ResilienSEA – Resilient Seagrasses

A project to enhance the management of seagrasses in West Africa
Seagrasses: vital and under threat

Seagrass meadows are vast marine prairies that lie along the coasts, bordering the oceans and seas of the world.

Seagrasses are flowering plants of terrestrial origin living in the intertidal and shallow coastal zones of all continents except Antarctica. They play an integral role in delivering multiple benefits to the environment – and people. They are nurseries for commercial fish and a food source for marine turtles and manatees among others, and are an important habitat for endangered species like seahorses. They also promote sediment stabilisation, pathogen reduction in coastal waters and carbon sequestration.

While we know these things, there is a lot we still don’t know about seagrasses. An atlas produced in 2003 by UN Environment contains the first global and regional maps of seagrass distribution and a wealth of information on key issues concerning this valuable ecosystem. This report provides a first attempt at calculating the extent of seagrasses with global estimates varying between 177,000–600,000 km². At the same time, it pointed to the many threats that are causing seagrasses to disappear rapidly around the world, with an estimated annual decline rate of 7 per cent.

We need to know more about West African seagrasses

The west coast of Africa is one of the least known areas for seagrasses in the world. While there are a few regional and country specific publications, no work has been done to update the 2003 world seagrass map.

That’s where the ResilienSEA project comes in. ResilienSEA aims to improve knowledge and experience in a number of pilot sites to stimulate conservation actions for seagrass beds in seven coastal countries – Mauritania, Senegal, The Gambia, Guinea Bissau, Guinea, Cape Verde and Sierra Leone. The project will bring together managers and researchers to gather data and develop national and regional expertise within West Africa. The result will be increased ability to enact positive change for these habitats.
Seagrasses benefit ecosystems and people

While there have been significant advances in ecosystem services-related research over the last decade, humans have benefited from seagrasses for a very long time. Since the 16th century, *Posidonia oceanica*, an endemic species in the Mediterranean Sea, has been used as filling for bedding. In 1951, the negative effects of the widespread loss of seagrasses across the Atlantic were detailed in an article which described the economic and social effects of declines in fish landings.

More recently, a landmark paper from Costanza et al. (1997) ranked seagrass meadows amongst the three most important ecosystems on earth on a per hectare basis with a value of US$ 3.8 trillion per year. The fishery production value of seagrasses in the gulf waters of South Australia alone has been estimated at AUS$ 114 million per year (McArthur & Boland 2006) and in Wakatobi National Park, Indonesia at US$ 64 million (Unsworth et al. 2010).

Despite increasing recognition as one of the most economically and ecologically valuable and productive ecosystems on Earth, awareness about the existence and condition of seagrass meadows is still limited in many quarters. And this lack of knowledge contributes to their degradation. Without a full picture of where seagrass meadows are, activities on and around these habitats could threaten their health and survival and compromise the provision of economic and other benefits.

Countering threats and taking action in West Africa

Threats include the discharge of domestic, agricultural and industrial wastewater, nutrient and sediment input from human land-based activities. There is an urgent need to monitor the extent and health of seagrass habitats and develop appropriate management tools.

In areas where distribution and health information is available, protection levels for seagrasses have increased. In Spain, for example, where the distribution of seagrass beds is relatively well known, bottom-trawling is forbidden in seagrass meadows under a fishing regulation. The Government of the Balearic Islands has developed new anchoring regulations, including permanent mooring points for boats, and has enhanced the monitoring to prevent anchoring outside these designated sites.

Generating and sharing data can open opportunities for increased protection and better management. In West Africa, data exists but it is scattered among databases in individual countries, contributing to an overall lack of knowledge about seagrass beds in the region. Scientific research on this subject is not well developed and expertise at the national and regional levels needs to be built up in order to ensure that seagrass ecosystems are represented in management tools.

Moreover, the commitment of the various stakeholders concerned in the conservation of seagrass beds needs to be supported. For this reason, the MAVA Foundation issued a call for a multi-stakeholder and regional project to strengthen knowledge on seagrass meadows in West Africa and conduct pilot actions on selected sites. The goal is to implement management tools and improve seagrass protection and the services they provide.
The ResilienSEA project

This project will bring together managers and researchers from Mauritania, Senegal, The Gambia, Guinea Bissau, Guinea, Cape Verde and Sierra Leone and will:

- Evaluate the regional data currently available, and use it to create regional and national seagrass distribution maps;

- Work with national institutions to identify and collate datasets either previously unavailable or with limited distribution, and use these data to improve accuracy of the regional and national maps. An online platform/clearinghouse will be developed;

- Evaluate and communicate the benefits and services provided by seagrass habitats to local communities as well as national and regional decision-makers. This will include current benefits but also provide information on their historical economic and cultural significance to provide an additional perspective to help shape future management strategies;

- Provide training to help develop capacity for national researchers and managers on a wide variety of topics;

- Spearhead targeted communication and outreach activities to build awareness, interest and stewardship towards these habitats, and

- Generate benefits beyond its direct activities and duration.