

Paper 24: STRATEGIC ATLAS FOR OIL SPILL MANAGEMENT

Wendy Craik¹ and Brett Kettle²

1. Great Barrier Reef Marine Park Authority, P.O. Box 1379,
Townsville, Queensland 4810

2. Marine Bio Logic Pty Ltd., P.O. Box 959,
Townsville, Queensland 4810

The objectives of this atlas are:

- to show coastal resources
- to indicate relevant management actions in the event of an oil spill, and
- to make access to the atlas rapid, simple and not requiring computer knowledge.

The atlas is developed (as a HyperCard application) for use on a Macintosh. Depending on the geographical site and level of resource information required, a Macintosh with 1 megabyte of RAM and a 20 megabyte hard disc will be more than adequate.

The system relies on a series of nested maps which are accessed by clicking the mouse on the required location. The system can display biological and commercial resources for an area thus providing relevant information for the Scientific Support Co-ordinator (SSC) and On Scene Co-ordinator (OSC) on resources of specific significance or conservational value.

Additionally, for each area and on the same screen as the specific resources information, recommended actions for the OSC to take or avoid can be listed eg. to use dispersants or not.

Any amount of additional information can be added to the atlas. Examples might include:

- list of available equipment for each area
- local tidal information calculated from tidal coefficients at the time **of each** request
- local wind conditions by accessing local weather stations (via a modem)
- local currents (from pre-determined set/flow charts or by linking to a trajectory model for the **area**).

An example of **such an** atlas is presented in the following figures.

The atlas is simple to access and does not require any **specialised** computer knowledge. It is designed so that it could be accessed in the event of a spill by the OSC (and SSC), for instant information, particularly if a Macintosh was installed in the combat response co-ordination centre.

A printout of the information can be obtained in the normal manner.



STRATEGIC ATLAS for Oil Spill Management

A DEMONSTRATION PACKAGE

prepared by

MARINE BIO LOGIC
Environmental Consultants
and the
Great Barrier Reef Marine Park Authority

