shelter that prevents them from hypothermia, suffocation, etc. Birds stay in those temporary homes until the severe cold weather in their natural habitat ends. When the climate goes back to normal again, it is safe for them to fly back. Climate is not the only reason birds migrate to another place. They also migrate to reproduce. When they reproduce with other birds from other countries, they start creating new species of birds that then create new habits to survive in their habitats.



Climate change and global warming are affecting migration patterns not only in Bluebirds, but in every type of bird. This unwanted and unpredicted climate is risking their life and putting it in danger. Soon, it will start risking the lives not only of birds, but of every living organism on any ecosystem. It is important to take action and start helping these birds because they are an important part for the future. This is important for the future because starting to provide places to take care of all the types of birds and helping them survive climate change could slowly change this huge issue. Also, it is crucial to start taking care of nature to stop these severe changes in the temperature. To help, it is important to start by trying to reduce climate change.

Some tips could be recycling, planting more trees, and no wasting water or any resources needed to live. Another solution could be making a place of reservation for birds where they can have easy access to all the resources they need to survive. However, starting by taking care of the environment to reduce climate change is a great first step. It is crucial to do this because global warming is affecting negatively the habitats, ecosystems, and all the nature around us. By doing these simple things is how nature is saved and transformed. It is crucial for this message to spread because the more people helping, the fastest we could save all the birds.



COP16: A STEP FORWARD IN CLIMATE ACTION

WHAT IS COP16?

- COP16 is a conference that takes place every 2 years and it is an opportunity where more than 60 countries get together to negotiate new measures, and review the state of nature and how to protect it.
- This year the COP16 will take place in Cali, Valle del Cauca, Colombia and it will be from 21 of October to 1 of November of 2024.

COLOMBIA'S ROLE IN COP16

The role of Colombia being the host country in COP16, is to catalyze for domestic peace. They are also a leading role in demonstrating how natural conservation works.

KEY THEMES FOR COP16

- Reducing greenhouse gas emissions.
- Renewable energy initiatives.
- Climate adaption and resilience.

GOALS OF COP16

- Their goal for 2030 is preserving the 30% of the land and sea.
- Their goal for 2050 is ensure a wellbeing economy operating within planetary boundaries.

SOLUTIONS FOR CLIMATE CHANGE

That you can easily do at home to help reduce Global Warming.

SAVE ENERGY

Save energy at home. The majority of our electricity, light, and heat are powered and produced by coal, oil and gas.

CHANGE YOUR TRANSPORT

Walk, ride bike, or take public transport. You can also switch to an electric vehicle. Climate change is very affected because of greenhouse emissions.

EAT BETTER

Eat more vegetables and throw away less food. This will reduce the plastic used for packages and bags.

WHY IS COP16 IMPORTANT?

COP16 matters because the decisions made in there, will shape the future of biodiversity and climate action for years to come. As the biodiversity and climate crises increase, and their solutions must be as well. Together, we can ensure that nature is protected and that it is safe. Now is the time to raise our voices, support systemic change, and build a future where nature and humanity live in harmony.

IT'S TIME TO TAKE ACTION!



• <https://www.cesearch.org/what-is-cop16/>
• <https://www.un.org/en/climatechange/summit2024>
• <https://www.theguardian.com/environment/2024/oct/21/cop16-on-issues-defining-biodiversity-finance-bioeconomy-programme-negotiations-cali-colombia>

Jaguars and habitat destruction

By: Juan Antonio Vasquez

My research animal is the jaguar, one of the most endangered species in America. Why are the jaguars endangered and how? The jaguars are in danger because of many reasons, but the main reason is hunting, The farmers are killing them because they eat their cattle and because of habitat destruction. The jaguars are also protected species because they are going extinct. This topic is very important because we can help the jaguar survive; unfortunately, not everyone does because some people prefer money. The only species that looks for power and territory are the humans; a jaguar does not kill because he wants to have more power than the other animals. To save the jaguars, we have to stop this mindset, and not only to save the jaguars but also to save the other species. The reason I am writing this report is because I want to help save the jaguars, and the habitats. We cannot live like this; we cannot live without peace. I do not want to live like this; everyone can help in this situation, but we need to be responsible and understand better what is happening now with the jaguars. How does the jaguar population decrease by habitat destruction?

The jaguar is a mammal and a carnivore who can live up to 12-15 years. The male measures 1.2-1.7 meters in width and 60 cm in length. And the females measure less than 10-20% less. The normal name is Jaguar but the scientific name is the panthera onca (Geographic, 2021). The jaguar's jaw is the strongest of all the feline family. The jaguar is one of the largest feline and the most furious mammal in America. They are key for the habitats and ecosystems because they prevent the overpopulation of other animals. They hunt alone. Their hair color is orange to tan and they have black dots. These spots work like human fingerprints. It is the unique feline of the gender of the panthers. They live in 18 countries of America, but they mostly live 2 meters below sea level. They live in the territory of the Caribe, Chocó, the Cordilleras of the Andes, Orinoquia and the Amazon. They like water unlike other felines. (WWF, 2019).



