

MARINE
NATIONAL FACILITY

2005 RV Southern Surveyor program

voyageplan

SS03/2005

Biogeophysical characterization of northern Australia marine ecosystems: assessing biophysical relations, ecosystem biodiversity, and surrogacy.

Itinerary

Depart Cairns, 1000 h, Wednesday, 23 February 2005

Arrive Weipa, 1000 h, Monday, 21 March 2005

Principal Investigators

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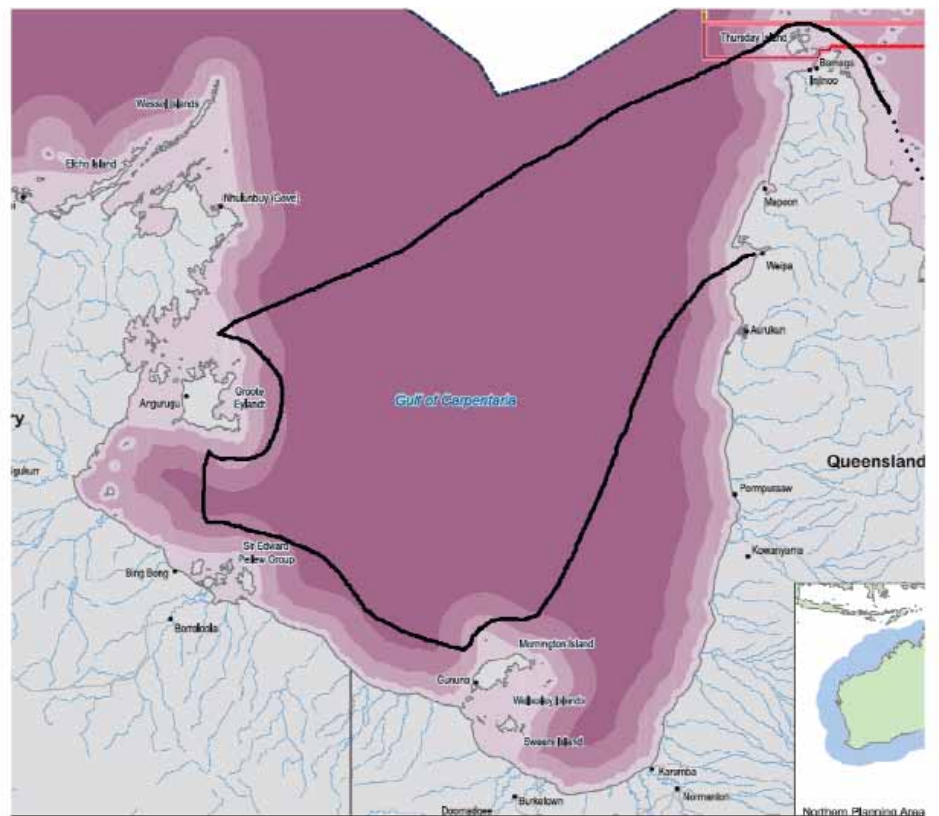
Scientific objectives

The survey will provide data for the development of knowledge and tools for managing the effects of prawn trawling on the benthic ecosystems and communities of the Northern Prawn Fishery. It will characterise the benthic communities and key ecosystem processes in trawled and untrawled areas of the Gulf of Carpentaria using a wide array of sampling equipment simultaneously on the RV *Southern Surveyor*. It will quantify the broadscale, accumulated effects of commercial fishing, which differ from the direct effects observed in previous knock-down experiments, which measured the direct effects of single trawling events.

Voyage objectives

The survey design is a natural experiment to test the effects of trawling on benthic biota and ecosystem processes. There will be 60 sampling stations. Each station will be sampled twice—once in the day and once in the night. The stations will be distributed among trawling intensity strata within two or three key habitat types. At each sampling station we will (a) sample biota with a prawn sampling net and epibenthic sled, (b) collect surface sediment box core and grab samples, (c) collect water samples, (d) deploy an underwater video camera system, (e) measure water properties with a CTD/turbidity meter, and (f) measure water and sediment flux with a current meter instrument frame.

Voyage track



Time estimates

4 days, steaming from Cairns to north of Groote Eylandt

0.5 days, steaming from north of Groote Eylandt to south of Groote Eylandt

0.5 days, steaming from south of Groote Eylandt to the Sir Edward Pellow Group

0.5 days, steaming from the Sir Edward Pellow Group to Mornington Island

1 day, steaming from Mornington Island to Weipa

20.5 days, sampling at the various sites

Piggy-back projects (if any)

Southern Surveyor equipment

Echo sounder

Conductivity, temperature, depth (CTD)

Transmissometer

Acoustic Doppler Current Profiler (ADCP)

Smith-McIntyre sediment grab

User equipment

Benthic sled (1.5 m)

Prawn sampling net (12-fathom banana prawn net)

Box core

Rock dredge (from Geoscience Australia)

Towed video

On-board digital photo system

Personnel list

Peter Rothlisberg – CMR, Chief Scientist

Rodrigo Bustamante – CMR, Principal Investigator

Michelle Burford – Griffith University

Vicki Passlow – Geoscience Australia

Alix Post – Geoscience Australia

John Salini – CMR

Ted Wassenburg – CMR

Tom Okey – CMR

Wayne Rochester – CMR

Gary Fry – CMR

Mark Tonks – CMR

Pamela Brodie – CMR National Facility, Voyage manager/Computing

Lindsay MacDonald – CMR National Facility, Electronics Support

Neal Johnston – CMR National Facility, Hydrochemistry Support

This voyage plan is in accordance with the directions of the National Facility Steering Committee for the Research Vessel *Southern Surveyor*.

Peter Rothlisberg

Chief Scientist