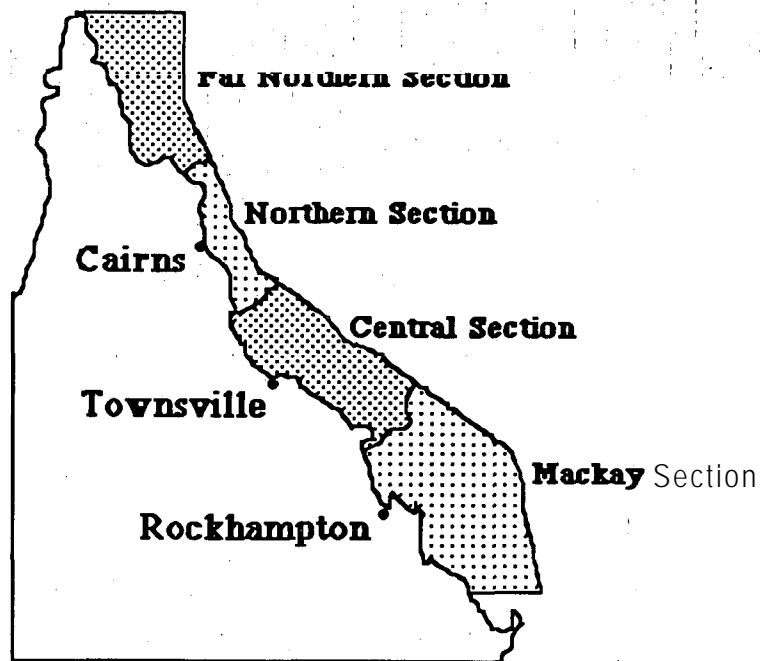
OK

Throughout this demonstration simply

point and click

