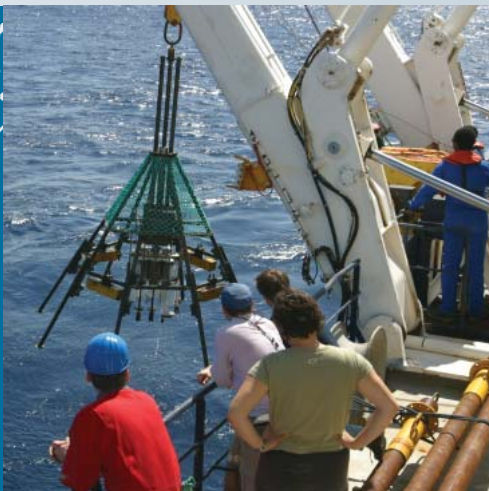


Northern Marine Atlas

Non-fisheries Uses In Australia's Marine Jurisdiction

Healthy
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oceans:



wisely
Healthy
in the

NATIONAL OCEANS OFFICE



Australian Government
National Oceans Office

TITLE PAGE

Northern Marine Atlas - Non-Fisheries Uses in Australia's Marine Jurisdiction

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A large number of organisations have contributed information to assist in the preparation of this atlas. Chapter 7 provides a list of organisations identified as the custodians of the data obtained and presented in this atlas. Individual atlas maps identify the source of data presented on an individual map basis.



FOREWORD

Australia has the largest area of ocean jurisdiction of any country on earth. This vast marine territory offers great opportunities as well as important responsibilities. If we are to manage our rich resources effectively and sustainably into the future, we need an understanding of how we use them today.

The National Marine Atlas project is a step forward in gaining this understanding. The National Atlas and its regional companion documents bring together for the first time information from a wide range of sources about the use of our ocean territory. Containing information as diverse as shipping routes, offshore petroleum and gas leases and platforms, shipwrecks and bioprospecting sites, this series has been compiled for a wide readership.

The Northern Marine Atlas is a publication of the National Oceans Office, an Australian Government agency, but it was made possible through the cooperation of a number of state and federal bodies, research institutions, industry bodies and companies. Their willingness to make their data available for this project has ensured that the Atlas will be a valuable information source for all Australians.

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CHAPTER 1

INTRODUCTION

Australia's Oceans Policy

Australia's Oceans Policy was launched by the Australian Government in 1998, the International Year of the Ocean. The Policy has a number of aims, including: exercising and protecting Australia's rights over its marine jurisdiction; meeting obligations under the United Nations Convention on the Law of the Sea (UNCLOS); understanding and protecting the marine environment; promoting ecologically sustainable economic development; and establishing integrated planning and management.



Regional Marine Planning

At the core of *Australia's Oceans Policy* is regional marine planning, which aims to put in place a management regime at the large marine ecosystem level. Regional marine plans will integrate economic, environmental, social and cultural objectives. The plans will provide a focus for coordination between existing and developing ocean uses and the range of sectoral and administrative agencies with responsibility for marine systems. The first regional marine plan was released in May 2004 for the South-east Marine Region.

Northern Planning Area

Planning is now underway in the Northern Planning Area.

The Area covers the Torres Strait, the Gulf of Carpentaria and eastern Arafura Sea (to a line 133°23' East, which coincides with the Goulburn Islands).

The Northern Planning Area is a region of great diversity in its land and sea scapes, its biodiversity and its people. It is an area of rich Indigenous cultural diversity but with a sparse population, located chiefly in isolated communities. Its main industries are fishing and mining, but compared with much of Australia's marine domain, it is economically largely undeveloped.

Marine planning in the Torres Strait is being considered as part of a separate process and is not covered by the arrangements agreed between the Queensland and Australian Governments for scoping the northern marine planning process. This is in recognition of the distinct ecological, cultural and institutional arrangements that characterise the Torres Strait.

The National Oceans Office

The National Oceans Office was formally established on 22 December 1999. The Office, based in Hobart, is responsible for the implementation and further development of *Australia's Oceans Policy*. The Office is responsible for managing the development of regional marine plans around Australia.

The National Oceans Office coordinates a National Science Work Program to provide scientific information to support implementation of *Australia's Oceans Policy* through regional marine plans. Examples of relevant scientific information include bioregionalisation, socio-economic and marine scientific datasets and performance assessment.

The focus of the National Science Work Program is on priority projects that are more efficiently and effectively undertaken on a national scale or are critical for work in priority areas for regional marine planning. This national approach provides considerable efficiency gains over a "region by region" approach. It also ensures a level of consistency between regions and opportunities to link with, and add value to, existing or planned activities of science agencies, including international collaboration.

A senior level Oceans Policy Science Advisory Group and technical Working Groups provide advice and direction for the National Science Work Program. One major focus for the Program is a National Mapping Project.



This Atlas

This atlas contains a series of maps depicting the non-fisheries uses of Australia's marine jurisdiction within the Northern Planning Area. The atlas has been prepared for the National Oceans Office as the result of a national project involving the collation of marine-related datasets of various standards and formats from numerous organisations, including State and Australian Government agencies, private organisations and scientific research agencies.

The aim of this atlas is to demonstrate where activities occur and interact with each other in Australia's marine jurisdiction.

In order to focus on the marine environment, in most cases only information that is within 50 kilometres inland of the coast is depicted.



Other Atlas Documents

This Northern Atlas, which contains a set of maps for the Northern Planning Area, is complemented by a similar hard copy atlas that contains a series of National maps. Maps for other regions are available on-line at the website of the National Oceans Office (http://www.oceans.gov.au/nonfish_atlas.jsp) and also on CD-ROM.

Each Regional Atlas contains a similar set of information.

Spatial Datasets

The datasets drawn on to produce the maps contained in this atlas have been sourced from a large number of organisations. A list of organisations from which data has been obtained is included in Chapter 7.

Neptune

Additional details on the datasets used can be sourced from the National Oceans Office metadata database called NEPTUNE (viewable at <http://neptune.oceans.gov.au>.) A description of all map products is also available on NEPTUNE.



CHAPTER 2

DESCRIPTION OF AUSTRALIAN MARINE REGIONS

Maps in this atlas include a set of maps for the Northern Planning Area. A further series of maps has been created, based on the marine regions identified in Figure 1. These regions have been defined by the existence of large ecosystems within Australia's marine jurisdiction and do not specifically relate to jurisdictional or regional marine planning boundaries.

