WILDLIFEDIRECT

Newsletter
Issue #31
December 21st, 2020

WILDLIFE WARRIORS KIDS

Hello Wildlife Warriors!
Stay connected to nature even when you are at home.

© Susana Wachia

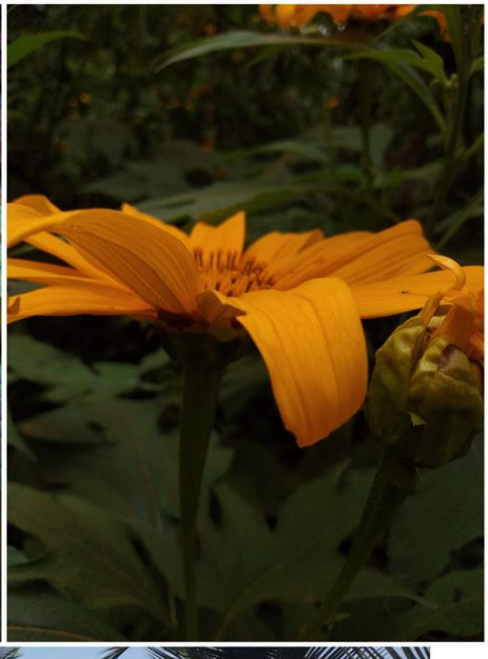
We are almost at the end of the year! In this issue, we learn about **Seagrasses!** Did you know that, seagrasses are not actually 'grasses' but marine plants? They are the only flowering plants that grow on the ocean floors!

We learn more about our oceans, discover how we can take action for nature, meet a Nature's Treasures Photo Competition junior entrant, share art, and meet inspirational ladies working in the ocean. **Please read on!**

Stay with us on this fun filled adventure and always remember to share with your family and friends.

JUNIOR PHOTOGRAPHER HIGHLIGHT

Dilcon Kihoro participated in the Nature's Treasures Photo Competition. Here are some of his amazing images.



Q & A with Dilcon Kihoro

Q. How old are you?
A. I am 16 years old.

Q. Which camera do you use?
A. I use my phone camera which is an OPPO A5

Q. What do you like about nature photography?
A. It just gives me joy to see the beautiful and exquisite nature photos as this is the environment we live in.

Q. What advice do you have for young and upcoming photographers?
A. You should always chase your dreams and never give up. Remember, practice makes perfect and I have a quote which really motivates me -

"Many of life's failures are people who did not realize how close they were to success when they gave up"
~Thomas Alva Edison

You can follow me on Instagram **@thee_kihoro**

OCEANS

Vocabulary

- **Ecosystem** – A group of living things that live in and interact with each other in a specific place.
- **Seagrass meadow** – Seagrass ecosystem or Seagrass bed.

The ocean ecosystem covers about 70% of the earth's surface and is home to millions of plants and animals.

The ocean affects every life on earth as it produces more than 50% of the oxygen we breath and influences the weather across the earth.

The oceans produce oxygen through different plants that live in them, such as the seagrasses.

There are five different oceans on earth which are; the Atlantic, Pacific, Arctic, Southern and Indian oceans.

The ocean ecosystem is divided into three different zones.

1. The sunlit zone; - ocean areas that receive a lot of sunlight that allows plants to grow and animals and fish live.

- All plants that grow in the ocean are found in the first zone. This is because they need light to produce food through photosynthesis.
- These plants include seagrasses, marine algae, and seaweed.

2. The twilight zone; - has little light but not enough for plants to survive. Only a few animals move here to hide or hunt for food.

3. The Midnight Zone; This layer gets no light at all and is extremely cold that only a few animals can live here.

SEAGRASS

- Seagrasses are grass-like flowering plants adapted to grow in salty and semi-salty waters of the oceans.
- The seagrass blades grow upwards to capture sunlight, and the roots grow down and sideways to get nutrients from the water and ocean floor.
- They cover less than 0.2% of the ocean floor, but are responsible for storing up to 10% of ocean carbon each year.