at the area of interest

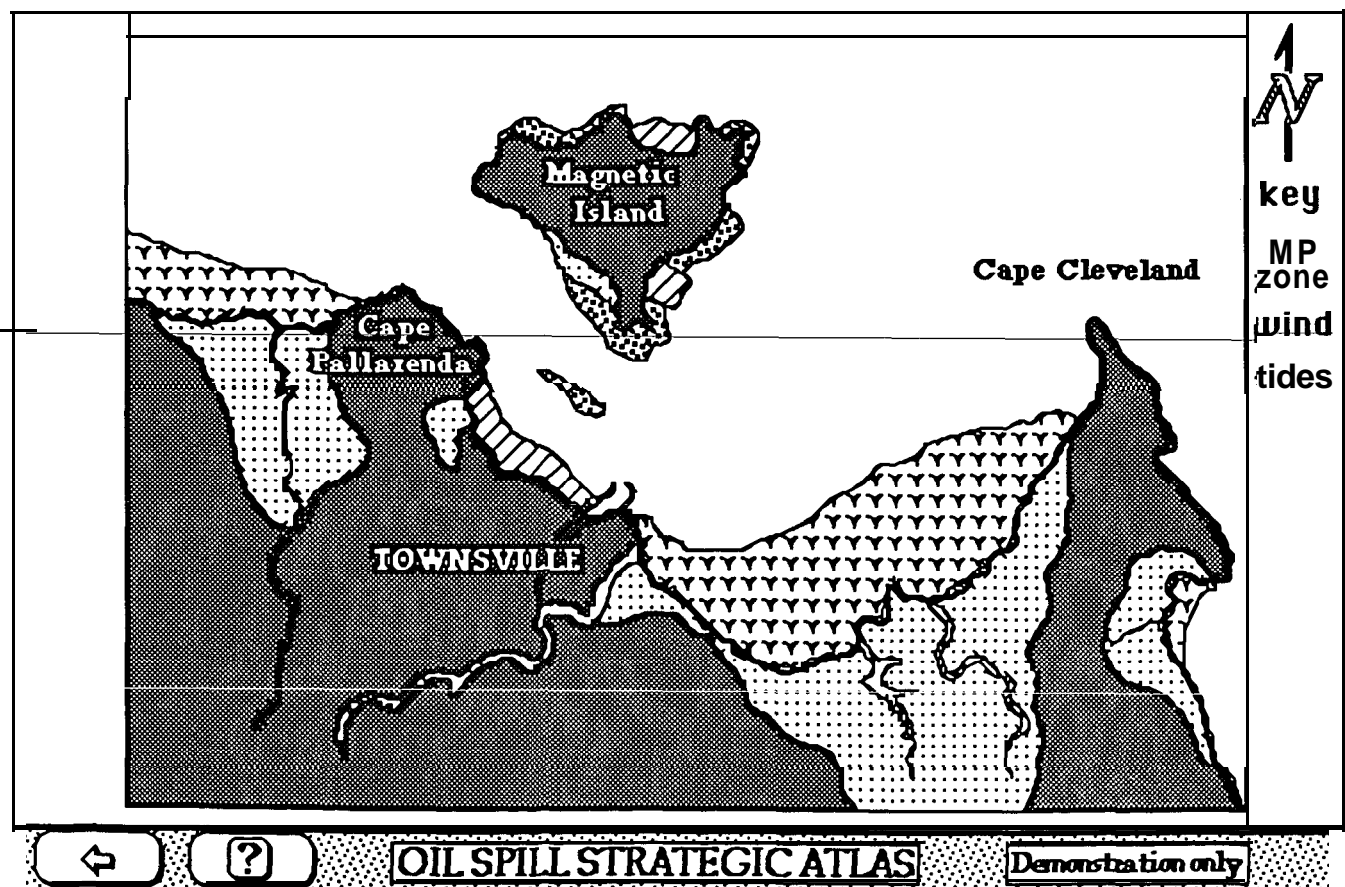
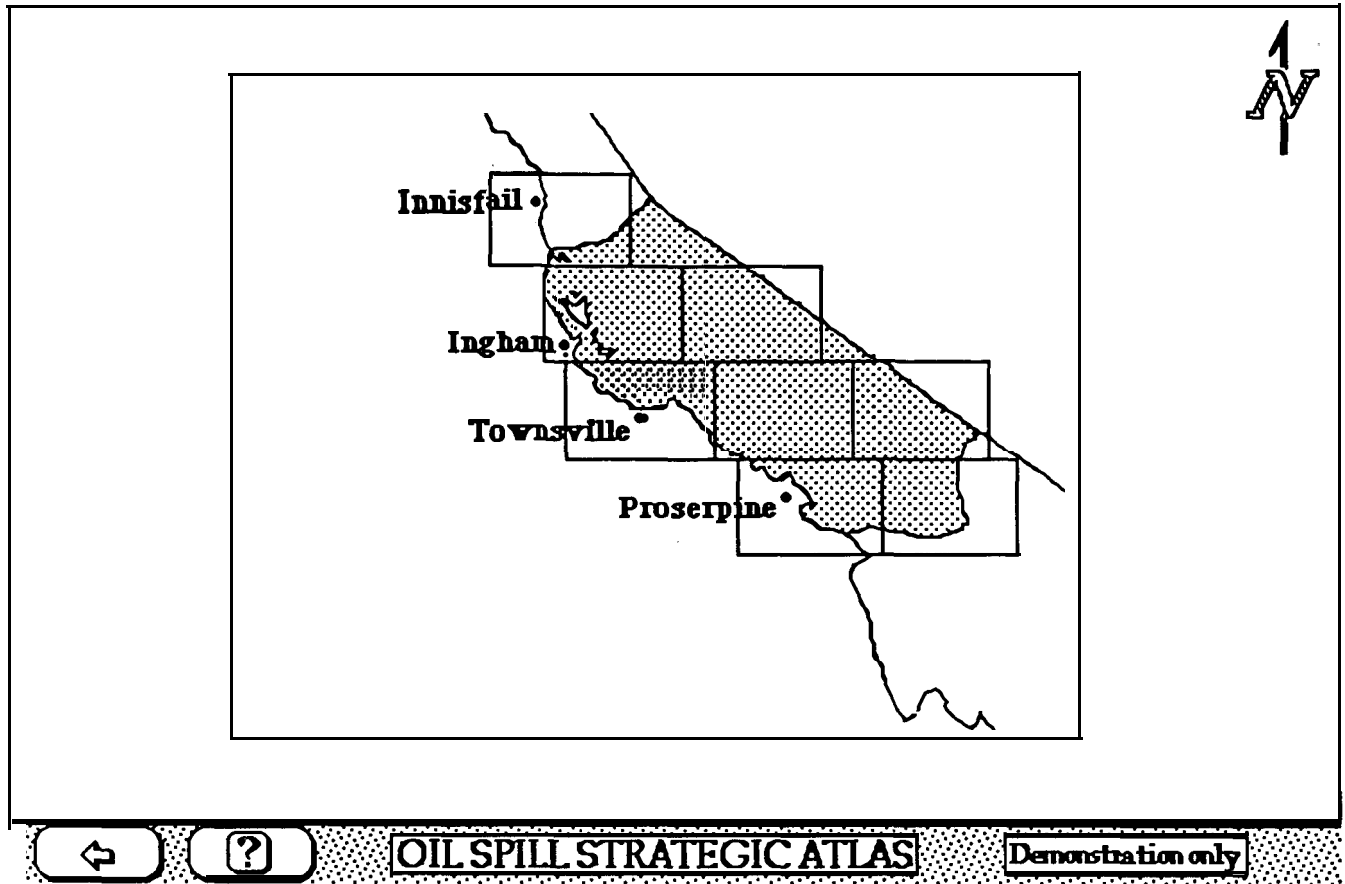
OK