One of the threats Jaguars are going through is habitat destruction. How does habitat destruction affect the fauna? The International Union of Conservation of Nature has announced that the principal danger of the habitats is that about 85% of animals and plants are endangered. The experts have said that they cut almost 80,000 meters of land because of cutting trees. Not only cutting contribute to habitat destruction but also climate change affects the habitat (Shaw, n.d). The species and the health of habitat have been affected by habitat destruction. The forest of the world has changed: 15,000,000,000 of trees have been cut in one year. The scientists have done the tree's percent damage at 46%. The habitat destruction has damaged the condition of animals and plants.(National Geographic, 2019). The forest of Colombia has been destroyed by cutting a lot of trees. Colombia lost 563,000 acres of rainforest in 2016-2019; that was before the wave of illegal logging. An environment large enough to hold 1 ½ bogotas, 1.4 billions of trees has been destroyed.(WWF, 2020]The jaguar's population has changed over time. Apart from the habitat destruction that affects the fauna, another threat is hunting, which is affecting the jaguars directly. The hunters kill jaguars for many reasons but the main reasons are for their skin, or because they eat the farmers' cattle. The research by IUCN says that the amount of jaguars in Colombia is 1,730,000; that is less than the half they were before. The jaguars had been damaged more than 40% from all the history of jaguars, in Uruguay have been extinct.(Sula, 2021). Since 1800 until today, the jaguar population has decreased by 60,000 jaguars. The jaguar population average per year lost nearly 8%. The jaguars have been nearly eradicated in the United States (Newsroom, 2018). Because of the habitat destruction, they have to roam to look for prey. The domestic animals started to be their prey, so the farmers killed them. Jaguars have lost 50 percent of their population. In the last 14 years, they have lost 20 percent (WWF, 2018).

Animals and plants are dying because their habits is being destroyed, and the jaguars are among the animals that are being affected. We do not know how to be responsible with our planet. Do not cut trees excessively; do not damage the environment; do not contaminate the forest to minimize climate change and a fire; and do not kill animals only for money or because they eat cattle. These are tips to save the jaguars and also to help other especies. We can save the jaguars and more animals. We only need to be responsible and not contaminate because contamination increases climate change, and the climate change can cause fires, which cause habitat destruction, but we also do. All this is like a cycle; all the actions have consequences.



COP 16

The conference of parts(COP) is an international conference which will take place in Santiago de Cali,Colombia this year. This conference basically discusses how people, governments, and countries can solve environmental problems and more.



COP 16 OBJECTIVES

The objective of Cop16 is to reach agreements and create actions to conserve the biodiversity and use it in a sustainable way. Another objective is to make sure there will be a good use of the resources planned for the different projects.



COP16 CLIMATE CHANGE

The Cop 16 is profoundly helping the climate change by protecting and restoring the ecosystem. Protecting and restoring habitats is vital for climate change because they absorb the CO2 from the atmosphere. Cop 16 promises to protect the 30 percent of land and water by 2030.

FUN FACT

Per every square kilometer in Colombia there are more animals than in any other country in the world.That's why Colombia is the second country in world with the most biodiversity



RENEWABLE ENERGY

Cop 16 is actually discussing how to make renewable energy by making more hydraulic energy by river and wet lands here in Colombia.



IT'S TIME TO TAKE ACTION



We can also help the Cop 16 by recycling and reducing the amount of water used in everyday tasks or using less energy by unplugging things that are no being used.

Daniel Barcenas

Daniel Barcenas

JAGUARS DEFORESTATION

By: Carmen Maldonado

How does deforestation in the Amazon affect jaguars' feeding patterns?



Jaguars are one of the many animals that live in the Amazon. They can eat more than 85 prey as top predators of their habitat (Rainforest Alliance, 2023. Amazonteam, 2021.) They help control populations of smaller animals, which is vital for maintaining balance in their habitat (Rainforest Alliance, 2023). Jaguars are privileged to live in such a habitat as the Amazon; unfortunately, this forest is getting destroyed. Deforestation is affecting the Amazon in huge numbers. Because of deforestation, 23.7 million hectares of forests have been lost in five years (Zanon, 2023.) Considering that the Amazon expands to 850 million hectares, the number of hectares that we are losing per year is not realistic, and it could end with 30% of the planet's biodiversity (Zanon, 2023.) Deforestation not only affects the loss of hectares but it also puts hundreds if not thousands of species of animals in danger; the loss of species will damage the balance and control of the forest. The real question here is how does deforestation in the Amazon rainforest affect jaguars' feeding patterns?

Jaguars are really large mammals. They can reach up to six feet in length and up to three feet tall. Not only are they big but they can also weigh a lot, from 120 pounds to 300 pounds (Rainforest Alliance, 2023). Their coat is spotted, but their spots are weirdly shaped just like broken rosettes which they use to camouflage amongst grasses, bushes, and trees which are common on the Amazon (Rainforest Alliance, 2023). Jaguars like to travel long distances to find a mate and a prey; therefore, they need a lot of space. Jaguars are lonely animals; consequently, they mark their territories by scratching trees along their territory (National Geographic, 2020). Jaguars also have a really useful ability to not only run and walk on land but also swim and climb trees, which makes them even more important for the ecosystem because they not only keep balance on land; they also keep balance on the sky and waters. Jaguars can eat things like fish, turtles, alligators, deer, peccary, capybaras, monkeys and tapirs (National Geographic, 2020). Jaguars' life cycle is no different from the life cycles of other mammals. After gestating for 100 days, a female jaguar will give birth to two to four cubs. The mother will feed the cubs till they are one year old and will stay with them for one more year. Cubs are sexually mature from years two to four. They can live up to 16 years (Biologicaldiversity, n.d.)



The Amazon is not only a super important cooling effect on the planet, but it is also the home to a huge amount of species. Because of deforestation created by humans, this beautiful forest is losing more and more hectares every year, even losing species that we might have not even known existed (National Geographic, n.d.) In five years, the Amazon rainforest might lose the same amount of forest as it did in the past decade. In the Amazon, 23.7 million hectares of forest have been lost in the time five years; this is a little bit less than the complete United Kingdom (Zanon, 2023). The Amazon expands to 850 million hectares, and 55 million hectares will be vulnerable to deforestation in the next