SEAGRASS POLLINATION AND DISPERSAL

- Just like flowering plants on land, most seagrasses reproduce through pollination.
- Pollination occurs with the help of water currents that move the long male seagrass pollen grains until they land on the pistils of a female flowers.

Tiger shells in a seagrass bed © William Jefwa, WCS

- Fertilized seagrass flowers develop into seeds. The seagrass seeds are light and can float and get dispersed far away to find a sea floor, settle and germinate into a new plant.
- Seagrass seed dispersal can also be done by animals such as turtles or fish that eat the seeds then release them to germinate in other ocean floors.

SEAGRASS SPECIES

- There are 50 different species of seagrasses in the world. In the Indian ocean, Kenyan waters have 12 different types of seagrasses.

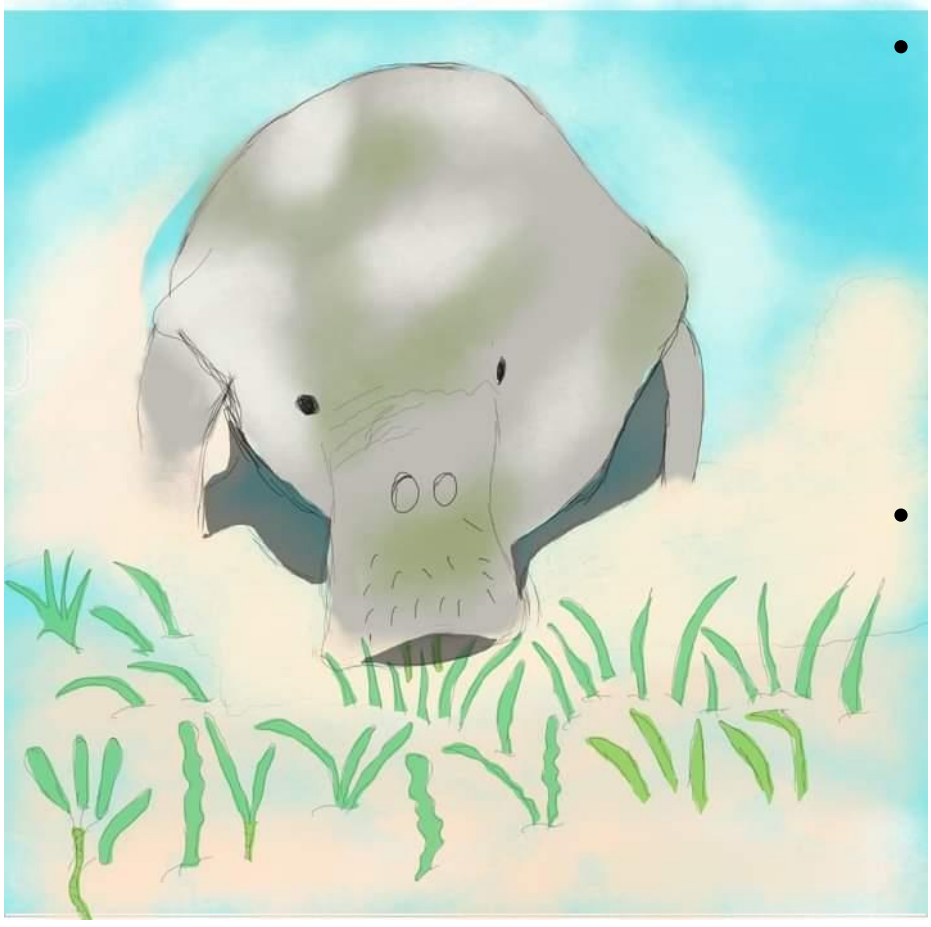
- Different seagrass species can be identified from their shape, size, and role in the ocean ecosystem.
- Some have small leaves, many flowers, and many small seeds while some have large thick leaves, scattered flowers, and few larger seeds.
- Some seagrasses grow faster than others.