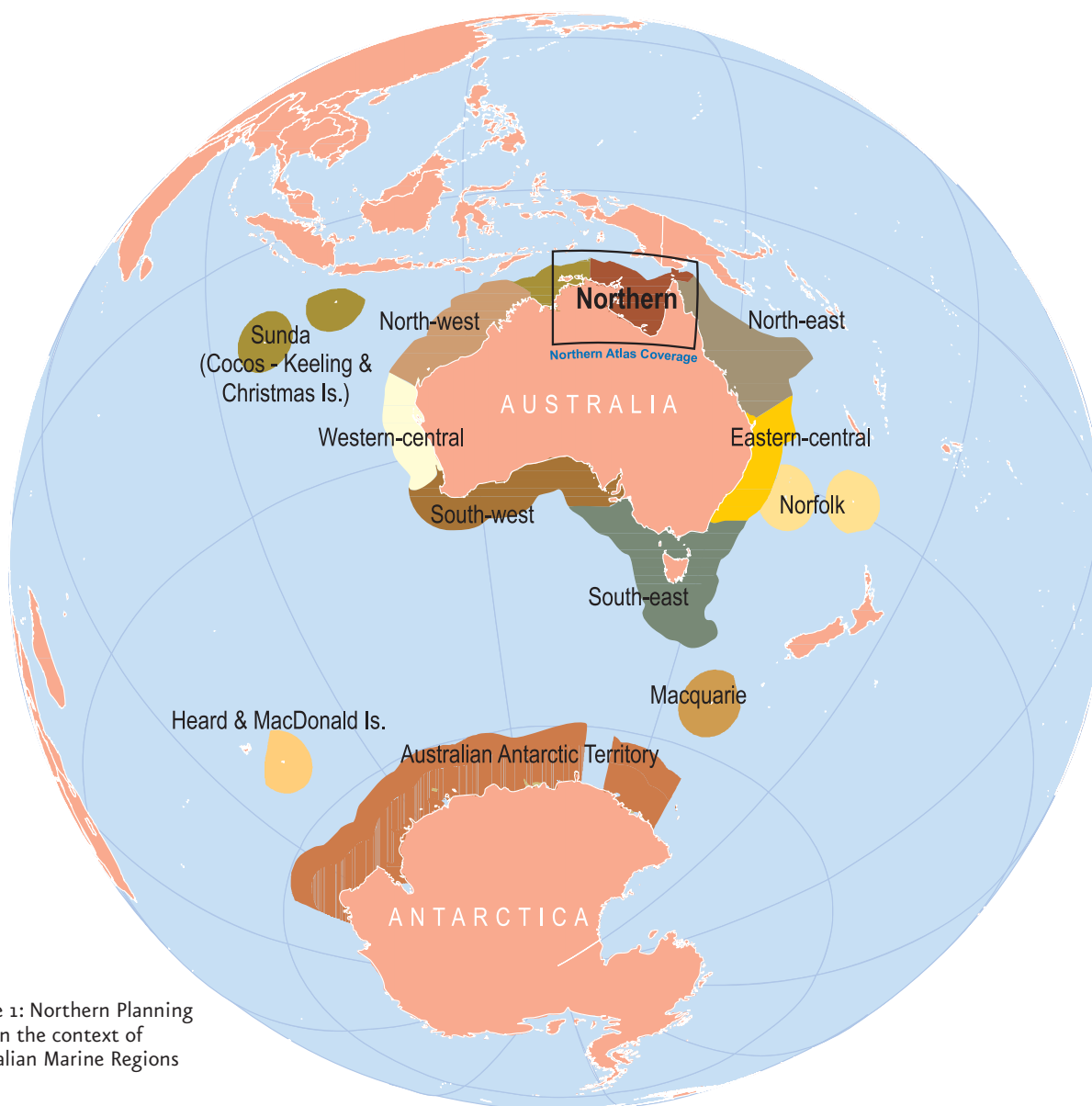


Figure 1: Northern Planning Area in the context of Australian Marine Regions



Northern Marine Region

The Northern Region covers about 860 thousand square kilometres of water off the Northern Territory and Queensland coast, and includes the Torres Strait and the Gulf of Carpentaria. The Region extends from Admiralty Gulf, Northern Territory in the west to north-west Queensland, where it includes the west side of the Cape York Peninsula.

North-west Marine Region

The North-west Region covers about 980 thousand square kilometres of water off northern Western Australia, and includes Ashmore Reef and Exmouth Gulf. The Region extends from Admiralty Gulf in the north-east, to around the town of Exmouth in the south (at latitude 21° 48'S).

Western-central Marine Region

The Western-central Region covers about 620 thousand square kilometres of water off central Western Australia, and includes Shark Bay. The Region extends from around the town of Exmouth in the north (at latitude 21° 48'S) to Perth in the south (at latitude 31° 58'S).

South-west Marine Region

The South-west Region covers about 1.1 million square kilometres of water off southern Western Australia and South Australia, and includes the Great Australian Bight and Kangaroo Island. The Region extends from Perth in the west (at latitude 31° 58'S) to Victor Harbor, South Australia in the east (at 138° 5'E and 35° 37'S).

South-east Marine Region

The South-east Region covers more than 1.2 million square kilometres of water off eastern South Australia, Victoria, Tasmania, and southern New South Wales, and includes Bass Strait and Macquarie Island. The Region extends from Victor Harbor, South Australia in the west to Bermagui, NSW (south of latitude 36° 30'S) in the east.

Eastern-central Marine Region

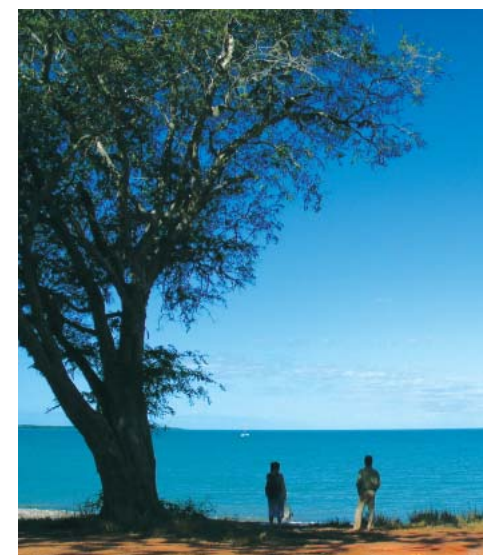
The Eastern-central Region covers about 720 thousand square kilometres of water off central and northern New South Wales and southern Queensland, and includes the waters off Sydney, Brisbane and Fraser Island. The Region extends from Bermagui, NSW (at latitude 36° 30'S) in the south, to Lady Elliot Island, Queensland (at latitude 24° 17'S) in the north.

North-east Marine Region

The North-east Region covers more than 1.3 million square kilometres of water off central and northern Queensland, and includes the Great Barrier Reef and Whitsunday Islands. The Region extends from Lady Elliot Island (at latitude 24° 17'S) in the south, to around Cape York (at latitude 10° 41'S) in the north.

Sunda Marine Region

The Sunda Region covers two separate areas totalling more than 1.1 million square kilometres of water off Cocos Island and Christmas Island. These islands are located about 1.2 thousand and 2.2 thousand kilometres respectively from Exmouth in north-west Western Australia.



CHAPTER 3

DESCRIPTION OF MAP THEMES

Maps in this atlas are presented under a series of non-fisheries marine-related themes for the Northern Planning Area. The maps aim to show important mappable themes for non-fisheries uses in Australia's marine jurisdiction. The atlas specifically excludes fisheries information (including aquaculture), including the social and economic component of fisheries.

Atlas maps themes are listed below with a brief explanation of the information shown in each theme.



Cultural Heritage

- Shipwrecks
- Coastal fortifications
- Custom houses

Indigenous

- Native Title claims and Indigenous land use agreements
- Language group map

Natural Heritage

- Marine protected areas
- Coastal protected areas
- Selected listed species
- Introduced marine species
- Threatened species
- Marine and Coastal Community Network membership

Ocean Disposal

- Pollution
- Sewerage waste facilities
- Ocean disposal sites

Petroleum/ Mining

- Petroleum titles, current leases and new acreage
- Seismic surveys
- Oil and gas wells
- Petroleum fields and infrastructure
- Offshore mining sites

Research

- Wave rider buoys
- Tide gauges
- Marine research institutes
- Marine research voyages
- Argo floats
- Mean annual average wave heights

Shipping

- Lighthouses
- Shipping routes
- Ports



- Port statistics
- Port limitations

Tourism, Recreation, Sport

- Boat ramps
- Charter boat operations

Miscellaneous

- Australian coast guard operational areas
- Jurisdictional boundaries

Multiple Use Maps

Interactions between various uses across the marine jurisdiction



CHAPTER 4

BASE MAP DETAILS

An explanation of base map symbology used on each map is described in this chapter. This information has not been shown on individual maps due to space limitations and to reduce unnecessary clutter. The information presented should be cross referenced when viewing individual atlas maps.

Datum and Projections

All maps are in geographic projection.



Map Scale

Map scales are:

Northern Marine Planning Area 1:6.6M

Torres Strait 1:2.3M

Reference Maps

A reference map is provided as the first map in both the Northern and Torres Strait series of maps. This map contains information that is not included on other maps in the atlas. The map is provided for reference purposes to clarify key geographical features and place names.

Map Data Caveats

Atlas maps presented in this publication should be viewed in conjunction with the Map Data Caveats detailed in Chapter 6.

Disclaimer Information

The National Oceans Office and Spatial Vision make no claims as to the accuracy of the information shown on maps contained in this atlas, or the accuracy of information provided by third parties.

While every effort has been made to ensure that the information is accurate, the National Oceans Office and Spatial Vision will not accept any liability for any loss or damage which may be incurred by any person acting in reliance upon the information.

The maps have been prepared for illustrative purposes only and should not be used for navigation purposes.

EXPLANATION OF MAP SYMBOLS ON BASE MAPS

Bathymetry

Bathymetric depth (depth below mean sea level)



1m below mean sea level (msl)

>5000m below msl.



