

EMOTION OCEAN



INSIGHTS FROM SOUTH AFRICAN
OCEAN CONSERVATIONIST
MELISSA NEL

“WHAT ARE WE DARING TO LOSE?”
PHOTO REPORTAGE

POLLUTION AND CLIMATE
THE THREAT FROM OUTSIDE
THE WATER

THE HUMPBACK DOLPHIN
IMPACT OF POLLUTION ON LOCAL
MARINE LIFE

**OCEAN
CONSERVATION**
SOUTH AFRICA

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A BEAUTIFUL BUT HEARTBREAKING JOURNEY

OCEAN CONSERVATION IN SOUTH AFRICA

MELISSA NEL & THE OCEAN

This is Melissa. She is 29 years old, born and bred along the South African coastline. Melissa graduated with a BTech in Oceanography in 2016 and pursues a career in Marine Biology and conservation ever since. Currently she works as Volunteer Coordinator and Research assistant at the ORCA (Oceans Research Conservation Africa) Foundation.

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Ever since I was a little girl, I have had a strong sense of wonderment towards the ocean

Her sense to protect the ocean has been always very strong, even though she remarks that she didn't spend a lot of time near the sea before her teenage years. Her admiration only grew the more hours she spent in the water.

According to Melissa it never is the same, every dive, boat trip or observation is different and filled with new excitement for possible wonders to happen.

“[...] no matter how much time you spend there, you will always experience something new.” ,as Melissa describes it. This fascination feeds her motivation to follow the path towards the protection of everything the ocean withholds and maintains her admiration to this day and leads her.

UNIQUE HOME FOR MARINE DIVERSITY - SOUTH AFRICA

TWO OCEANS, ONE SEAWORLD

According to Melissa, South Africa is special in its two complete opposite oceans blend on the most southern tip of Africa. The cold Atlantic Ocean on the West with great species abundance but low diversity. And the warm Indian Ocean with much diversity but low abundance of species. The collision of both oceans at the very tip provides a rather special and unique home for fish, sharks and cetaceans such as dolphins and whales.





WHAT ARE WE DARING TO LOSE?

Melissa has a passion for photography of the wonderments that the ocean withholds. This little photo reportage shows you the diversity of the marine life along the coast in South Africa. She captured the characteristics of the animals beautifully and allows you to feel slightly the excitement and that she felt taking these pictures. A new adventure every day. Sometimes we have to remind ourselves what we fear to lose when no change is done towards awareness and protection of our oceans.

check out her photography channel for more



DID YOU KNOW? MEL'S FUN FACTS



The Spiny Starfish

The *Marthasterias glacialis* can be found along coast line of Southern Africa.

Here you can see one of 5 arms covered in conspicuous spines each surround by a blue halos that are used to keep the body clean. The underside is covered by loads of small tube feet that enable the starfish to grasp and manipulate prey, to move, and to cling to rocks and other hard surfaces as it creeps along.

Did you know?

When disturbed or stressed, this species will often shed one or more of its legs. Don't worry they will grow back!



Sharks

Sharks are a beautiful sight to behold but can they see how beautiful the world around them is?

In studies of shark eyes it was found that most sharks have excellent vision and have both rods and cones in their eyes like us. Rods enable them to see light and dark whereas cones see colors. Though we aren't sure how they interpret color we know they can see it within varying degrees depending on the species.

THE THREAT FROM OUTSIDE THE WATER

THE IMPACT OF MAINLY PLASTIC AND FISHING POLLUTION RISKS THE EXTINCTION OF MARINE LIFE IN THE FUTURE. BUT HOW URGENT IS THE SITUATION REALLY AND WHAT DOES IT MEAN FOR THE FUTURE OF THE OCEANS?

According to National Geographic our ocean is polluted with chemicals and trash, from which 80% comes from sources on land. A study from 2019 revealed that now even at the deepest point in the ocean, the Mariana Trench in nearly 10,975 meters down, plastic trash was found. In 2015 National Geographic stated that there are 5.25 trillion pieces of plastic debris in the ocean from which 269,000 tons float on the surface and some four billion plastic microfibers per square kilometer litter the deep sea. The international organization focused on raising awareness

towards ocean protection, Oceana, states that this amount of plastic is comparable to as if every minute, two garbage trucks of plastic would be dumped into our oceans.

According to the Vancouver Sun, Roland Geyer, a professor at the University of California, Santa Barbara predicted in 2021 that there is the chance that if nothing is done to change how we use and dispose of plastic there will be more plastic than fish in the oceans by 2050. The pollution of fishing is a major hazard.