IMPORTANCE OF SEAGRASS

The seagrass cover the ocean floors like savannahs on land. Here are some of their important functions;

- **Providing food and habitat** for marine animals and fish. They also protect young fish from predators.
- **Stabilizing the bottom of the sea;** Just like land grasses prevent soil erosion, the large seagrass roots slow down ocean waves and reduce coastal erosion.
- Seagrasses protect the ocean shoreline from erosion caused during sea level rise.
- **Carbon storage;** Seagrasses capture and store carbon from the atmosphere.
- **Maintaining water quality;** Seagrass trap nutrients and clean polluted water from land into other ecosystems like the coral reefs.
- **Nursery grounds;** Seagrass provide young fish and small invertebrates with a place to hide from predators.
- **Oxygen production;** Seagrasses take in carbon dioxide and release oxygen which is important for all species.

SEAGRASS FUN FACTS



Dugong feeding on seagrass
© Michael Mwangombe

- Despite their name, seagrasses are not actually grass but are flowering marine plants.
- Seagrasses capture more carbon than rainforests and help in reducing climate change impact.
- A single square meter of seagrass forest can release up to ten liters of oxygen in a day.
- It is thought that more than 90% of life on earth lives in the oceans with most living and feeding on seagrasses.
- The world's only true herbivorous marine mammal, the dugong, can eat up to 40 kgs of seagrass in a day.
- An adult green turtle can eat 2kgs of seagrass a day.

THREATS FACING SEAGRASS

It is estimated that 110 square kilometers of seagrass are lost every year. Some of the causes are;

- Destruction by harmful and illegal fishing gear such as trawlers.
- Overfishing of large carnivores like sharks increases sea urchin population

- Agricultural and industrial waste going into the ocean causing algae blooms that reduce light reaching the seafloor for seagrass growth.
- Coastal infrastructure development and dredging.
- Boat throwing anchors and boat propellers on shallow waters can damage seagrass leaves and roots slowing their growth.

MEET DR. JACQUELINE UKU

I am a Senior Research Scientist at Kenya Marine and Fisheries Research Institute (KMFRI) and President of Western Indian Ocean Marine Science Association (WIOMSA).

My interest in the ocean began at a young age when I would visit the coast during the holidays. a young girl, I visited the coast during the holidays. I would go swimming but I was not aware of the underwater environment.

During my Masters in Biology of Conservation studies at the University of Nairobi, I fell in love with the ocean again. I saw the underwater life, met scientists who explained what I was seeing as I gained a deeper understanding of the marine ecosystem.

I found out that although seagrasses covered a large section of our coastal lagoons, they were the least understood ecosystem in the region as more focus was given to mangroves and coral reefs. I then decided to work with seagrasses with a vision to put seagrasses on the Kenyan map.

When I started, I was one of the few scientists studying seagrasses but over time, this has grown into a small community of enthusiastic seagrass scientists.

Q: How would a young person get involved in marine/ seagrass research.

A. Young people can get involved by learning all that they can about the marine ecosystem and seagrasses. I believe that the knowledge will enable them to raise their voices for the conservation of these critical ecosystems. In terms of education, a degree in environment and ecology would be useful.

Beyond the sciences and there are opportunities for artists, photographers and social scientists to tell the cultural stories of human engagement with seagrass beds.

Q: What action can Kids take to protect seagrasses?

A. Kids can help us keep the marine organisms intact in the seagrass ecosystem.

Many Kenyans buy shells and starfish from beach traders. These are animals that are found in seagrass beds and have a function in keeping the ecosystem balanced.

© Charles Muthama/KMFRI

Mollusk coming out of a Tiger shell © William Jefwa/WCS

Kids can pass on key messages about the habitat particularly the message that shells are best enjoyed when they are alive in the ocean and not when they are dead in your house.