Australian Marine Jurisdiction



Marine Planning Boundary



Torres Strait Protected Zone



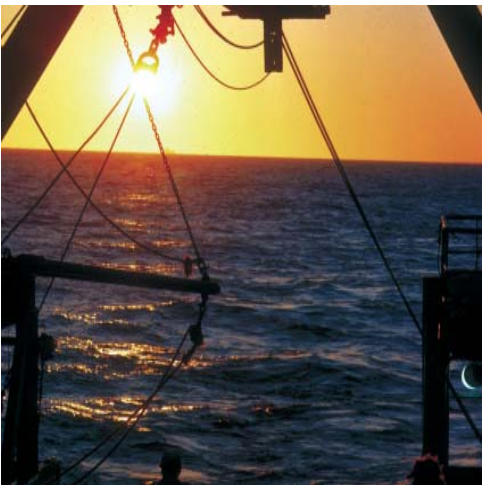
Australian Outside But Near Area



Road



Drainage



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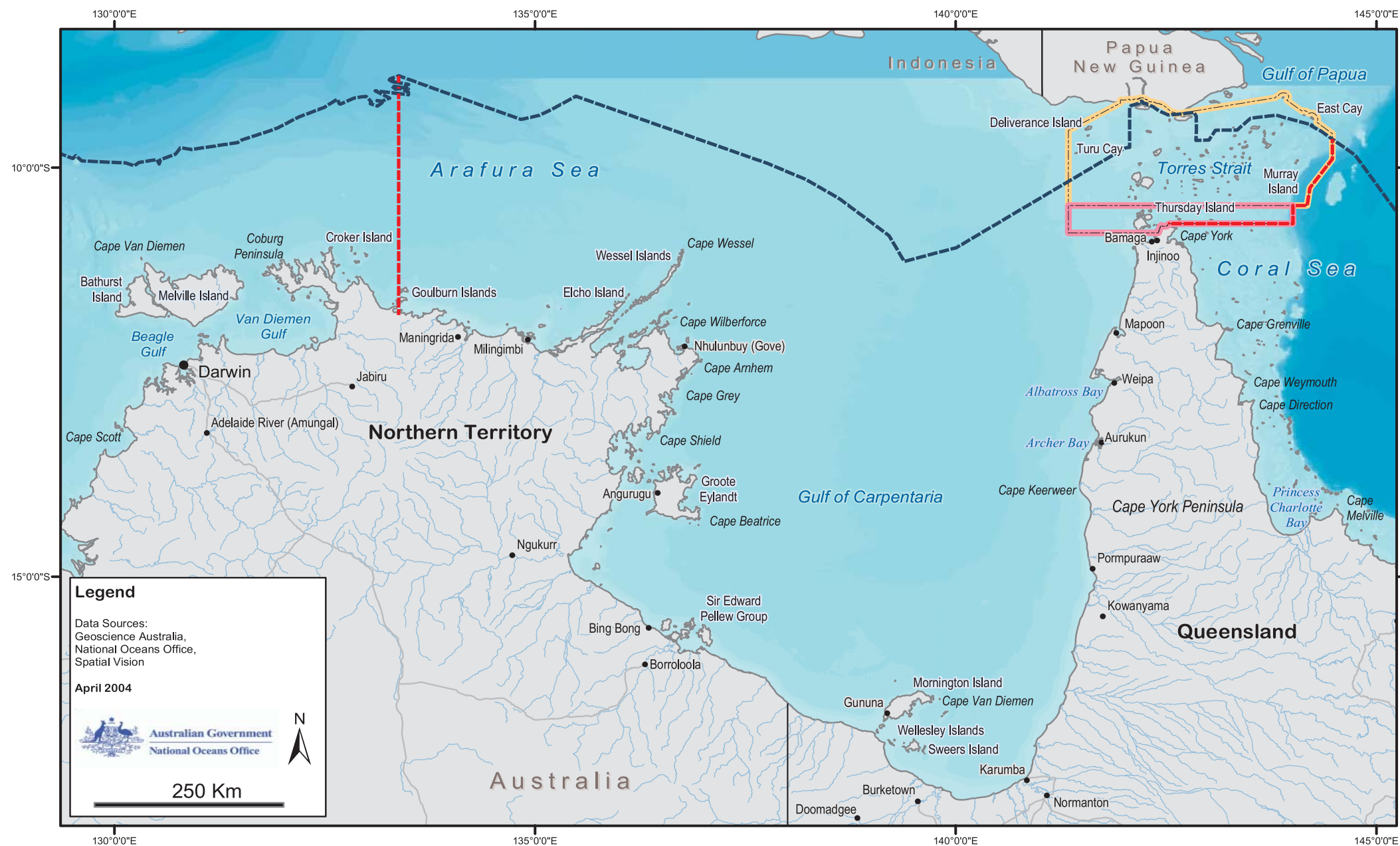