**OIL SPILL STRATEGIC ATLAS****Demonstration only**

This is a demonstration only

Data for this section is not yet available

OK**OIL SPILL STRATEGIC ATLAS****Demonstration only**



HABITAT SHEET**SEAGRASS AREAS - CLEVELAND BAY**

Dominant organisms Halophila dicipiens in multi-specific **seagrass** beds,,

Values High primary productivity, important **nursery** for commercially important crustacean and fish species, Important role in substrate stability,

Reservation status Moderate,

Action to be taken No dispersants.
Physical containment if possible,
High priority to **affected Dugongs**.
May pose difficulties at low tide periods,

**HABITAT SHEET****FRINGING CORAL REEFS, - PICNIC BAY**

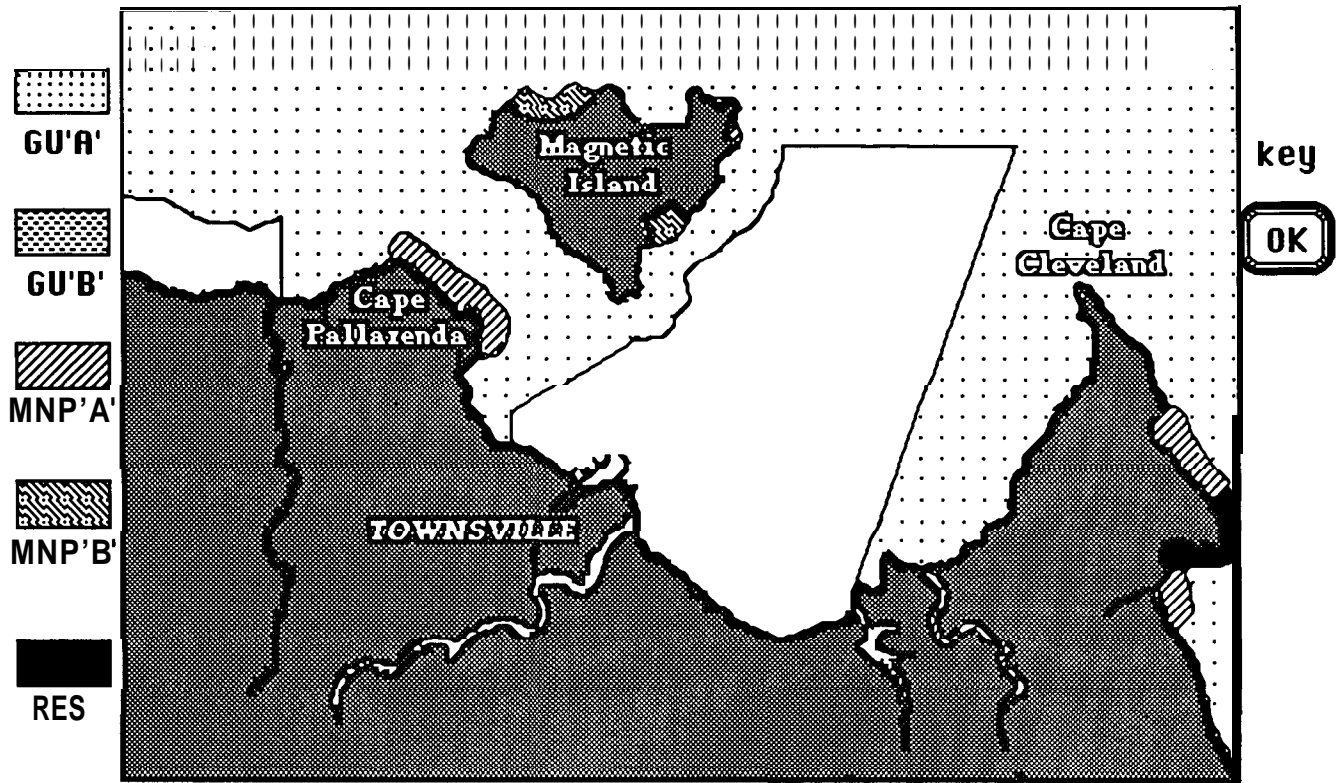
Dominant organisms Seasonal shift in dominance from hard corals (Autumn) to **macroalgae** (Spring). Algae tend to dominate shallower areas, corals in deeper water to 5m.

Values Low recreational appeal, Moderate scientific value,

Preservation status Moderate,

Action to be taken Only suitable **dispersant** is "XYZ 123".
Dispersed oil preferred to natural oil,
In winter widespread detachment of **macroalgae** will lead to odour problems and warrants quick removal.

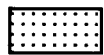




Great Barrier Reef Marine Park Zones

KEY TO MARINE PARK ZONES

(click for information on zoning objectives)



General Use "A"



General Use "B"



Marine National Park "A"



Marine National Park "B"