MEET SUSANA WACHIA

Q: Tell us about yourself and your ocean passion?

A. As a child I was always getting into water, even when it would get me into trouble.

When I eventually saw the ocean, I was in absolute awe at how much water there was.

When I would watch cartoons and documentaries on TV as a child, I started to learn that there was a whole world underneath the water.

Over the years, I discovered the joy of taking pictures. I got my first camera as a gift when I turned 9 years and used to take pictures for fun. I however, wanted to take pictures of the ocean and its amazing life forms.

Q: Tell us about your Education

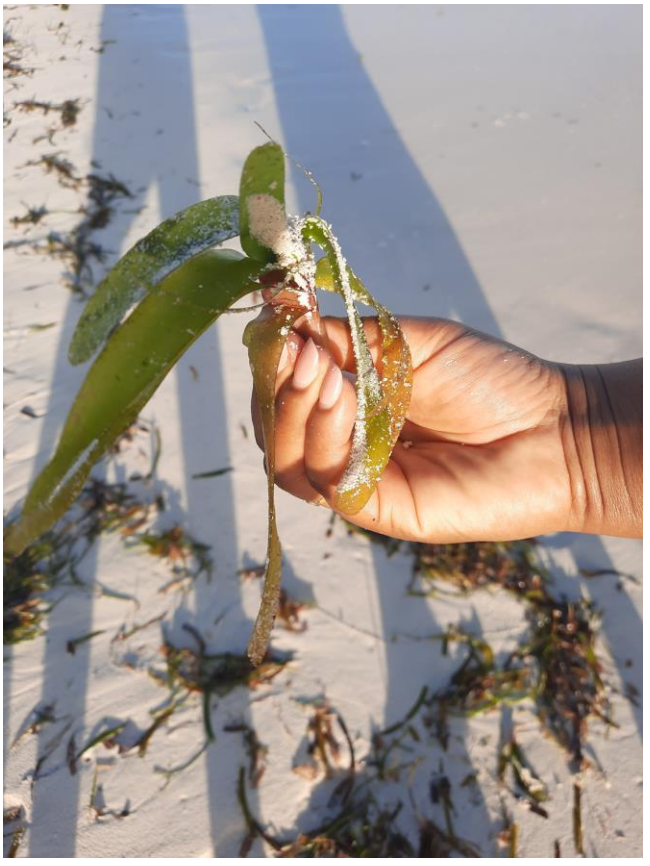
A. From the time I was 11 years old, I was always excited about the ocean. After high school, I learnt how to scuba dive, which made me fall in love with the ocean even more.

I pursued a Bachelor of Science in Environment and Natural Resource Management at the Africa Nazarene University and I graduated in October 2020.

I wanted to focus on the marine field and get to understand the larger scope of life on the land, rivers, lakes and oceans and how people are linked to these water bodies .

Q: How did you get into seagrass research?

A. I applied for attachment at Kenya Marine and Fisheries Research Institute where I work with the Seagrass research team and receive tremendous mentorship from Dr. Jacqueline Uku, a senior research officer specializing in plant physiology with emphasis on seagrasses.