Ocean conservationist,

Melissa underlines the threat of animals becoming entangled in fishing gear, that fishermen throw into the water recklessly.

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Fishing and pollution from fishing are the largest contributors to the decline in ocean health and water quality.

- Melissa



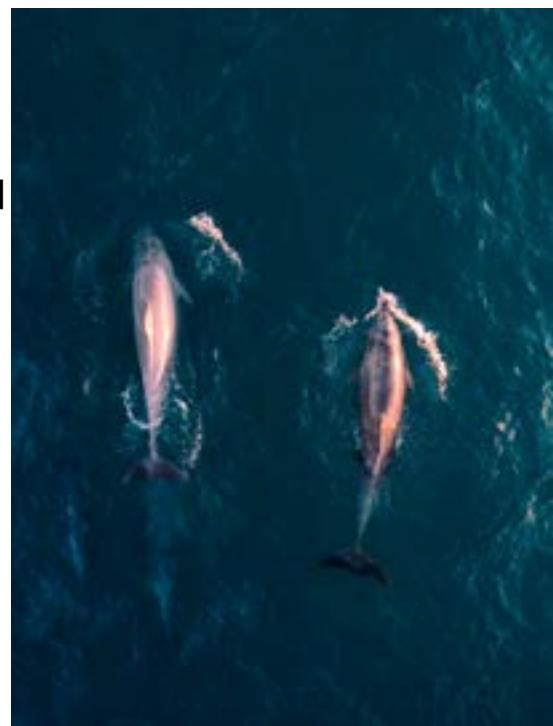
PHOTO: MELISSA NEL

According to her "Fishing and pollution from fishing are the largest contributors to the decline in ocean health and water quality."

The plastic and nylon do not decompose and are wreaking extreme havoc on wildlife and ecosystems they interrupt. Habitat loss occurs when the conditions necessary for plants and animals to survive are eliminated and life is no more possible. This is an outcome of change in nature but mainly human influences, as stated above. Pollution and climate change is a part of it

but not all of it. According to National Geographic habitat loss of in-shore environment is caused by Disruptions such as deforestation far from shore which creates erosion and sends silt into shallow waters that can block sunlight. Likewise, are the destructive fishing techniques like bottom trawling where big nets get carried inconsiderably above the seabed, dynamiting and poisoning which destroy habitats near shore but in the deep sea as well.

PHOTO: LACHLAN DEMPSEY ON UNSPLASH



and nature through alteration or destruction of in-shore environments.

THE REASON FOR THE DECREASE IN POPULATION

Melissa states that there are varies pollutants like Organochlorines pesticides found in high concentrations in the tissues of the South African Humpback Dolphins. These poisons raise concerns that the survival rate of both

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The Indian Ocean Humpback Dolphin (*Sousa chinensis*) is a true testament to how pollution is negatively affecting the health of our oceans.

THE VULNERABLE SPECIES

According to the international whaling commission, the Indian Ocean Humpback dolphin is usually found along

the coastline from Southern West Africa to Western Asia, in rather shallow nearshore waters. Melissa confirms that this species is usually cruising along the coastline of South Africa. The problem is, always in very small numbers.

"They are currently classified as Vulnerable by the ICUN with a 3.1. " , as Melissa states.

She points out that the conservation efforts for this vulnerable species are very low unfortunately and that the threats facing it only go higher. Since they usually stroll along the coast, they are particularly vulnerable for habitat loss caused by human

adults and calves may be negatively affected. According to melissa the most common reason for the low survival rates of the species is the mother's milk being contaminated by these pollutants and being passed right to the calf during suckling.

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If the concentration is too high the calf suffers high risk of disease and weakness, often not making it to adult hood.

- Melissa

LONG-TERM EFFECTS OF DECREASE IN POPULATION

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Dolphins play an important role in keeping the environment in balance.

-Melissa

The longterm risk of the low survival rates and vulnerability of the species is that the species will extinct eventually. According to Melissa, without humpback dolphins, but especially dolphins in general, the animals such as fish that they prey on will increase in high numbers. On the other hand, their predators have not enough to eat or will start preying on a different species which then influences another food chain destructively. This would have cascade effects on the ecosystems of our oceans.





“All these projects are designed for long term studies to ensure the health and safety of our bay and the animals living in it.