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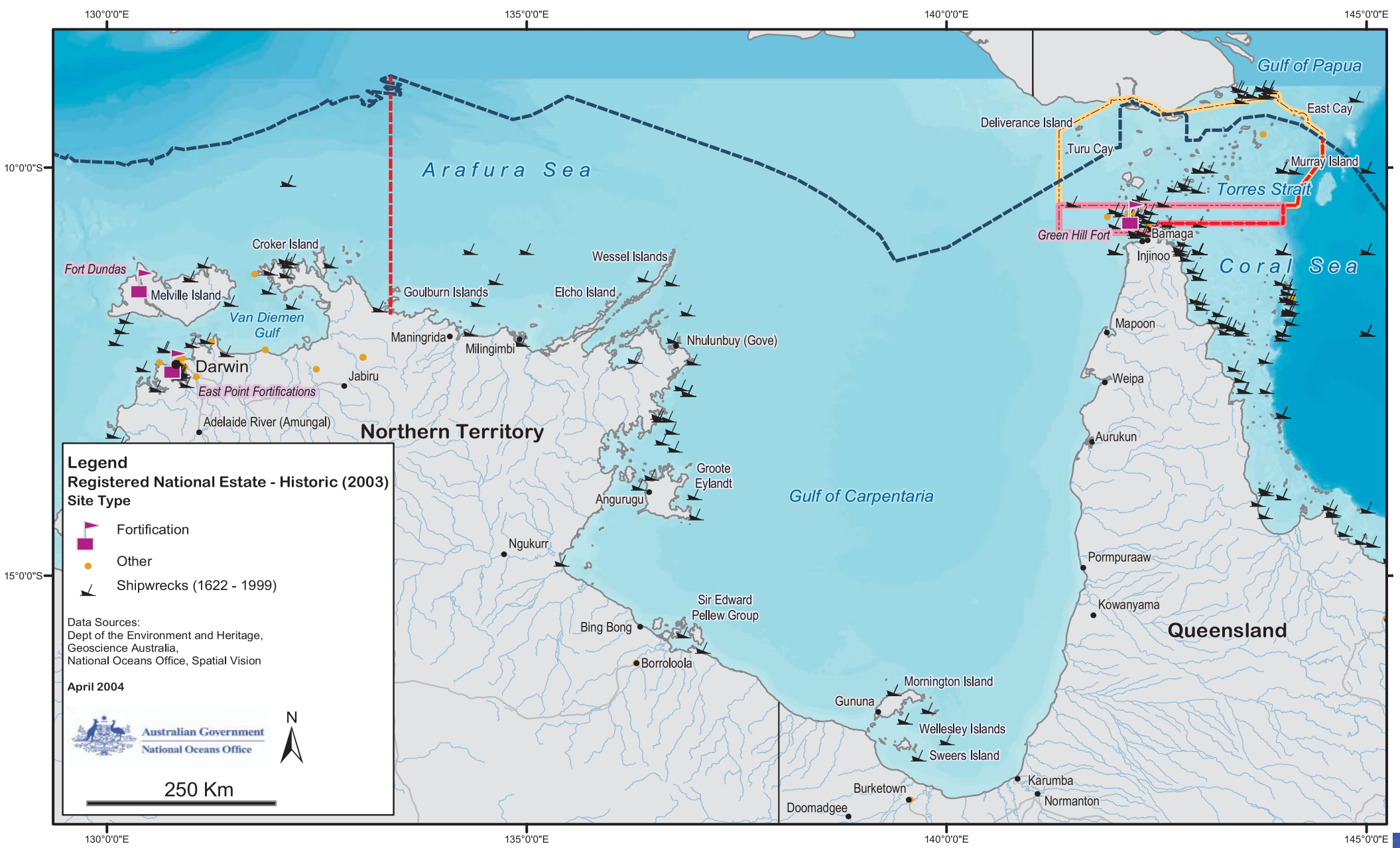
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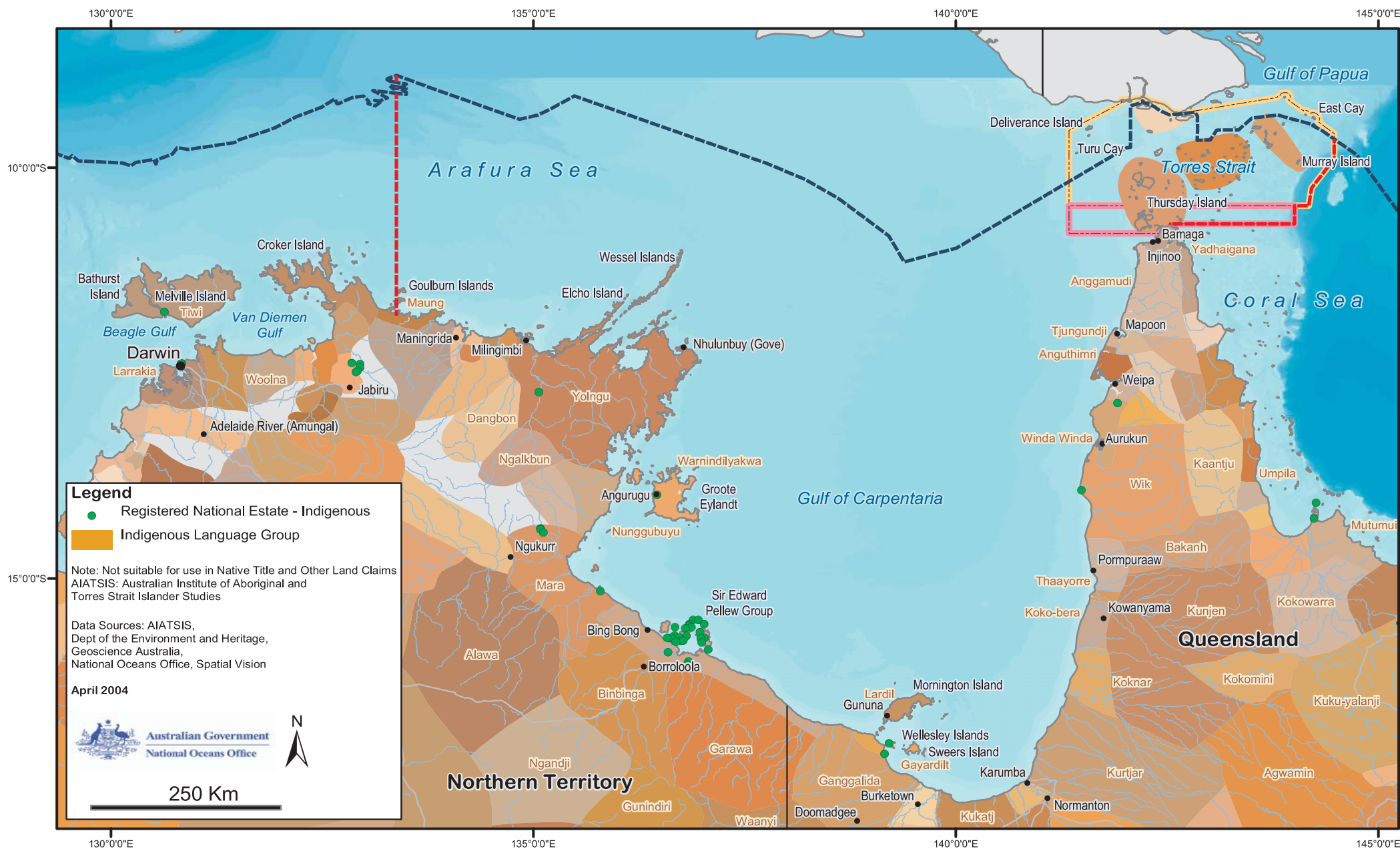
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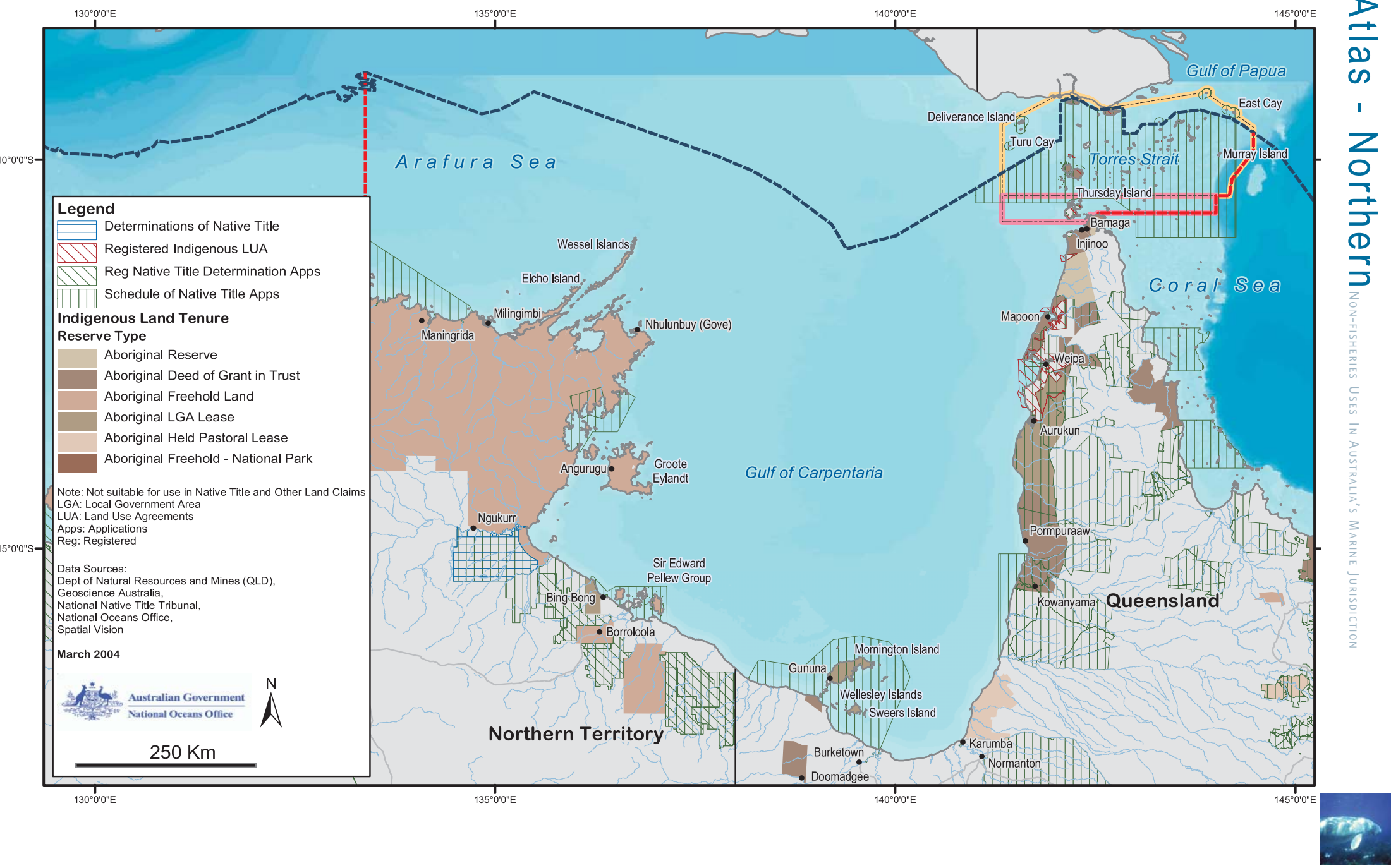
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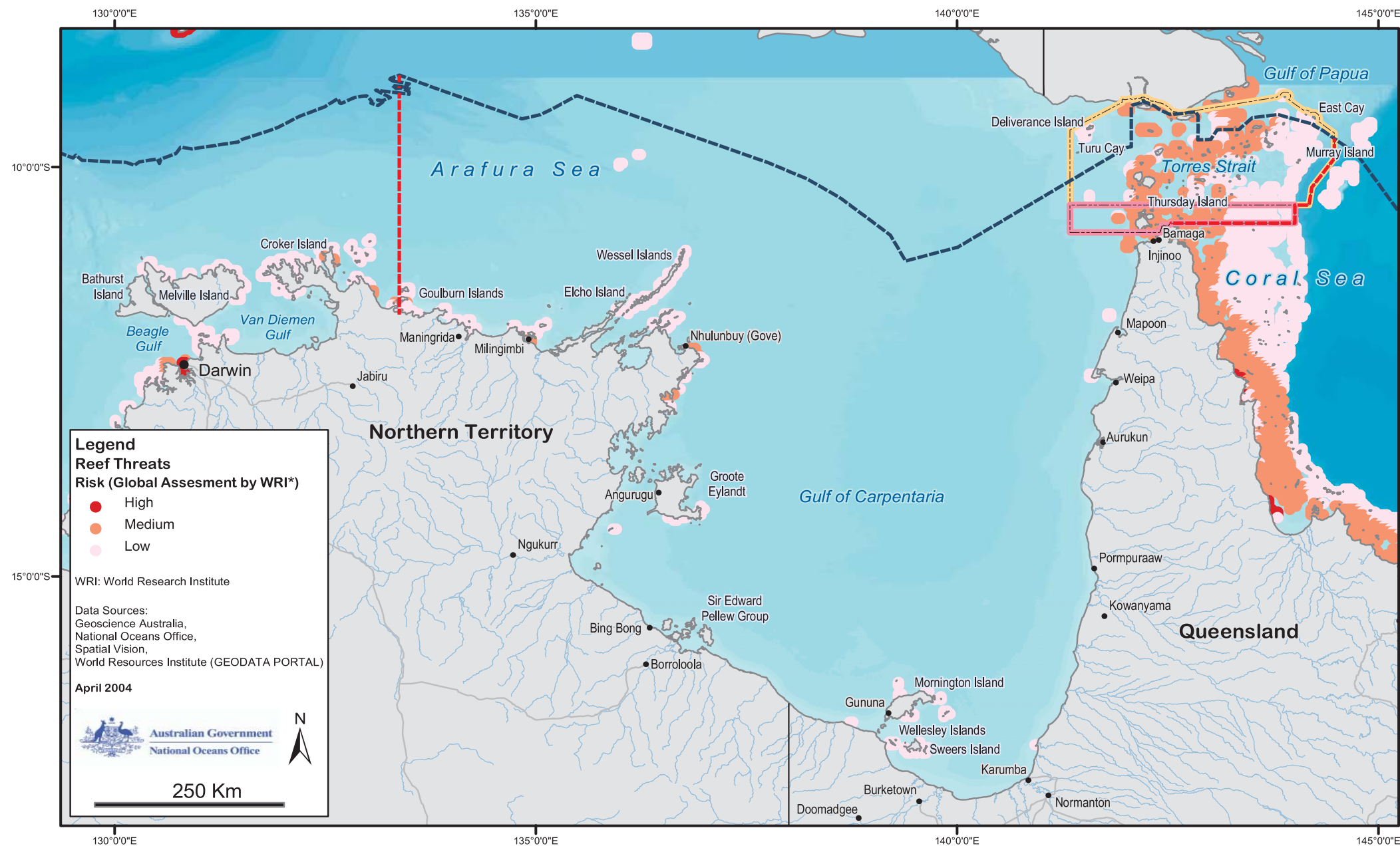


