



PROJECT 3.10

Partnerships and novel technologies for improved dugong research

# The challenge

Dugongs are an iconic species of great interest to the Australian community and are of cultural significance to northern Australia's Indigenous peoples. Dugongs are protected and have high national and international conservation value. Many factors are known to affect the health and survival of dugong populations, for example, accidental capture by fishers and habitat loss. However, much is still to be learned about them, and current knowledge gaps limit Land and Sea Managers' and communities' capacity to plan and manage those activities that might impact their habitat, numbers, and health.

By using emerging technologies, great opportunities now exist to address these data gaps, at lower cost and with greater efficiency than ever before.

This project addresses these information gaps by collaboratively developing and testing better ways to undertake dugong-focussed research.

## The approach

The project will collate, test and adapt new technologies and explore and develop methods non-experts can use easily. In collaboration, scientists, managers, and Indigenous Rangers will:

- enhance data accuracy and refine artificial intelligence processing of aerial images;
- assess trends in dugong population and distribution in Shark Bay-Ningaloo-Exmouth Gulf;
- use genetic methods to understand how individuals and populations mix and move;
- develop user-friendly and culturally appropriate small drone methods;
- explore the feasibility of remote measurement of size and body characteristics; and
- Increase the capacity Indigenous project partners to undertake local-scale drone surveys.

### **Expected outcomes**

- Knowledge to manage a sustainable, healthy dugong population.
- Partnerships to support Indigenous monitoring and management of dugongs.
- Innovative monitoring and increased community involvement and oversight.



FRONT: Dugong. BACK: JCU staff reviewing aerial survey images from the Great Barrier Reef.

# **Project leaders**

#### **Christophe Cleguer**

James Cook University – TropWATER christophe.cleguer@jcu.edu.au

#### **Rachel Groom**

Charles Darwin University rachel.groom@cdu.edu.au

### Holly Raudino

WA Department of Biodiversity, Conservation and Attractions holly.raudino@dbca.wa.gov.au



**National Environmental Science Program** 











