



National Environmental
Research Program

MARINE BIODIVERSITY *hub*

A blueprint for monitoring management outcomes and environmental health of Australian Commonwealth waters

The Australian Government has been working with CSIRO and the NERP Marine Biodiversity Hub to develop a sustained, cost-effective, environmental monitoring system to assess the Commonwealth Marine Reserve (CMR) network and the environmental health of Commonwealth waters.

The system aims to document the management outcomes of the CMR network, and report on a select suite of ecosystem health indicators for Key Ecological Features (KEFs), identified by the Australian Government for their high biodiversity and productivity value.

CSIRO and NERP scientists have canvassed Australian specialists to develop conceptual models that predict how KEF indicators will respond to various anthropogenic pressures. These models, together with the ecosystem's response to CMR management, will provide the basis for testing scientific predictions, assessing ecosystem health, State of the Environment reporting and management planning.

Technical aspects of the monitoring strategy are being tested in pilot studies designed to investigate logistical and statistical challenges. Pilot studies have been completed at the Flinders



The RV *Challenger* prepares to leave Hobart on a Marine Biodiversity Hub voyage to trial environmental monitoring techniques in the Flinders Island Commonwealth Marine Reserve. (Image: CSIRO)

Island CMR (SE Marine Bioregion), and the shelf KEF in the vicinity of the Solitary Islands (Eastern Temperate Marine Bioregion). Additional studies are planned at the Houtman-Abroholos

KEF (SW Marine Bioregion) in 2013. The first exploratory survey of the Ocean Shoals KEF (Northern Marine Bioregion) was completed in August 2012.



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The NERP Marine Biodiversity Hub is supported through funding from the Australian Government's National Environmental Research Program, administered by the Department of Sustainability, Environment, Water, Population and Communities (DSEWPAC). Our goal is to support marine stakeholders in evidence-based decision making for marine biodiversity management. Stakeholders include DSEWPAC, the Australian Fisheries Management Authority (AFMA), the Australian Petroleum Production and Exploration Association (APPEA) and the Integrated Marine Observing System (IMOS). (February 2013)

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