

Blue Carbon and Seagrass

**THINK GLOBALLY, ACT
LOCALLY...**

*Protecting the world's forests
is great!*

*Protecting our very own
seagrass meadows is
forward thinking..*



Mooring chains kills seagrass in its path, forming long-term, if not permanent, scars, reducing the storage capacity of seagrass for carbon.

This research is funded by :

UK Overseas Territories

Environmental Programme (OTEP)

supported by:

Department of Conservation Services,

Bermuda

and assisted by:

University of Virginia, U.S.A.

Bermuda Institute of Ocean Sciences

(BIOS)

Contacts:

Dr. Samia Sarkis

(441) 293-2727 Ext. 2143

scsarkis@gov.bm

Project Objectives

To raise awareness on the importance of seagrass as a carbon sink, and work towards mitigating human-induced damages to Bermuda's meadows.

What can we do?

There are two approaches to preserving Bermuda's seagrass

- Restore or fix the damage
- Prevent the damage

Human-caused carbon in the atmosphere and oceans is the most significant cause of global climate change. Curbing climate change means both removing carbon from the atmosphere and oceans, and avoiding new carbon emissions. An important component of carbon removal is the preservation and restoration of coastal ecosystems, such as seagrass meadows.

Why?

It is becoming increasingly recognized that coastal ecosystems, such as mangroves and seagrass, sequester and store large quantities of blue carbon in both the plants and the sediments below them. Like carbon sinks on land, such as forests, they hold vast reservoirs of carbon, and management is needed to retain such reserves. The role of seagrass in the carbon budget is more significant than expected from aerial cover; this ecosystem is responsible for about 15% of total carbon storage in the ocean.

The problem

Unfortunately, seagrass meadows have been declining significantly worldwide; closer to home, a 25% decline has been reported in Bermuda between mid-1990s and 2004.

Human-induced threats to the health of seagrass in Bermuda have been identified as:

- Recreational boating (moorings and docks),
- Development of marinas
- Coastal development in the inshore waters and coastal zones.

The feasibility of restoration of seagrass through plantings in areas where seagrass has been damaged is evaluated. A 2-year experiment is conducted in an abandoned mooring area, using predator-exclusion cages; growth and productivity of *Thalassia* is determined. Successful planting of seagrass has its challenges, as seen in other regions; it may be feasible, but it is a costly and long process.

An alternative solution involves preventing the occurrence of "mooring halos". Environmentally friendly moorings do not appear to cause comparable damage and their effect on adjacent seagrass beds is investigated.

The project will terminate in July 2012, and will lead to recommendations for sustainable management of this coastal ecosystem, hoping to help balance action so that....

....we don't just think about avoiding deforestation, but we also think of preserving our marine backyard....



GOVERNMENT OF BERMUDA

Ministry of Public Works