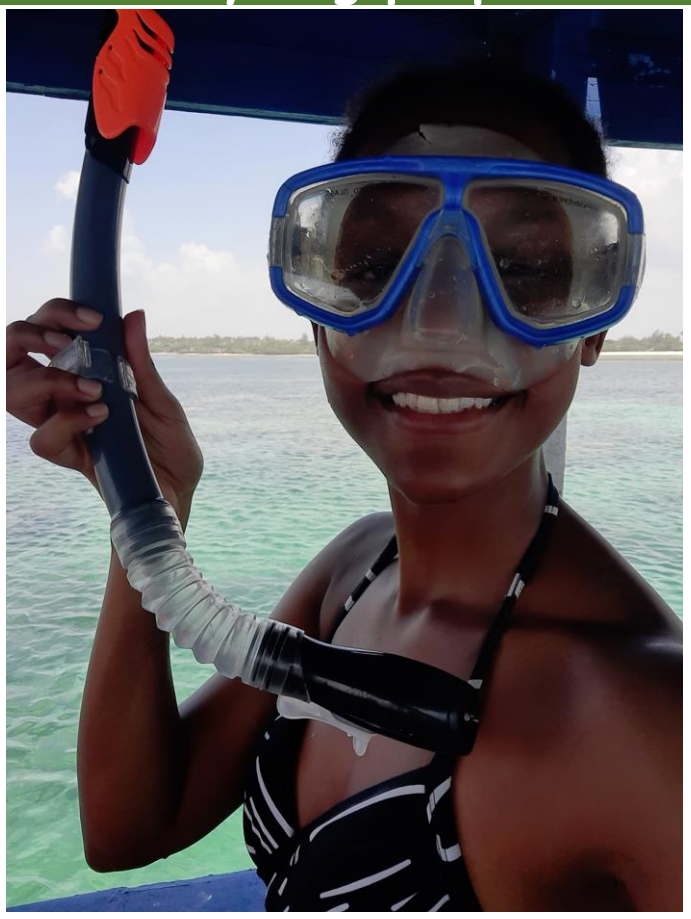
My desire to explore the marine ecosystems and life forms is what drove me to seagrasses after I realized that although they occupy a large proportion of our coastal lagoons, they are the least understood.

Many people prefer to work on mangroves and coral reefs but I wanted to explore and learn about the seagrass.

Q: Do you have a message for the young people?

A. Yes,

- Kenya has been blessed with numerous natural resources and our generation is the one that will inherit it.
- Climate change and global warming have impacted the world and our country greatly.



- If we do not take up the mantle of protecting and conserving our forests, wildlife, rivers, lakes, and oceans, we risk moving into a future where we will face severe consequences.
- We need to surround ourselves with experienced individuals in the fields we are interested in. They can share a wealth of experience and advice that can help in shaping our career paths.
- Mentors encourage you and walk with you and I would not be where I am without the mentors in my life.

TRUE OR FALSE

1. There is only one type of seagrass

2.Seagrasses are found in oceans, lakes, and rivers.

3.Fish find good nesting areas where there is seagrass.

4.Plants including seagrass absorb carbon dioxide from the air.

5.Seagrasses do not have any economic value

6.Pollution does not affect seagrass in any way.

7.Bad fishing is a big threat to seagrass.

8.Seaweed is another name for seagrass

By Sarah Ater and Susana Kihia

DRAW ANY ANIMAL OR FISH FOUND IN SEAGRASS BEDS

Seagrass beds are home to many animals. Can you draw four of these species that call seagrass home? Use a piece of paper.