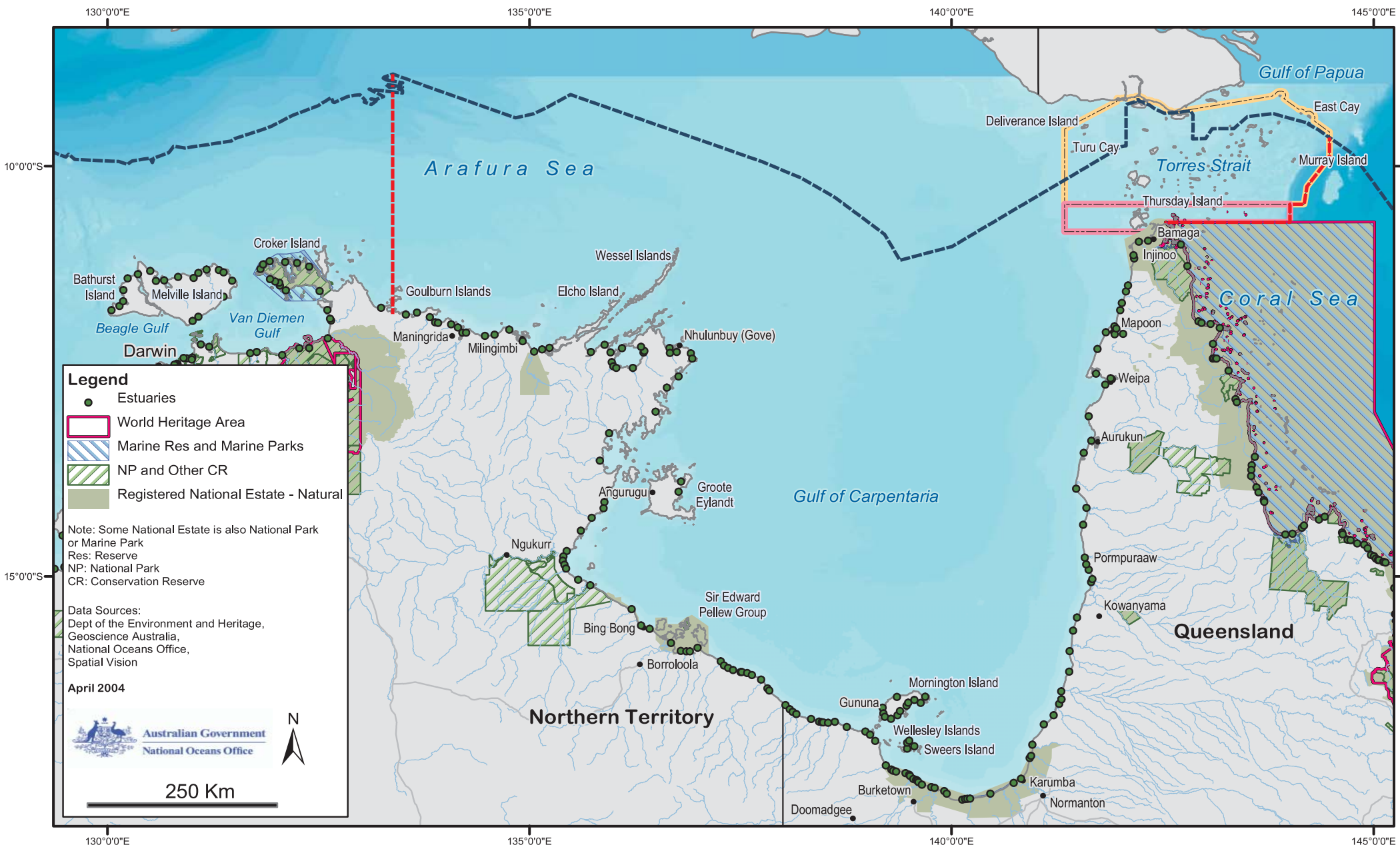


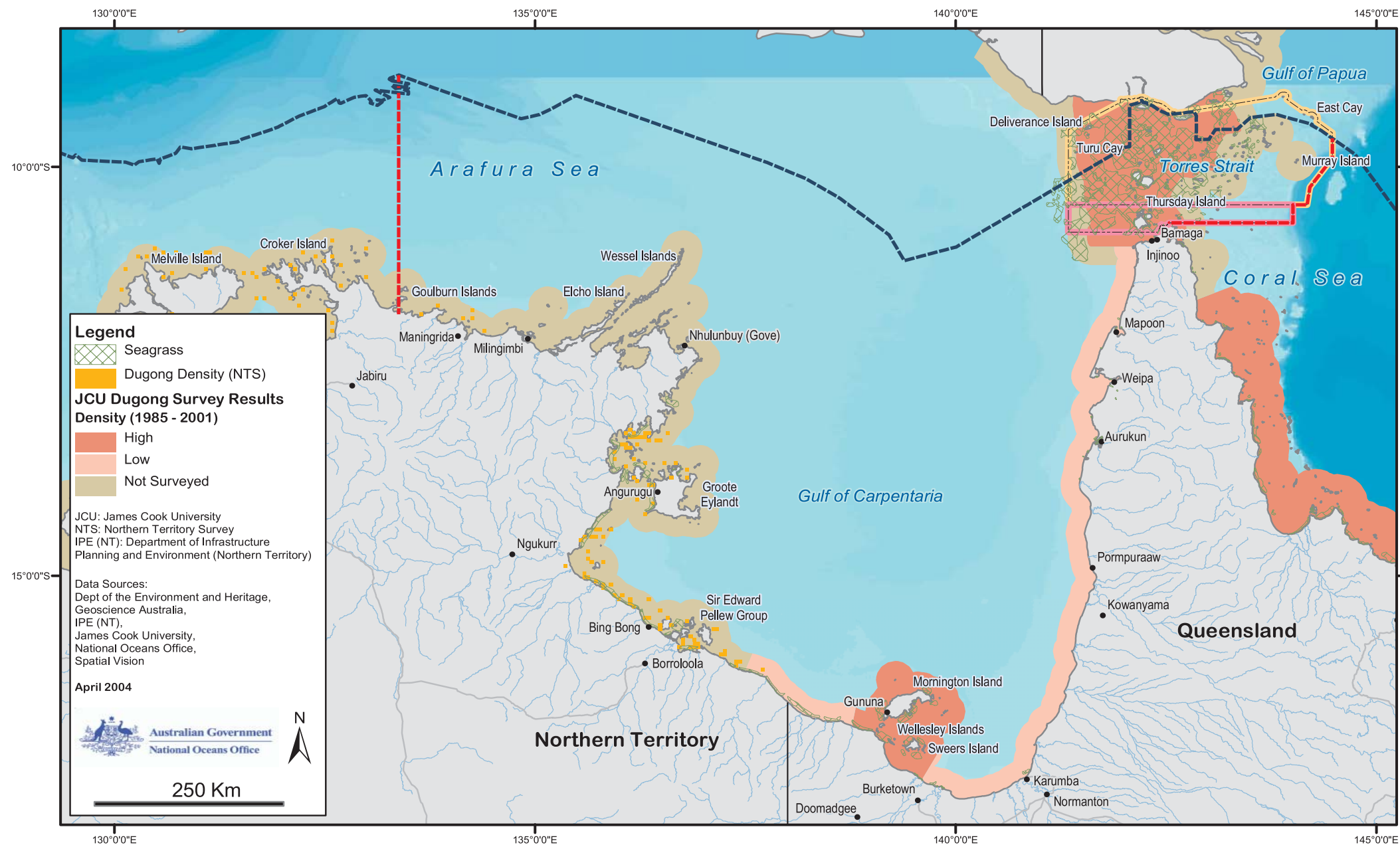