years; this sum is also equal to all the deforestation from 2001 to 2020. These stats are worrying because according to “The National Union for Conservation of Nature” the Amazon is home to 30% of the planet’s biodiversity (Zanon, 2023). Between 2001 and 2020, 62% of the Amazon (located in Brazil) was affected. “If you take the history of deforestation, over 70% of the forests cleared were located within a stretch of 50 kilometers on each side of the roads, mainly paved roadways (Zanon, 2023). The Amazon has many important jobs, such as absorbing and storing CO₂; when someone cuts down these trees, then the CO₂ they had absorbed goes out into the planet again. Trees in general are like the Earth’s air conditioner; they cool down the planet, and they also fix some of our contamination like when we open our cars and release carbon dioxide (National Geographic, n.d.). Trees not only do these, but they are also home to millions of species that live in them, get food from them etc. (National Geographic, n.d.) In the Amazon, several species are seriously affected by deforestation and human activities. Jaguars are one of the most impacted animals because they lose their homes when trees are cut down. These big cats need large areas to roam and hunt, so when their habitat shrinks, it becomes harder for them to find food. Jaguars rely on the forest for hunting and shelter. When their environment is damaged, they may struggle to survive and find enough to eat. Smaller animals, such as monkeys and various bird species, are also affected. They depend on the trees for safety and food so when deforestation happens, it can threaten their populations, too. The loss of trees does not just impact these animals; it disrupts the whole ecosystem. Each species plays a role in keeping the environment balanced.





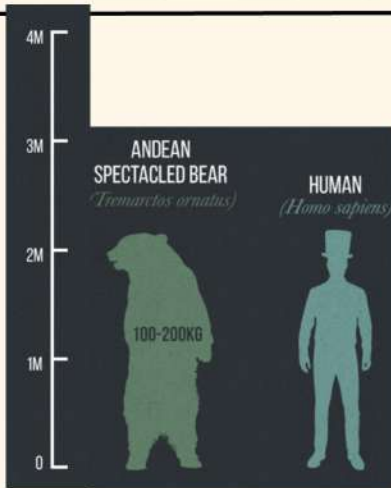
When one species decreases, its predator will have to look for other prey that they can eat. They put them in danger because the predator might suffer in the process of finding other prey. They will have to live in a different area than where they normally live and where they know how to survive. Not only their predator will suffer, but the new prey they find will suffer because the number of animals killed for food by that predator that was before divided into two species will rely only on one species, therefore decreasing its population. As these new prey decreases, their prey will increase and could overpopulate, causing their prey to decrease in population and start the process all over again. This happens to every animal that is part of a food web. (Eisenhammer, Griffin, 2021) For jaguars, feeding patterns can vary a lot because they can eat almost everything in the forest. Some of the jaguars' prey are monkeys (uakari monkey and golden lion tamarin), birds or birds' eggs (hyacinth macaw and harpy eagle's eggs), South American tapir, green sea turtle, iguanas, armadillos, and fish. Based on this information, we can

confirm that the jaguar's feeding pattern will change because they will have to find a way to find food as easily as they were doing before to not risk their lives. Jaguars as in some reported cases will have to hunt for other things they do not normally hunt, like dolphins, giant otters etc. They will also most likely stop hunting for food like harpy eagle's eggs because their population is less than 50,000, or hyacinth macaws that have lost 203,460 hectares of their habitat. Jaguars will also more likely start hunting more things like fish and small caimans because they are not being so affected by deforestation.

In conclusion, deforestation is a real danger that animals and plants that live on the Amazon are facing. Deforestation could end with all the forest, including the living things that live there. We would not only end with the multiple species but also the cooling effect that it has on the planet. Jaguar's feeding patterns will change in a way that they will hunt less animals that are hilly and in danger such as harpy eagles, tapirs, macaws, uakari monkeys, and golden lion tamarins; they will increase the number of individuals hunted in other species which are easier to find, or because of their ability to eat almost anything (even if it is not typical) they will eat anything easy to catch, and they can eat for example giant otters, dolphins, armadillos, deer etc.



SPECTACLED BEAR



The spectacled bear is an amazing animal that lives in South America. This is the only bear species that is originally from the south of America. The spectacled bear's scientific name is *Tremarctos ornatus* from the family Ursidae. This unique animal has a lot of curious characteristics. The name of bear comes from how it looks: the name comes from the pattern of the fur. The hair of the bear has the shape of a pair of glasses, that is why in Spanish the name of this animal is the oso de anteojos that means glasses in Spanish. The birth of the bear is from six to eight months. A newborn bear can weigh about 300 grams, but on day 180, the bear would weigh approximately 10 kilograms. The spectacled bear is supposed to live up to 20 years in its natural habitat. This animal at its maximum size weighs about 130 kilograms and grows up to 2 meters. How has the spectacled bear been affected by deforestation and what is the main reason for the bear to be in danger of extinction?

The spectacled bear eats different types of foods. This incredible animal has a unique diet because the first thing someone might think a bear eats is meat, but this bear is different. It is mostly a vegetarian animal, that means that its principal diet is about plants. For example, this bear can eat flowers and is one of his favorite foods. There are different types of flowers that the bear eats like orchid flowers, bromeliad flowers, passiflora, and cactus flowers. Also, the bear eats a big variety of fruits, some of them can be avocados. (Noticiasusfq) The spectacled bear is known for eating them because of their fats and nutrients. Another fruit that the bear eats is the cactus fruit that the bear can find easily in dry areas. However, the bear also eats wild grasses that he can find almost everywhere. One of the most important characteristics about the diet of this incredible mammal is that it is not a herbivore animal; it is omnivore. Being an omnivore animal means that it does not just eat one thing; it means that it eats a bit of everything. (Experto animal) Some of the other things that the bear eats but are not plants are some insects. The bear eats insects because they are a great source of energy for the bear. Also, on very rare occasions it has been seen eating cattle. There are the things that are Rare but they are not the great things, for example small animals like rabbits and rats. (National Geographic)



