

# Water Quality Monitoring



**Sonde**, used for measuring temperature, oxygen, salinity and pH



**LiCor**, used for measuring light transmission

## Project Objectives

To acquire environmental data that allow:

- recognition of changes of the marine environment at a variety of scales;
- identification of possible causes of changes;
- determination of the major, limiting, environmental factors in the marine environment of the Bermuda platform.

## Summary

Water quality and physical characteristics of the water from the sea floor to the surface are important factors that influence where corals, seagrass and algae grow, and their health.

Seagrass, algae and corals are benthic organisms, i.e. they are plants and animals that live on the bottom of the sea. Each type of benthic community has its own set of environmental requirements and we need to know what these are to conserve them; i.e. in order for seagrass, corals and algae to grow what are their optimum and minimum requirements for nutrients, temperature, light, oxygen and salinity (Fourqurean et al. 2003).

Monitoring water conditions is an essential component of the overall management of benthic communities and therefore, it is a core objective of the **Bermuda Seagrass Conservation and Management Plan**.

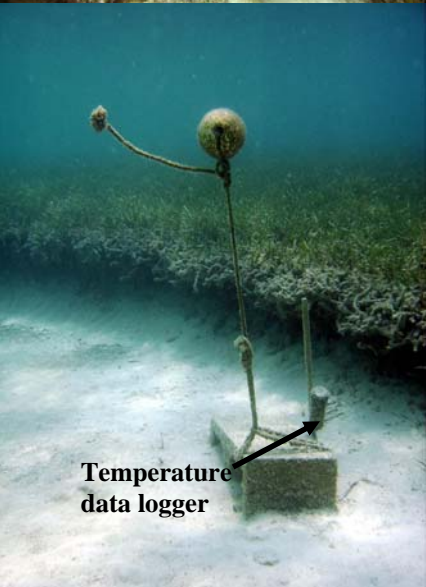
Water quality monitoring also provides useful data for other management issues in the marine environment, including tracking terrestrial runoff and ground water outflows, predicting the effects of coastal development and mitigating the effects of dredging.

The Department of Conservation Services' Water Quality Monitoring Programme was started in September, 2007 at 17 stations spread across the Bermuda platform. At each of these stations the following chemical

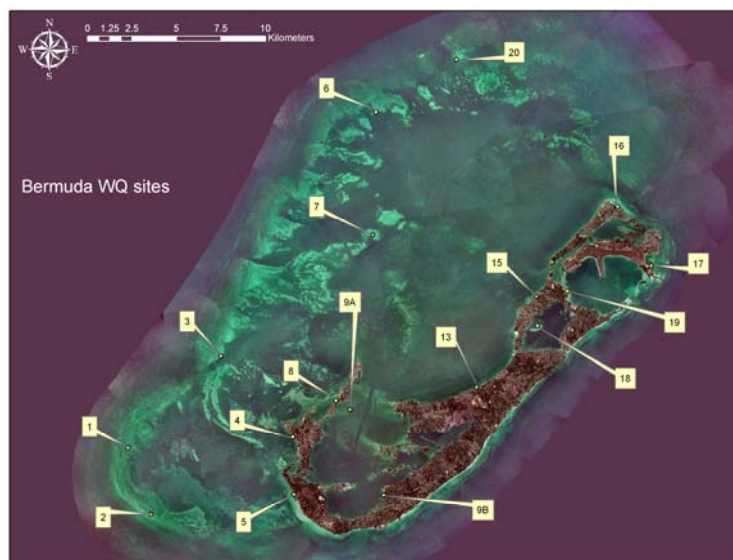
and physical water quality characteristics are measured monthly: *salinity, temperature, dissolved oxygen, pH, turbidity, light extinction, Secchi depth, chlorophyll a, dissolved nutrients, i.e. nitrate, nitrite, ammonium, inorganic nitrogen and soluble reactive phosphate, and total unfiltered concentrations of nitrogen, organic nitrogen, organic carbon, phosphorus and silicate.*

The water quality data can be viewed at <http://serc.fiu.edu/wqmnetwork/BERMUDA%20new/Data1.html>.

References  
Fourqurean et al. 2003. Ecol. Appl. 13: 474-489.



**Temperature data logger**



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## Contacts:

Dr. Sarah Manuel, Marine Conservation Officer  
Dr. Kathryn Coates, Senior Research Associate  
Dept. of Conservation Services  
Tel: (441) 293-2727 ext. 2146



GOVERNMENT OF BERMUDA  
Ministry of Public Works  
Department of Conservation Services