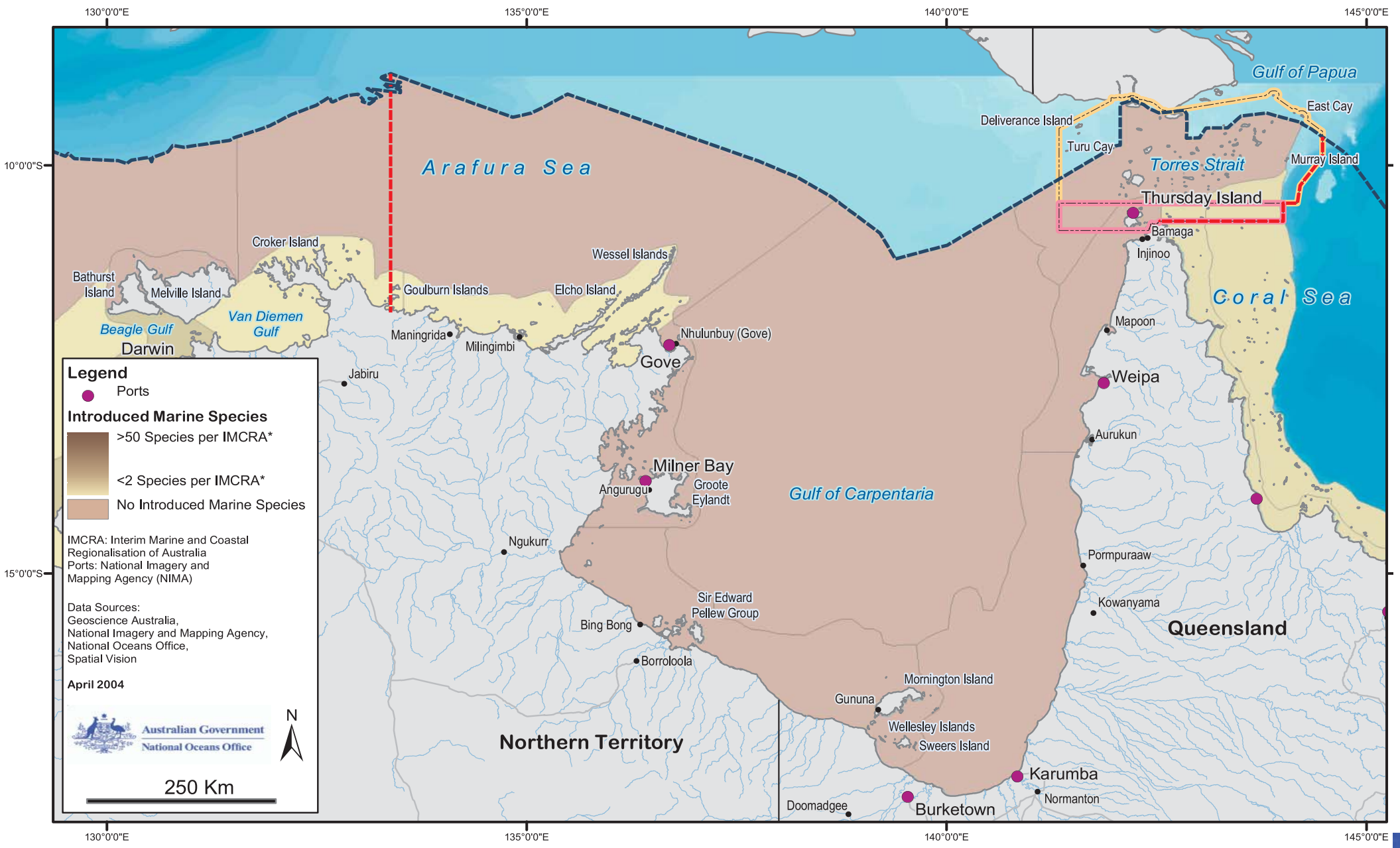


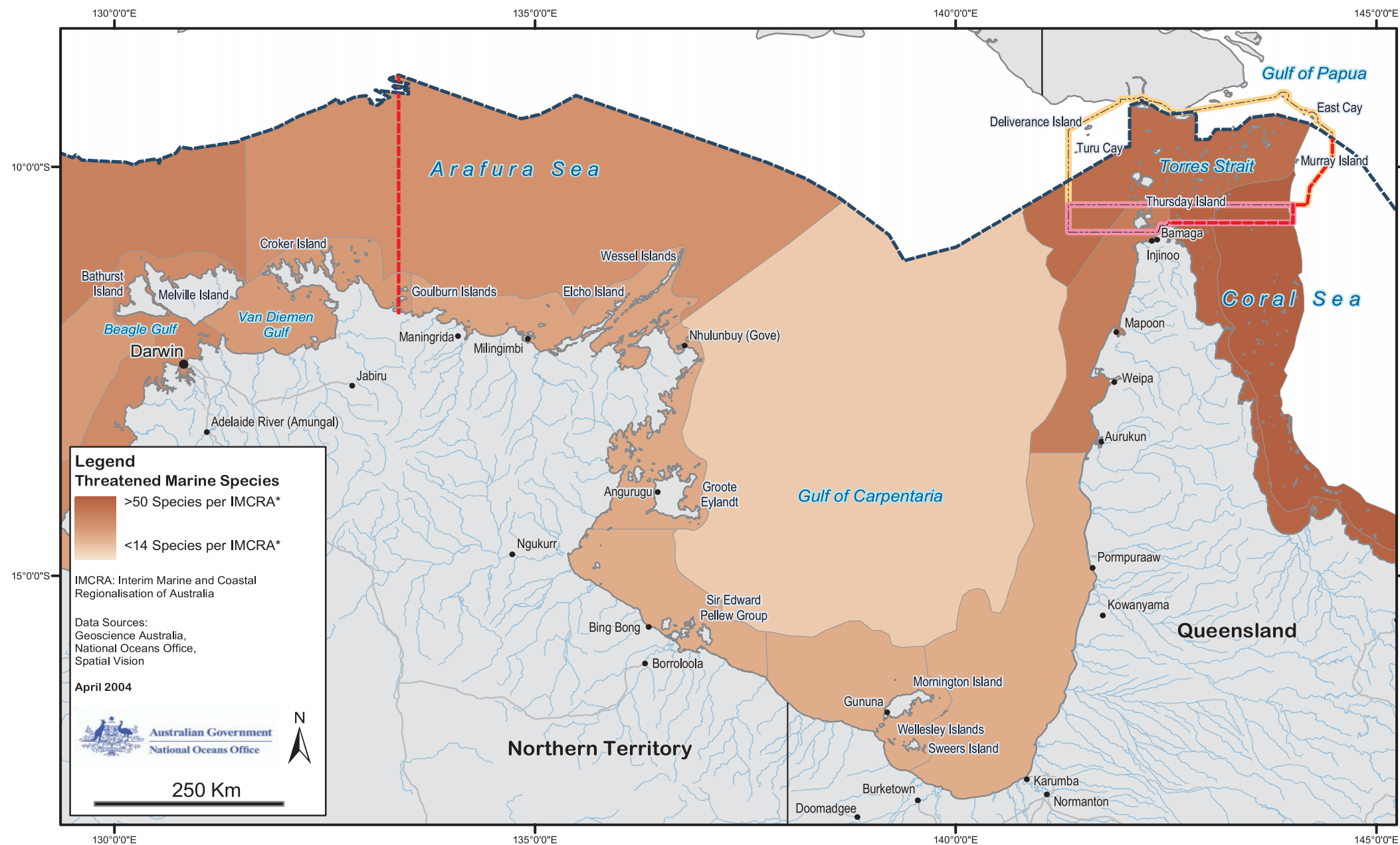


