

# MARINE & COAST AUDITS

## INTRODUCTION

“The ocean stirs the heart, inspires the imagination and brings eternal joy to the soul.”

– Robert Wyland

South Africa has an incredible coastline (the land that meets the sea) – 2800 km long! This coastline is home to some of the most beautiful beaches in the world. Our coastline is vitally important to not only the economy of the country but also supports high levels of biodiversity.

The South African coastline has particularly rich, productive waters that contribute to our fishing industry. This includes offshore fishing for hake and mackerel as well as shoreline fishing and harvesting of perlemoen (abalone) and crayfish. South Africa also has a mariculture industry, sustainably growing sea food such as oysters, abalone, and mussels.

We also have a flourishing tourism industry associated with our coastline. Not only do millions flock to our beaches in summer for a bit of sun, surf, and swimming, but we have a growing industry related to marine activities such as shark cage diving and whale watching.

Biologically our coastlines not only support our local and commercial fishing industry but are also vital breeding areas for marine birds as well as essential breeding and nursery areas for fish.

In terms of ecosystem services, humans not only use the oceans to clean our wastewater, but the oceans serve as one of the biggest heat sinks, helping keep global climates steady.

Despite the clear importance of our oceans to our survival, it is challenging to develop an audit for Marine and Coast, because only a limited number of schools have direct access to the coastline. Even for those who live in coastal areas, marine areas are not always easily accessible.

The Sustainable Schools team have approached this challenge in the following way. The "audit" serves to ascertain a baseline level of knowledge with regards to coastlines and ocean services. There will then be additional lessons on the various aspects of coastlines and marine areas that can be selected and used, by educators, to best support the education needs and direction of the school.

The Marine and Coast audit can be broken down into the following parts, using the WAVE acronym:

- W** - Water (this includes wave action, current and tides)
- A** - Animals (animals and their adaptations)
- V** - Vegetation (marine plants and their adaptations)
- E** - Environmental Issues

**The objectives of the energy audits include the following:**

1. To introduce the concepts of coastlines and marine areas to learners.
2. To understand the human impacts on marine systems.
3. To facilitate discussion around the importance of maintaining healthy coasts and marine systems.
4. To strategize methods that individuals can undertake to contribute to ocean health.

### Basic guidelines

1. **Understand** – ascertain the learners understanding of introduced concepts.
2. **Introduce** – establish the basic concepts of marine and coast, uses and methodology used to measure it.
3. **Discuss** – establish methodology to be used.
4. **Act** – undertake marine and coast audits
5. **Reflect** – discuss results.
6. **Communicate/Report** – learners should be able to communicate method, results, and conclusion.

All the audits have been designed to be completed by the learners. Teacher input can be as significant as deemed appropriate. The audits have been designed in a stepwise method, so learners can proceed through the process in an orderly fashion. Each step is explained in the audit documents. Educators can choose to focus on all the aspects or single out particular issues. Additional information can be obtained in the Marine and Coast Guidebook.

### Grade 1-11

<b>W.A.V.E</b>	
All grades focus on the same aspects of oceans and coastlines, albeit with varying audit levels to cater for age and ability.	
<b>Equipment needed:</b>	Worksheets, pens, coloured pencils/crayons
<b>Duration:</b>	1 - 2 hours dependant on learner level

## EXTENSION WORK

Not all of us are lucky enough to live near the coast, but if you do here are some great ideas for extension projects.

Alternatively, you can do a virtual exploration - <https://youtu.be/7J7In6lIHbw>

### Rocky Shore Exploration

Why don't you visit a rocky shore and spend some time documenting your findings? You will need a quadrat and some field guides.

Place your quadrat in each of the rocky shore profile zones and document the species found.

### Beach Clean Up

Why don't you organise a clean-up of your local beach?

You can document your findings and create an education campaign to help reduce pollution of beaches. You can use the table below or create your own.

Item	Tally	Total
Straws		
Plastic pieces		
Plastic bottles		
Plastic bags		
Chip/snack packets		
Cigarette butts		
Sweet wrappers		
Glass pieces		
Fishing tackle		
Bottle caps		
Fish line		
Microplastics		
Other		

### **Visit and Volunteer**

Why don't you visit some of the incredible organisations working on coastlines?

1. Save our Seas Foundation – Shark Education Centre
  - <https://saveourseas.com/sosf-shark-education-centre/>
2. Two Oceans Aquarium
  - <https://www.aquarium.co.za/>
3. The Southern African Foundation for the Conservation of Coastal Birds (SANCCOB)
  - <https://sanccob.co.za/about-us/>