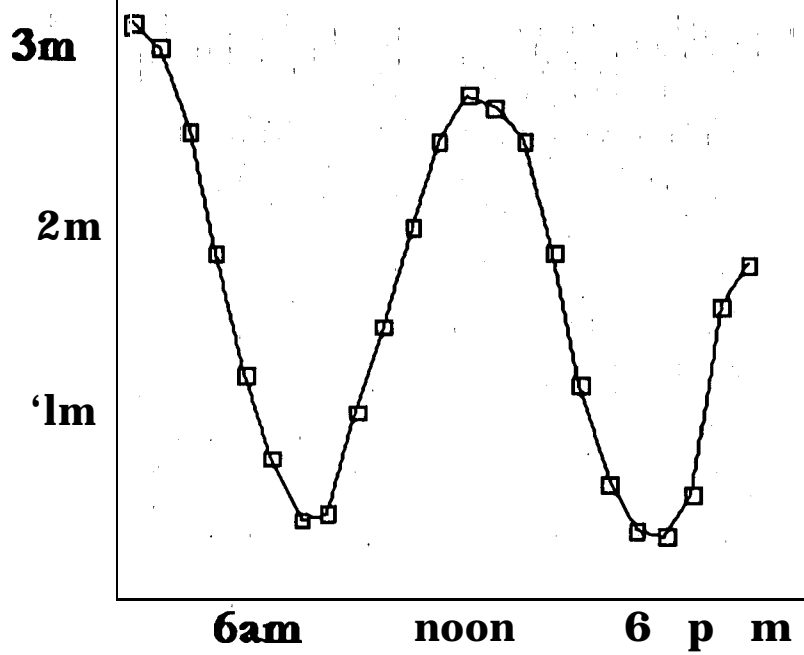
Scientific Research Zone



Preservation Zone



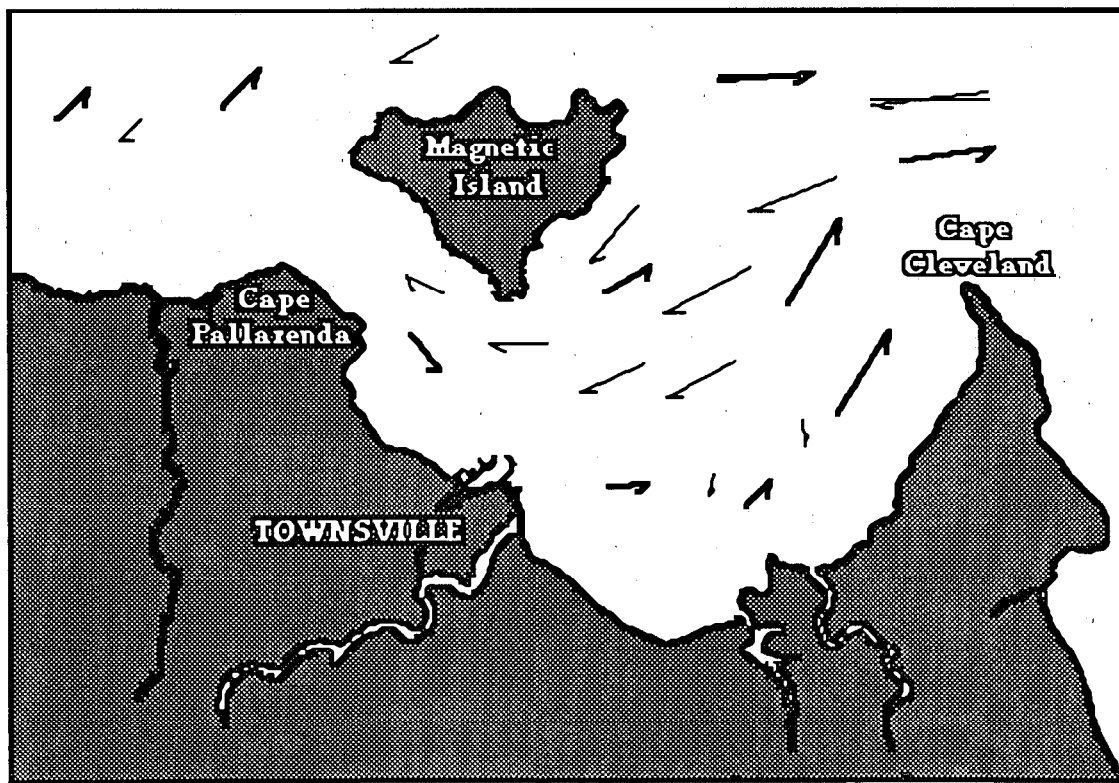
height today's tides,



OK

currents

heights



OK

flood

ebb

2kts

[currents]

heights

In the completed program this segment will provide real-time wind conditions from the closest telemetering weather station, eg. John Brewer Reef.



Data will be gathered at time of request by modem.....