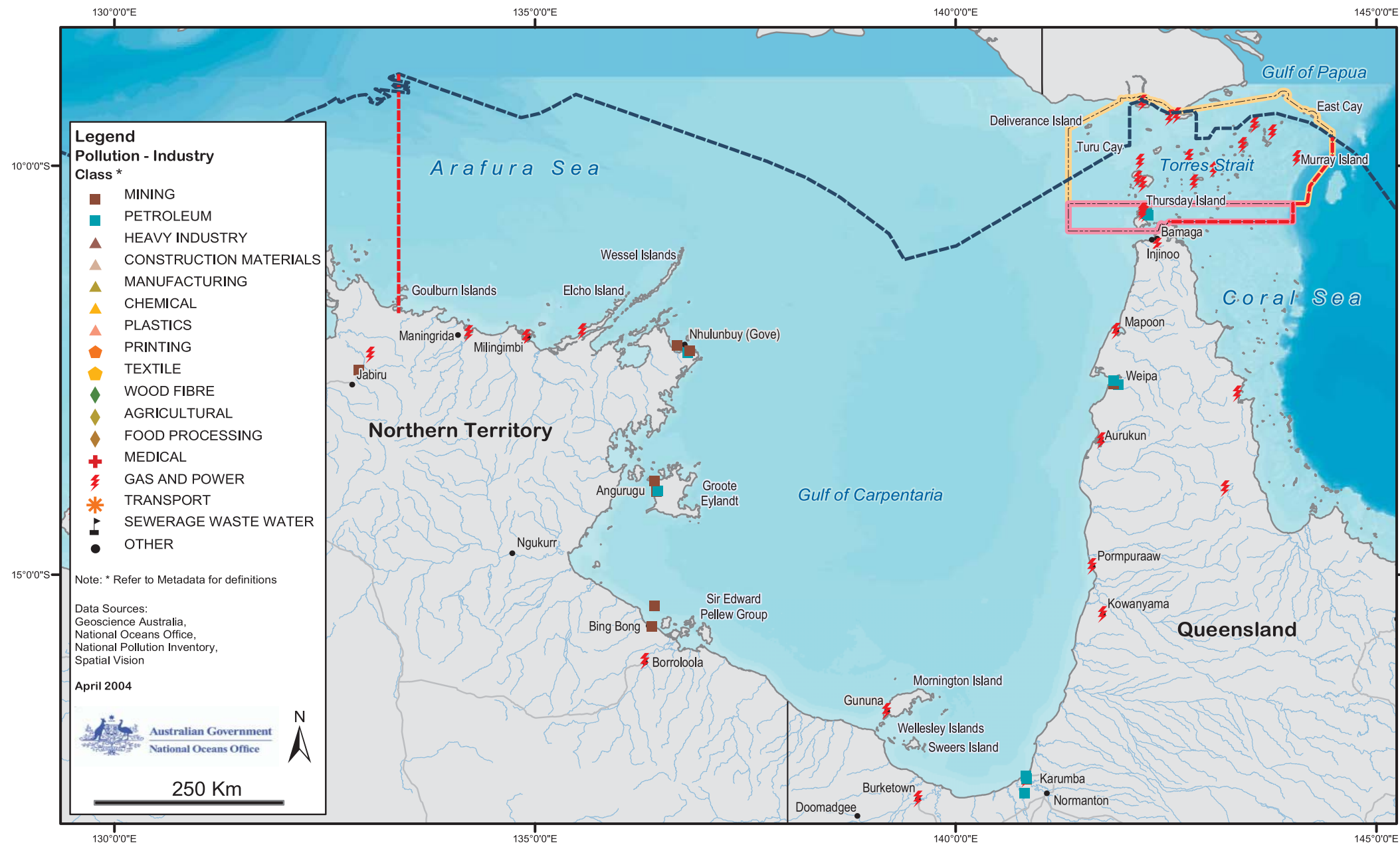


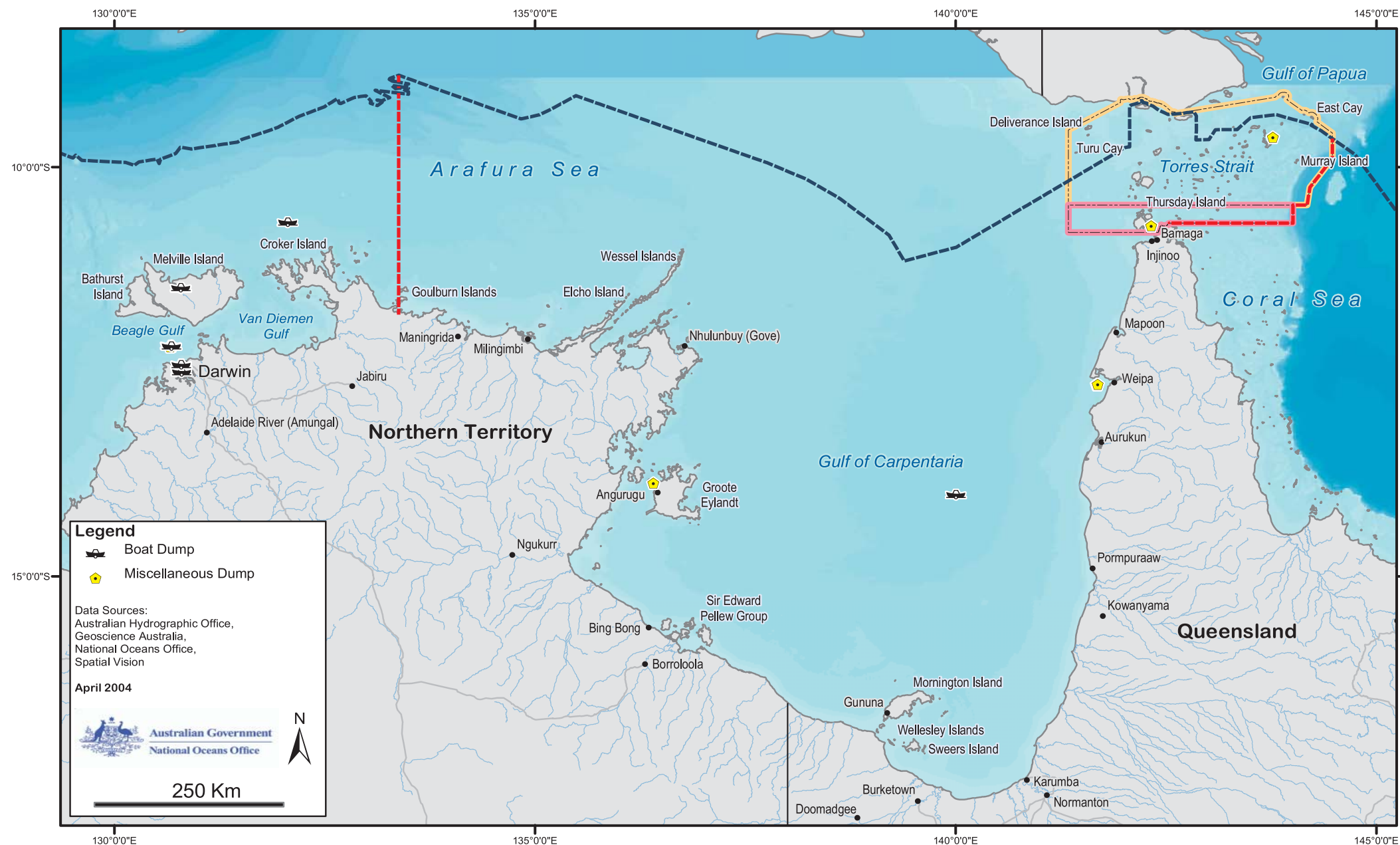