The diet is not the only thing that is interesting about this animal. One of the most important thing about bears is their habitat. The spectacled bear lives in a long part of the Cordillera de Los Andes. (Iucnredlist) For that reason they inhabit various countries: Colombia, Ecuador, and Bolivia. They have a lot of different ecosystems but in general they live mostly in Colombia. This bear does not hibernate because there is no winter where the food is hard to find, that is why the other bears hibernate but this one does not. There are several reasons why this bear is so unique. One reason is that the spectacled bear lives in such a variety of environments that the bear can live from 2000 meters above the sea level up to 4500 meters. (experto animal) Because of this, it can handle different temperatures. There are a lot of ecosystems where this bear lives. Some of those ecosystems are dry forests, tropical forests and in paramos. The spectacled bear is in danger of extinction, and people do not understand that it has a purpose: disperse seeds through all the forest. (National Geographic)

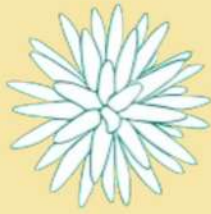


los Andes wild fires that affected spectacled bear population

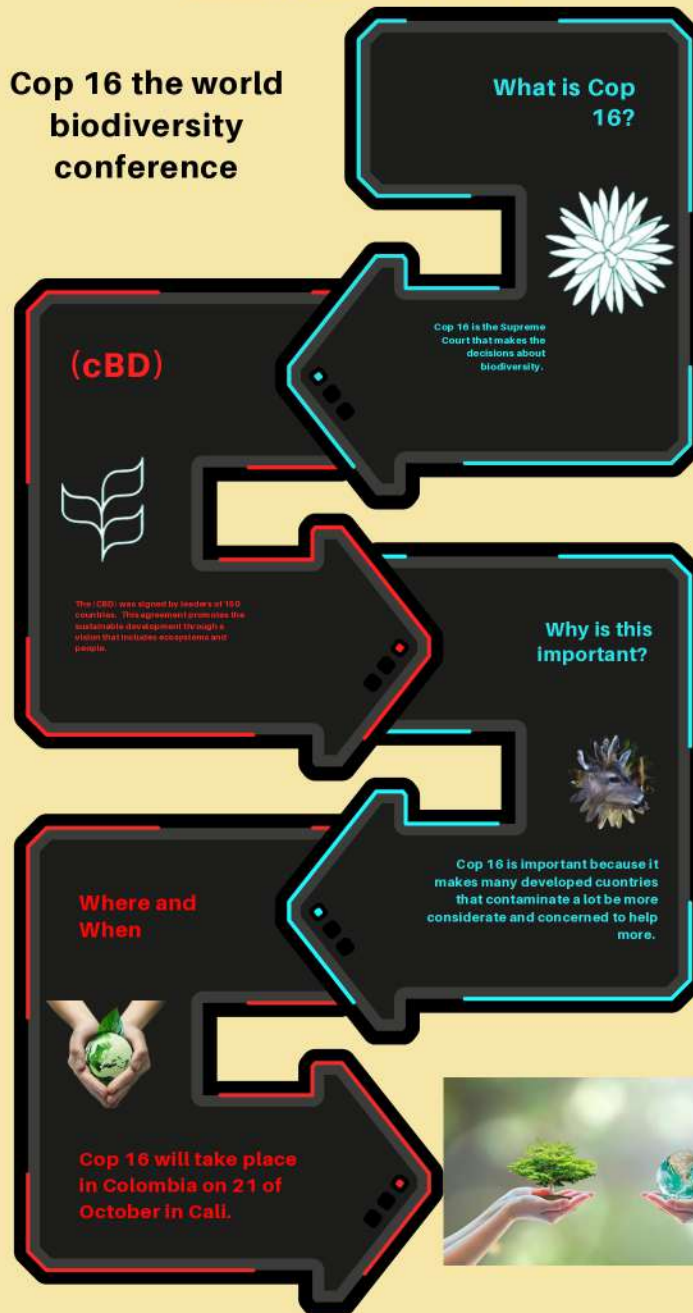
There are things that make the spectacled bear to be in danger of extinction. Many of the reasons for the spectacled bear to be in danger of extinction are the loss of habitat. Part of that is because of the construction of roads and destruction of forests to make space for growing crops or for cattle. The life cycle of the spectacled bear is when it is born with its eyes closed. And weight 300g. They grow fast because at 180 days they already weigh 10 kg. They live approximately 20 years. When it is grown it has a pattern in its fur of glasses that's why its name in Spanish is oso de anteojos. There are many other reasons like for example poaching. Poaching is the illegal hunting or capturing of wild animals. Another reason is the low reproductive rates because a mother bear can have from two to three babies in three years. (WWF Panda)

The spectacled bear has a unique diet. This bear is omnivore; it mostly eats plants like flowers, fruits, grasses and when there is lack of fruits, grasses, and flowers, it can eat insects and small animals. Some of the main reasons for this bear to be in danger of extinction are the construction of roads and deforestation for cattle. The habitat of the bear is in South America in the Cordillera de Los Andes. It mainly lives in Colombia, Bolivia, and Peru. In the future, there could be consequences for the species of the bear because it could become extinct. There could be less trees and the bear would not be able to spread seeds through all the forests. There are several solutions to stop the spectacled bear from becoming extinct: plant trees at the surroundings of the roads; and plant the trees that the bear mostly likes in specific places.

Martin Gutierrez



Cop 16 the world biodiversity conference



Fun facts

1. The president of Cop 16 is Susana Muhamad González.
2. An agreement that is wanted this year is Development of the monitoring framework.
3. Santa Marta Sierra Nevada is being affected by climate change.

By: Ignacio Huertas

Squirrel monkeys

Reproduction

By: Martina Sánchez



Colombia is a large country and the second one that has more diversity on earth besides Brazil". All animals in this country are different and unique and they have different characteristics. Monkeys are one of the many animals that live in Colombia. These animals are interesting and fascinating and "there are almost 38 different species of them in Colombia". Monkeys have different characteristics and behaviors that are unique. The howler monkey, like his name, howls a lot while the capuchin monkey that balances with his big prensil tail, and the the squirrel monkey, a little specie with a fun color, doesn't go unnoticed in the forest. The following report will focus on this last specie, the squirrel monkey. It will center around finding out different things about it and how is it one of the biggest families of monkeys in Colombia.