A LIFE DEDICATED TO SAFE THE OCEAN

THE ORCA FOUNDATION FOR PROTECTION AND AWARENESS

As the volunteer coordinator and research assistant of ORCA (Ocean Research Conservation Africa), Melissa is dedicated to go against the unbalance and increasing threats of the oceans.

MAIN GOALS OF THE FOUNDATION



The ORCA Foundation has 3 goals.
Research, Conserve, Education.
Without any one of these 3, the other would lose purpose.

Every week there is a schedule full of tasks that is fulfilled by Melissa and her volunteers to collect mandatory data. The hope is to realize such a decrease as found in the humpback dolphins early enough and start with conservation efforts right away. There are a few meaningful tasks that are done locally every day in Plettenberg Bay, the location of ORCA. One important project is the Stingray Monitoring in the Keurbooms Estuary with Dr Chantel Elston. ORCA uses a BRUVs (Baited Remote Underwater Video system) to observe stingray presence, in hope to conserve this safe space for them and to educate fishermen about the importance of stingrays within the estuary.

Next to that ORCA performs boat and tourism monitoring, animal interaction and Great White Shark presence observations all from the Robberg Marine Protected Area. They document the presence of all the three mentioned in a certain time span accurately to make inference on their abundance and behavior.

The ORCA team also observes cetacean (whale and dolphin) presence in the bay from daily boat trips with Ocean Blue Adventures.

MEL MAKES WAVES

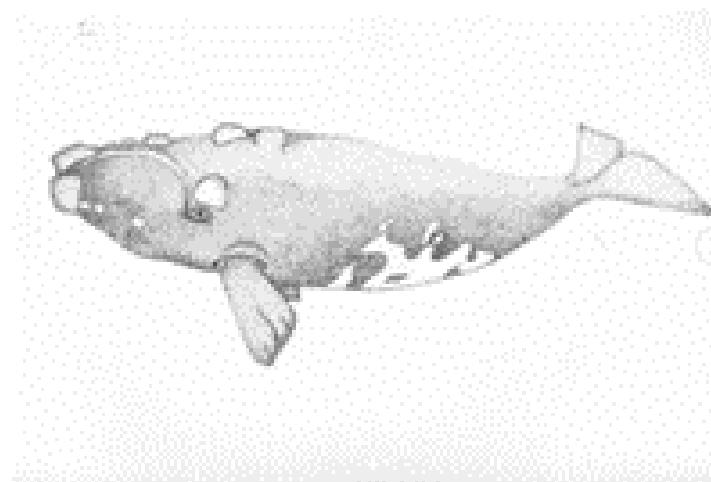
Melissa has a few matter of hearts her own which she fulfils in her free time to do her own part towards conservation. She implements beach clean-ups regularly, especially around popular fishing spots since it's a very concerning matter all along the coast of South Africa.

Drawing for awareness

Melissa also is an artist in her free time, using her skills to raise awareness for the marine life.

Check out her art on her instagram channel!

[Click here!](#)



YOUR TURN!

MELISSA'S TIPS TO CONSERVE THE OCEAN AS SOCIETY AND INDIVIDUALLY

STEPS SOCIETY HAS TO OVERCOME

“Did you know that 83% of global fisheries are fully fished or overexploited?”

According to Melissa, compounded by population growth, illegal fishing, habitat loss, climate change and plastic, we're consuming seafood faster than the ocean can replenish itself.

“But change isn't as easy as boycotting seafood.”

She states that over 1 billion people, especially in developing countries, rely on fishing industries for diet, or to support economy and infrastructure. That's why instead, education, incentive and regulation are important and will encourage a healthier future for fish stocks in her opinion.

BECOME A SMALL PART OF CONSERVATION YOURSELF

The first step that Melissa recommends is to eat LESS Seafood and always opt for sustainable seafood from local supermarkets and restaurants

You can ask yourself these simple questions:

What fish species is it?

What is the fishing method used to catch it?

What are its origins?

Check out the website or download the App SASSI to be sure about the fish species and its status and heritage.

If you are willing to actively step in, inform yourself about beach clean ups or just grab a trash bag and collect on your own! Together, this makes a big difference and saves many animal lives who eat and choke on the plastics.

If you bring more time and look for an adventure, then you should check out volunteer programs all over the world in marine conservation where your work is has a specific and focused use for research, conservation and education purposes.

For volunteer programs in general, take a look at the volunteer work website.

When you are interested in the work of the ORCA foundation and want to know more about them, click [here](#).

ORCA instagram