Turtle

Fish

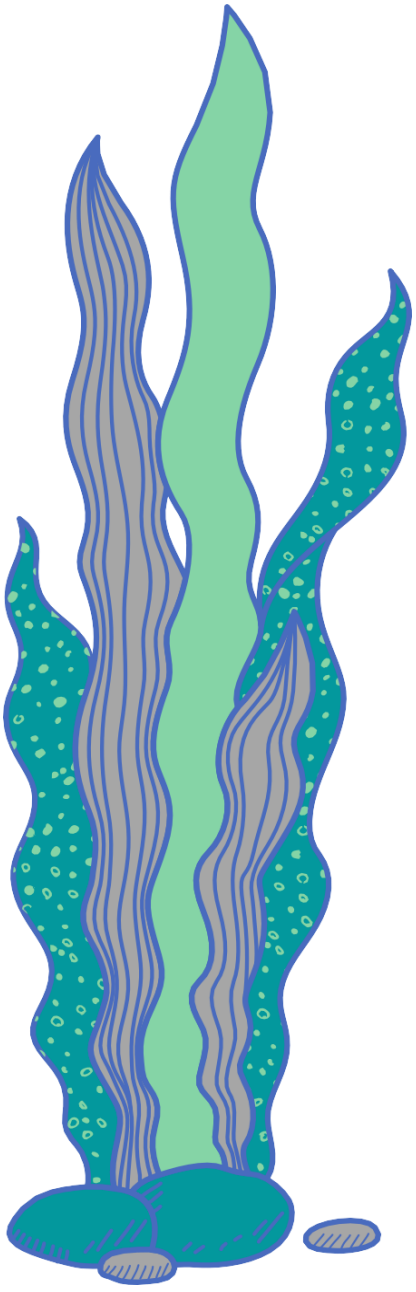
Duogong

Seahorse

By Sarah Ater and Susana Kihia

SEAGRASS WORD SCRAMBLE

Unscramble the letters to spell the words correctly



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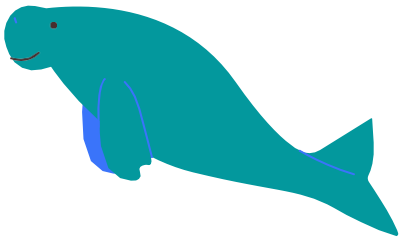

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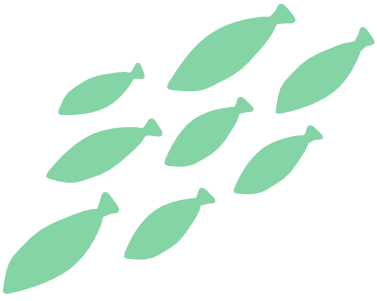

SGASRESA

RABCNO

SHOVBERIRE

By Sarah Ater and Susana Kihia

CALL TO ACTION

LEAVE ONLY FOOTPRINTS AND ONLY TAKE PHOTOS.

During the festive season. Some of us will go for day out to nice natural places, at the beach, wildlife parks or city gardens. Always make sure that you leave the place cleaner than you found it.

Do not leave any litter, containers of food behind as these can seriously affect the health of animals and people.

If you live near the beach, you can encourage your family and friends to join you on a beach clean-up activity.

Share with us **ACTIONS** you will take to protect the oceans and wildlife areas on **WhatsApp** to **0746 511 787**

ART FOR WILDLIFE

Art by Derrick Memusi
Form two student at Doldol Boys Secondary School, Laikipia

Please send a **photo** of your **Drawing**, **Painting**, **Poem** or **Essay** on **WhatsApp** to **0746 511 787**

WHAT YOU CAN DO TO HELP NATURE

Visit a Green Space

Green spaces are areas that are covered with grass, trees, shrubs or any other vegetation.
These includes wildlife parks, including marine parks, forests, gardens and public seating areas.

By visiting these spaces, we contribute to their conservation and also get an opportunity to learn about the exciting plants, insects, animals and other non-living things found in them.

Visit a green space during this festive season with your family and friends and remember not to leave any litter behind

THIS WEEK ON MY WILD AFRICA

The elephants of Botswana who are about ⅓ of the world's population. These elephants have small tusks because of the low mineral content in the water in Botswana.

This Sunday on My Wild Africa, we follow the two filmmakers who discovered two skulls of bull elephants with their tusks intact and go on a journey to discover their life.

Tune in at 5:30 pm EAT on Citizen TV

Watch the **film** with your family and tell us **what you learnt** by sending an **SMS** or **WhatsApp message** to **0746 511787**

COMING UP… DON'T MISS

- My Wild Africa on CITIZEN TV every Sunday at 5:30 pm EAT.
- Last issue of the Wildlife Warriors Kids Newsletter for 2020…

FOR PARENTS

- Please tell us what you think of this newsletter by filling the second part of bit.ly/WWKIDS and we will get back to you.

- If you would love to support Wildlife Warriors Kids, please make a donation to:

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