Squirrel monkeys live in the tropical rainforests of South America except on the Brazilian southwest coast. They enjoy being on the upper canopy levels, but they prefer to travel and rest in the lower canopy. Squirrel monkeys are small monkeys of 12.5 inches long with a long tail of 16 inches. They have a fur of different colors, and you can find lots of them in colors like black with red, green and yellow. When they open their mouths, you can see their 36 sharp teeth that they use to eat the fruits of the forest. They are one of the monkeys that live and travel with more members in a group and their groups are confirmed of around 10-300 members that have roles to help each one. These monkeys are agile and move through the forest by balancing through the trees and sometimes running through the forest on the ground. At night, they sleep with the coiled tail such as squirrels that is why they have this name. They communicate with others through different vocal sounds and to mark territory or food, they pee on them. They have an long life span: 15-21 years, but sometimes in zoos they can live up to 30 years. Their scientific name is *Saimiri sciureus*. They are omnivores which means that their diet consists in eating natural food like leaves, seeds and fruits and small insects, lizards or even eggs. They have some predators that are snakes, birds of prey and wild cats. People think that they are in danger of extinction, but they are not.

These monkeys have a big population in Colombia and in most parts of South America. They have big troops, so they have an active and big social behavior between all of them. In September, the mating season starts and these monkeys start looking for a partner. The male squirrel monkeys increase in size in this season because of the fat storage. Then they find a partner and reproduce; the gestation process is approximately six months and the breeding process happens between 3-4 months. Then, the baby is born. Most of the time only one baby is born, but sometimes they can have twins. The female does an exhaustive work to breed the baby and then she needs to take care of it because the male goes and leaves them alone. The mother finds support on the other males of the group who help her take care of the baby. She tries to have the baby on her back to take care of it and teach it how to survive. When the baby is six months old, it stops drinking its mother's milk and starts tasting fruits, insects etc., Then when it is 2 and a half to 4 years old, it can start reproducing. This happens with hundreds of monkeys in all the squirrel monkeys groups, so now there are millions of squirrel monkeys on Earth.





These monkeys have a big population in Colombia and in most parts of South America, and many people ask why there are that many monkeys around this continent. They “have big troops so they have an active and big social behavior” between all of them. In September the mating season starts and these monkeys start looking for a partner. “The male squirrel monkeys increase in size in this season because of the fat storage”. Then they find a partner and reproduce, “when they finish it starts the gestation process that is about 6 months and the breeding process happens between 3-4 months then the baby is born”. Most of the time it gives birth to only one baby, but sometimes they can have twins. “The female does an exhaustive work to breed the baby and then she needs to take care of it because the male goes and leaves them alone”. “The mother finds support on the other males of the group, and they help her take care of the baby. She tries to have the baby on her back to show it how to survive and take care of itself. When the baby arrives at 6 months they stop drinking their mother’s milk” and start tasting fruits, insects etc, “then when they are 2 and a half to 4 years they have sexual maturation” and they can start reproducing again. This happens with hundreds of monkeys in all the squirrel monkeys groups so they reproduce and reproduce that now there is a big population of squirrel monkeys in South America.

There are so many monkeys around Colombia, each one with different characteristics and behaviors. Some of them are big while others are small. Some of them can have more than 1 baby at a time and others can have only one. The squirrel monkeys have groups all around South America and there are so many of them in each group. As there are numerous groups of monkeys with lots of monkeys in each one of the groups, lots of monkeys reproduce with each other. As a result, they bring baby monkeys to the world and to each group, and when they grow up, they reproduce. This is like a life cycle because when the baby monkeys are born, grow and reach their sexual maturation, they can start reproducing all again. The population of squirrel monkeys has grown to the point that each group has 10-300 monkeys, which is a lot compared to other monkeys. In conclusion, each squirrel monkey generation will continue reproducing and its community will continue growing.

Colombia, Second-Greatest Biodiversity

<https://colombia.co/en/diversity/colombia-second-greatest-biodiversity-in-the-world>

Colombia's location, a privilege for biodiversity: The country is located in the middle of South America and part of Central America. These areas are characterized by a wide distribution of group of animals and plants due to the varying environmental conditions of each region and the development of the continents over time. Colombia is conveniently located in the equatorial tropics. Because of this, it has a diverse topography with a variety of climates and ecosystems which boost its biodiversity, currently accounting for 10% of Earth's flora and fauna.



Second most biodiverse country: Colombia ranks second amongst the 12 most biodiverse countries in the world. According to the 2019 Biodiversity Information System in Colombia, there are 51,330 species registered in the country, with more than 1,920 bird species, 528 types of mammals, and 1,521 species of fish. Colombia also has the third-highest number of endemic species. According to the Humboldt Institute, 14% of all species living in Colombia are endemic species. This means that these species can only be found here. The regions with the greatest concentration of this biodiversity are the Amazon, the Andes, the inter-Andean valleys, and the Chocó region.

Colombia flora diverse Flora in Colombia is also diverse and welcoming. This country has moorlands, jungles, savannahs, forests, wetlands, and even plains. Most of them are national natural parks, where you can find fruit trees and other flora biodiversity such as orchid flowers, palms, magnolias, and more.



What are they doing to protect this biodiversity: Colombia signed a Biological Diversity Agreement and a National Biodiversity Policy in 1994, a commitment to the conservation of its species richness. After this decision, the country consolidated the National System of Protected Areas (SINAP) with 1,116 protected areas, representing 15% of the national territory today.

Cop 16 is also helping to save Colombia's biodiversity. It is protecting 30% of land and sea areas globally, restoring 30% of degraded ecosystems by 2030, reducing pollution, and phasing out harmful subsidies in agriculture.

Colombia also combats deforestation and illegal mining, which threaten its biodiversity. Through initiatives like the "Zero Deforestation" Pact and stricter regulations on illegal mining, the country works to protect forests, water sources, and wildlife. Reforestation projects and restoration efforts in degraded areas further support Colombia's commitment to conservation and sustainable land use.



BY: ANA GABRIELA ESCOBAR

COP 16 WORLD MOST IMPORTANT BIODIVERSITY EVENT

By: Ana Gabriela Escobar

ALL ABOUT COP 16

What is it?

Is an international conference where lots of countries come together to discuss and take decisions about how to protect the environment.

Where and when does it take place?

It goes from October 21 to November 1, It takes place in Cali, Colombia.

What is the objective?

The objective of the cop 16 is to stop and reverse the loss of biodiversity by 2030 through 23 goals.



COP16
COLOMBIA
FOR CONSERVATION

What is the importance?

The importance is that cop 16 promote international cooperation, agree on investments to protect ecosystems and strengthen global environment policies.

What are the main focus areas?

The main focus areas of cop 16 are land restoration, drought resilience, land at the heart of the SDGs and Women's land right.

What are the goals?

The goals of it is to realize a program to integrate traditional knowledge into national conservation strategies and decision.

INVOLVEMENT OF COLOMBIA IN COP 16

It was selected due to its biodiversity conservation. The choice of it as a host of this event highlight the importance of the region in the global biodiversity and the fundamental role it plays in the protection of ecosystems.

Cali is one of Colombia's most biodiverse region. This unique biological diversity makes Cali an ideal setting to discuss and make decisions on biodiversity conservation at a global level, highlighting the need and importance to protect these vital ecosystem.

LOCAL INITIATIVES

Colombia has implemented 4 specific things to reduce climate change.

1. Solar, wind, biomass, and small hydro project.
2. The development of sustainable mobility solutions.
3. The launch of new technologies such as green hydrogen and geothermal.
4. The adoption of a carbon neutral policy for the sector.

SOME FUN FACTS ABOUT COLOMBIA

1. its the second-highest biodiversity in the world.

2. Colombia is home of a variety ecosystems. It includes rainforest, mountains, plains, deserts, and coastlines. This diversity allows to have a variety of flora and fauna specie.

3. Colombia holds the record of the highest number of species, including the Andean Condor and the brightly colored Santa Marta parakeet.

4. With coastlines along both the pacific and Caribbean oceans. Colombia is the only South America country to have this unique geographical advantage. Allowing it to have a great marine life variety. It includes sea turtles, sharks, and humpback whale.



CALL TO ACTION

1. Conserve water, take short bath showers.
2. Promote people to do things that decreased climate change.
3. By less clothing, purchase second hand clothing, or repair and repurpose clothing.
4. Minimize food waste and plastic trash.
5. Walk, bike or use public transportation to reduce carbon emissions.
6. Reduce, reuse and recycle things that are not needed.



COP 16

A NEW CHANGE TO BIODIVERSITY

WHAT IS THE COP 16?

Definition: COP16 is the space for discussion and decision-making to address humanity's pressing problems, such as climate change, biodiversity loss, ecosystem conservation and defense of people dedicated to conservation, among others.

Location: Santiago de Cali, capital of the Colombian Pacific. It is the most important international event ever held in the country about biodiversity.



WHY IT MATTERS?

Importance of Cop: Aiming to promote international cooperation, agree on investments to protect ecosystems and strengthen global environmental policies

Global Impact: Cop 16 represents a unique opportunity for the world to unite in the fight to preserve biodiversity and ensure a sustainable future for all forms of life and the planet.

KEY THEMES OF COP 16:

Glaciers:

- It estimate that on 2100 would not be snow cap peak
- In 2030 it is estimated that would not be more glaciers in Colombia
- The Sierra Nevada of Santa Marta is affected by the climate change
- It is lost 5% of ice each year
- Water becomes ice at 0 degrees
- Glaciers of Santa Isabel disappear this year in January



COLOMBIA'S ROLE:

Involvement: In 2024 for the first time in history, Colombia will host the 16th edition of the biannual conference on biodiversity.

Local initiative: A ten-year strategy to invest USD \$200 million to reach zero net deforestation by 2030.

Fun facts of Colombia biodiversity:

- It is home to more than 40,000 plant species.
- Also of 1800 bird species.
- And 580 amphibian species.

Call Action:

- Recycle usable things: we can do this selecting the garbage we are throwing out the things and also creating things.
- Don't throw garbage to environment: An strategy can be charge with you a bag or a bottle to put all the garbage there.
- Save water and electricity: Using it when you needed and not wasting it.



BY: ALEJANDRO COLLAZOS

Poems

BY: MATEO CAMACHO

When you are close to the corals,
you can feel lots of morale.
And close to the jungle,
you remember things done by your uncle.
You can find some animals,
but keep the distance because some of them are carnivores.
Nature gives us resources,
but we blindly use our forces.

Resources are important for our lives;
that's why we need to protect them.
I'm not talking about the factories or the stores,
I'm talking about something that's yours.
It's yours; it's mine,
So please let's keep it fine.

Caring about our biodiversity
is something you should learn before university.
Biodiversity is like a music playlist,
and every animal is a different song,
and our world is the artist that sings it.
For example the beautiful birds and bunnies,
bring balance to biodiversity.

In Colombia, we have beautiful and magic ecosystems.
When you wake up in Villa de Leyva, you can hear the birds symphonic melody.
But in Cartagena, you listen to the sea waves punching the beach with lots of care.
These are some things we will have in the future if we use properly the sources.

Closing this poem, I hope you learn because if you don't, there will be no cause and effect.
Nature is amazing with colors so bright, and in every season it brings pure delight.
Thanks for reading. I hope you had fun.
With this sentence, my poem is done.

Poems

BY: EMILIA VASQUEZ

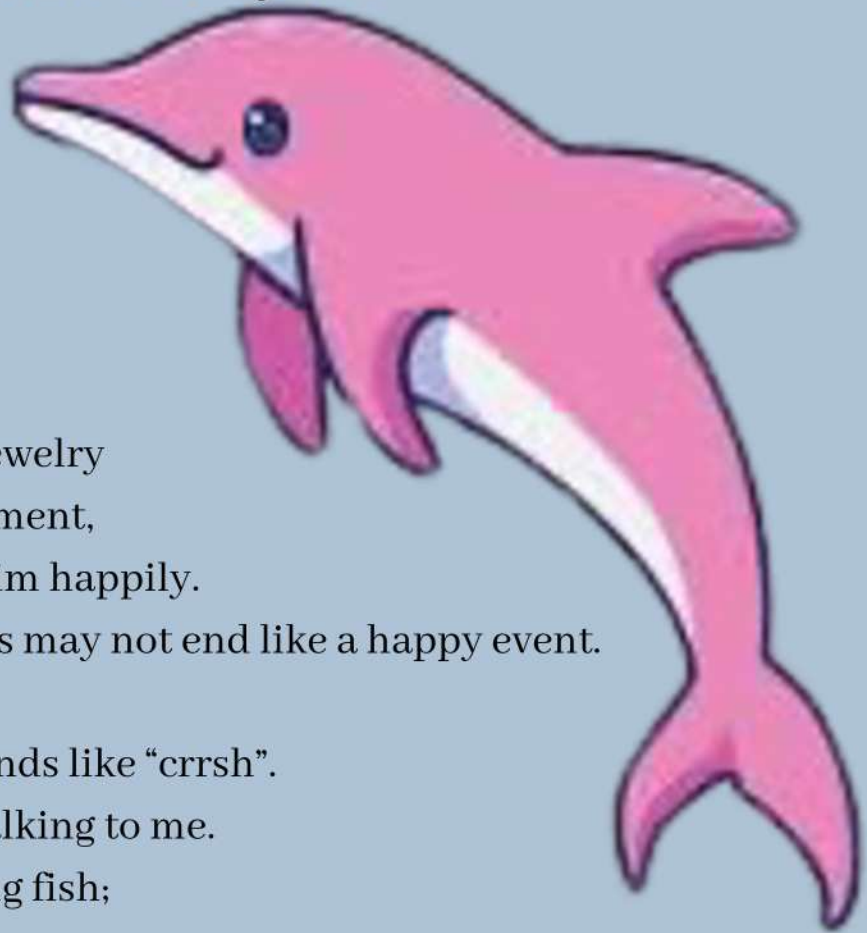
Pink dolphins are beautiful;
they are also smart.
Pink makes dolphins colorful;
they have an open heart.

Pink dolphins are like ocean's jewelry
but if we don't help the environment,
pink dolphins will no longer swim happily.
So if we don't make changes, this may not end like a happy event.

When they communicate, it sounds like "crrsh".
When they talk, I feel they are talking to me.
To me "crrsh" sounds like singing fish;
they can also talk with the sea.

I love watching them swimming.
Everyone says dolphins dance.
They also like chilling.
Dolphins can move an entire boat with their incredible glance.

We don't understand their voices,
but I feel they are friends.
I will start making choices,
so this friendship never ends.



Poems

BY: CARMEN MALDONADO

In the Amazon where the fierce things roam,
the jaguar rules its abundant green home.
With spots that shine on a dark night,
a gloomy figure, elegant and bright.

As a top predator, it plays a key role:
keeping balance and its ecosystem in control.
As king of the jungle, it keeps peace,
balancing its ecosystem where life won't cease.

Its roar is strong as the trees,
traveling through the breeze.
It brakes the silent night,
calling for help for those that fight.

With every charming roar, the echoes grow faint,
deforestation covers the world in restrain.
Let's save this cat, a guardian bold,
because in its survival, the jungle's heart holds.

Poems

BY: ANA GABRIELA ESCOBAR

Beneath the waves were sunlight fades,
the dolphins play in hidden shades.
They jump and have fun all day.
As family and group they stay,
hunting and surviving they enjoy,
but whales and sharks eat them with joy.

But now strange sounds disturb their seas,
a constant thrum that will not ease.
Ships and drills break nature's song,
where once the dolphin's call was strong.

The ocean is calm where echoes rang.
Now metal giants loudly clang.
The songs they sang to guide their way
are lost amid the disarray.

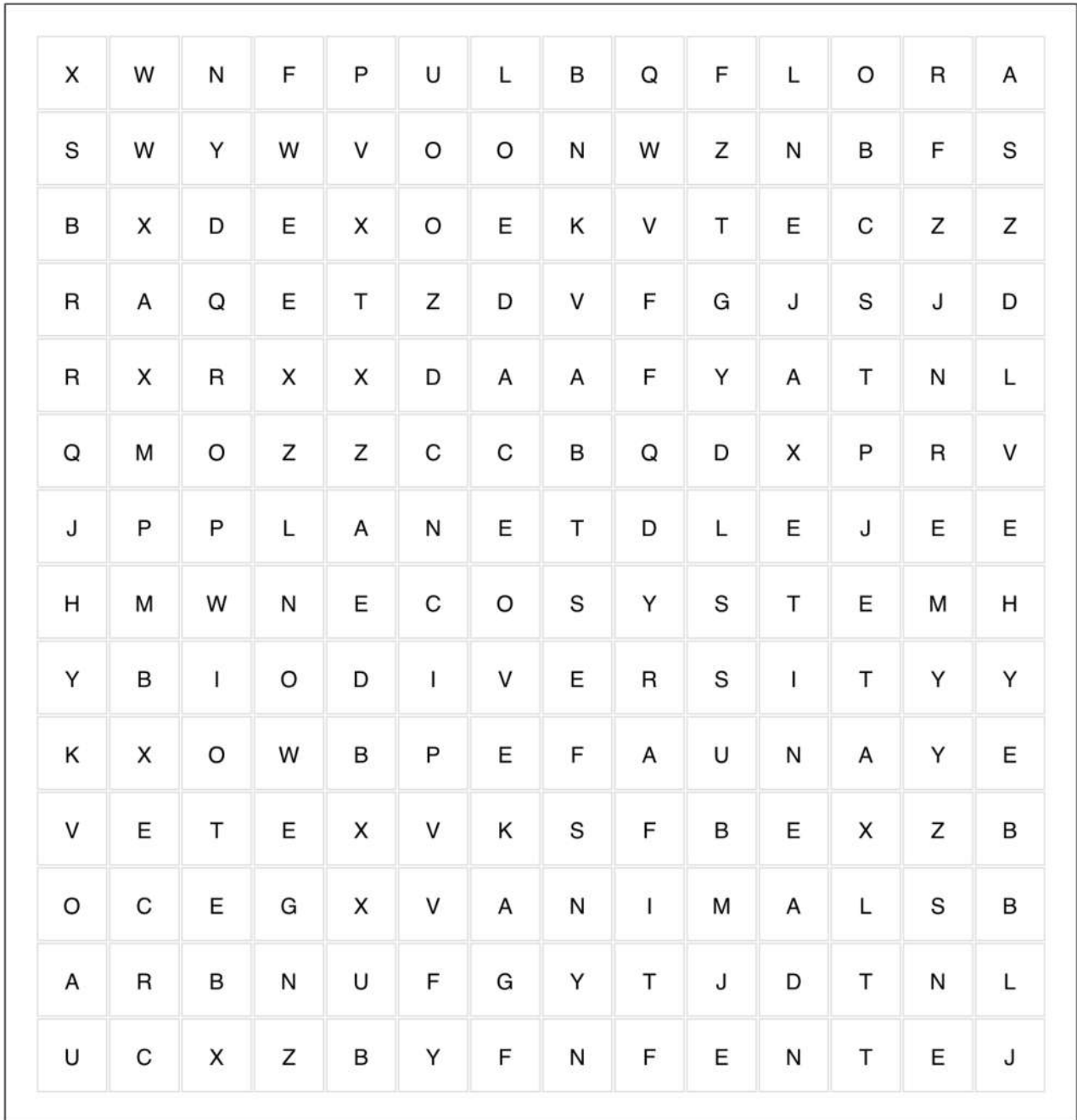
The dolphins drift through murky sound.
Their cries unheard; their friends unfound.
But still they leap, they dance, they play
through noise encroaches day by day.

Let's guard their home, the deep blue sea,
For dolphins thrive where oceans breathe free.
They shine our world with joy and light.
Protecting them is nature's right.



WORD SEARCH

Biodiversity

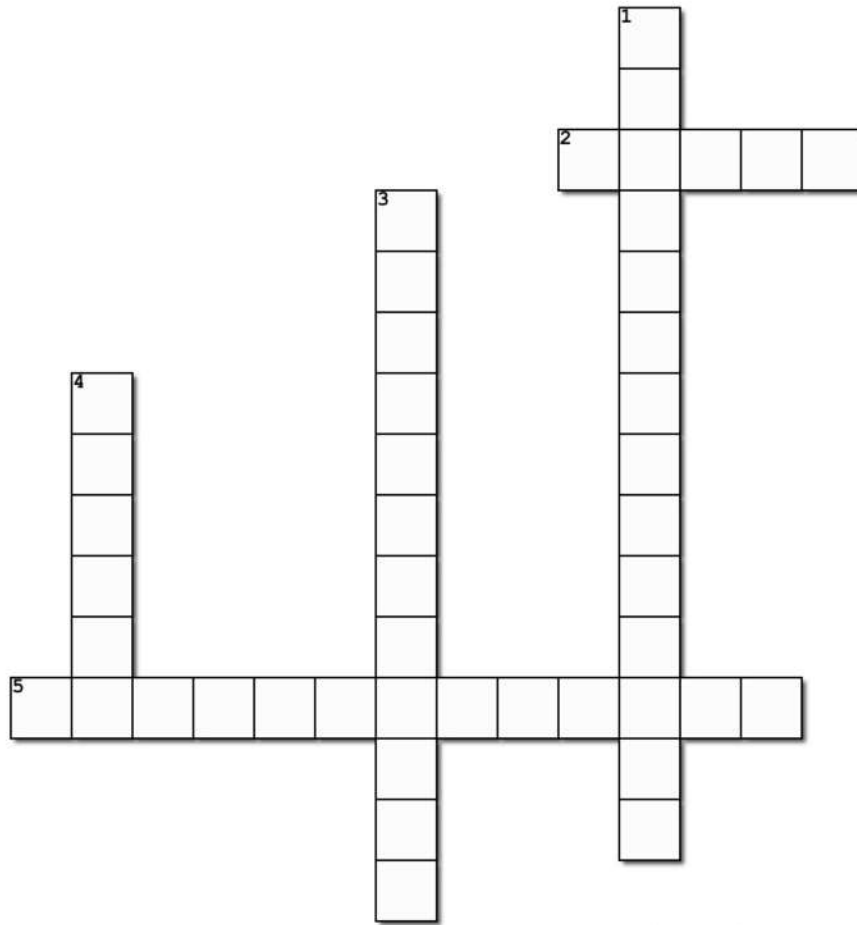


[educima.com](https://www.educima.com)

Animals Biodiversity
Ecosystem Fauna
Flora Planet

<https://www.educima.com>

Natural Crossword



Created using the Crossword Maker on TheTeachersCorner.net

Across

2. A conference about nature
5. When we damage habitats and ecosystems

Down

1. A horrible situation we are causing
3. All the different kinds of species you will see in an area
4. A beautiful natural creation

<https://worksheets.theteacherscorner.net/make-your-own/crossword/>

Let's conserve our biodiversity!



ILLUSTRATION BY: ALEJANDRO COLLAZOS