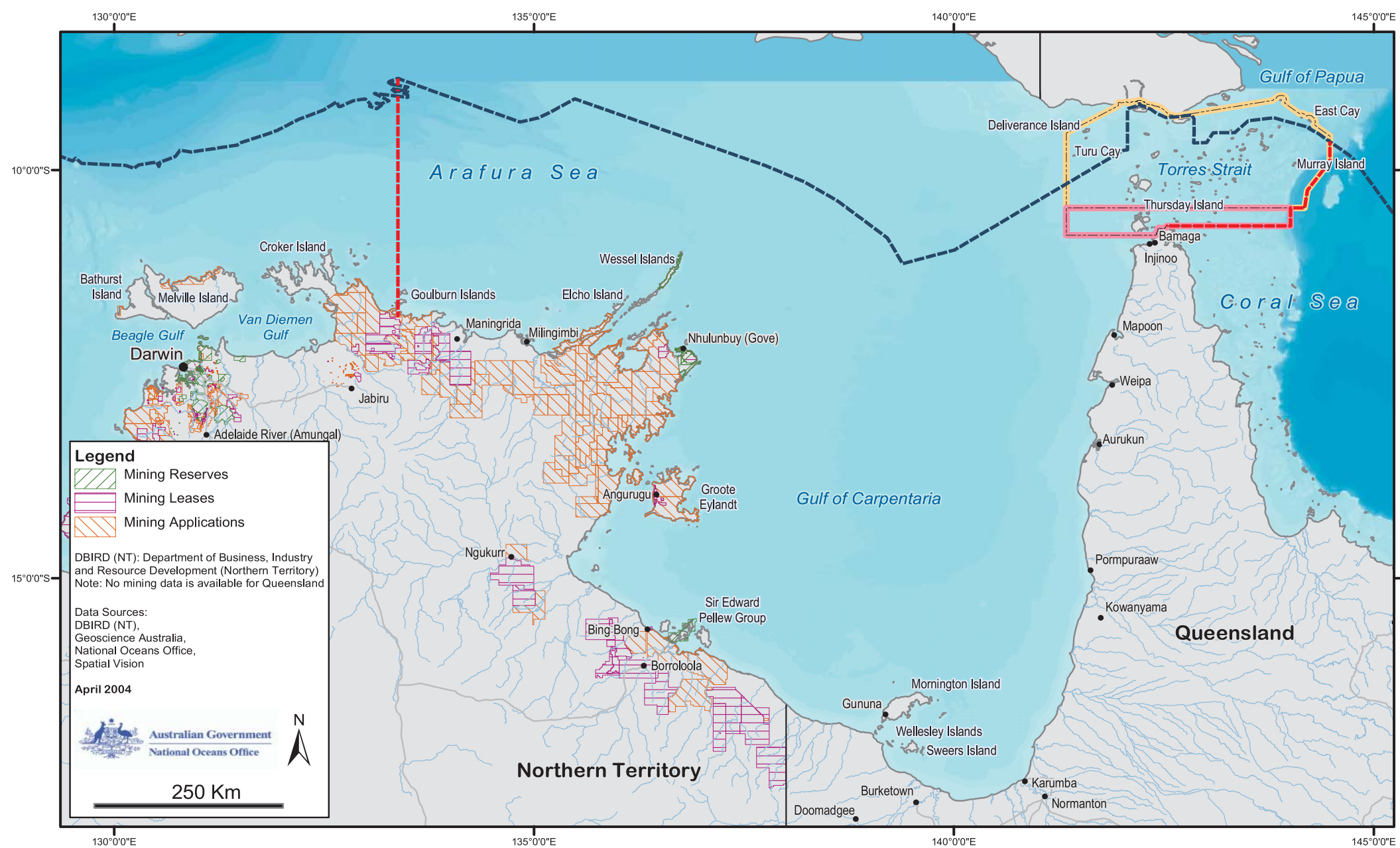


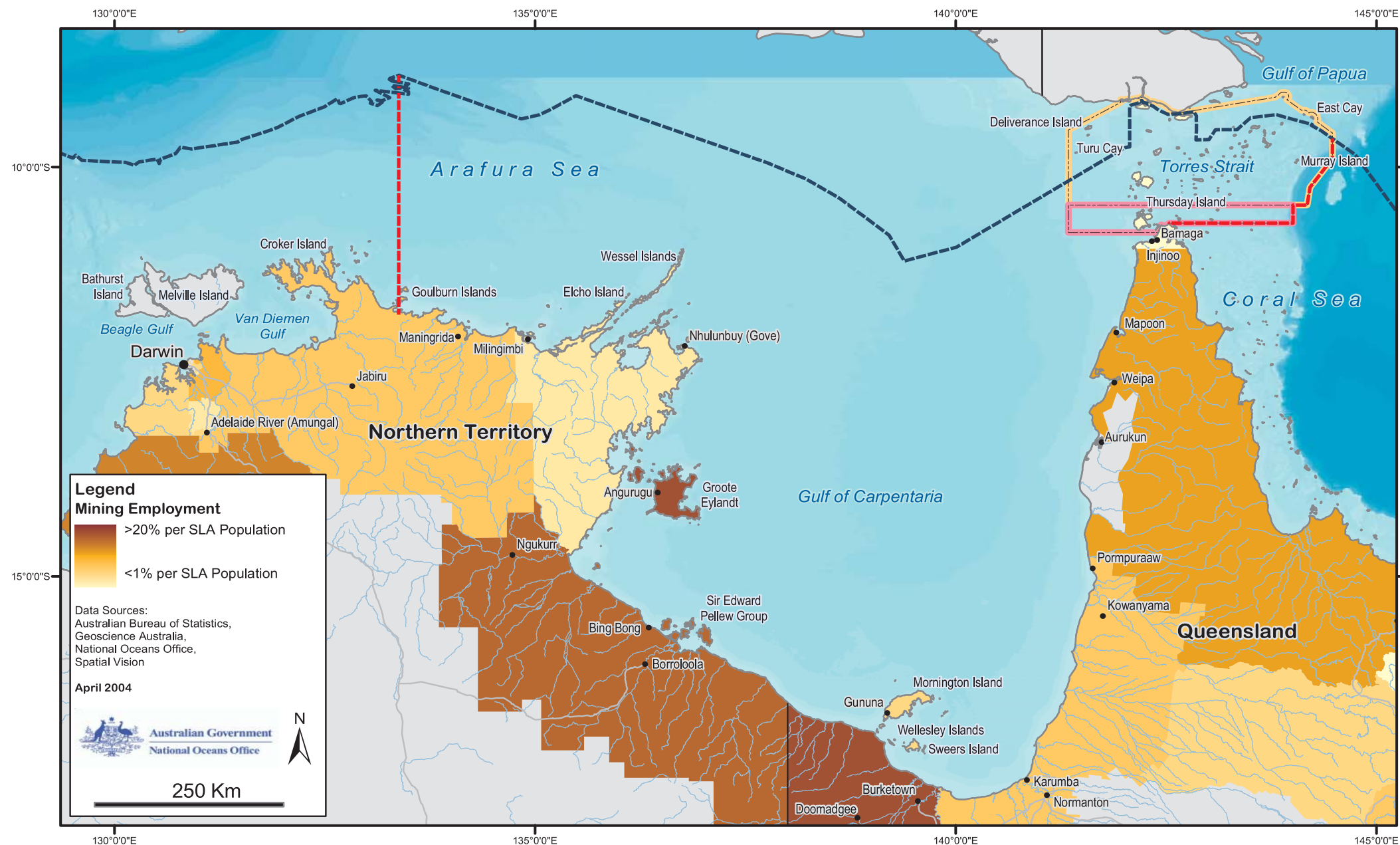


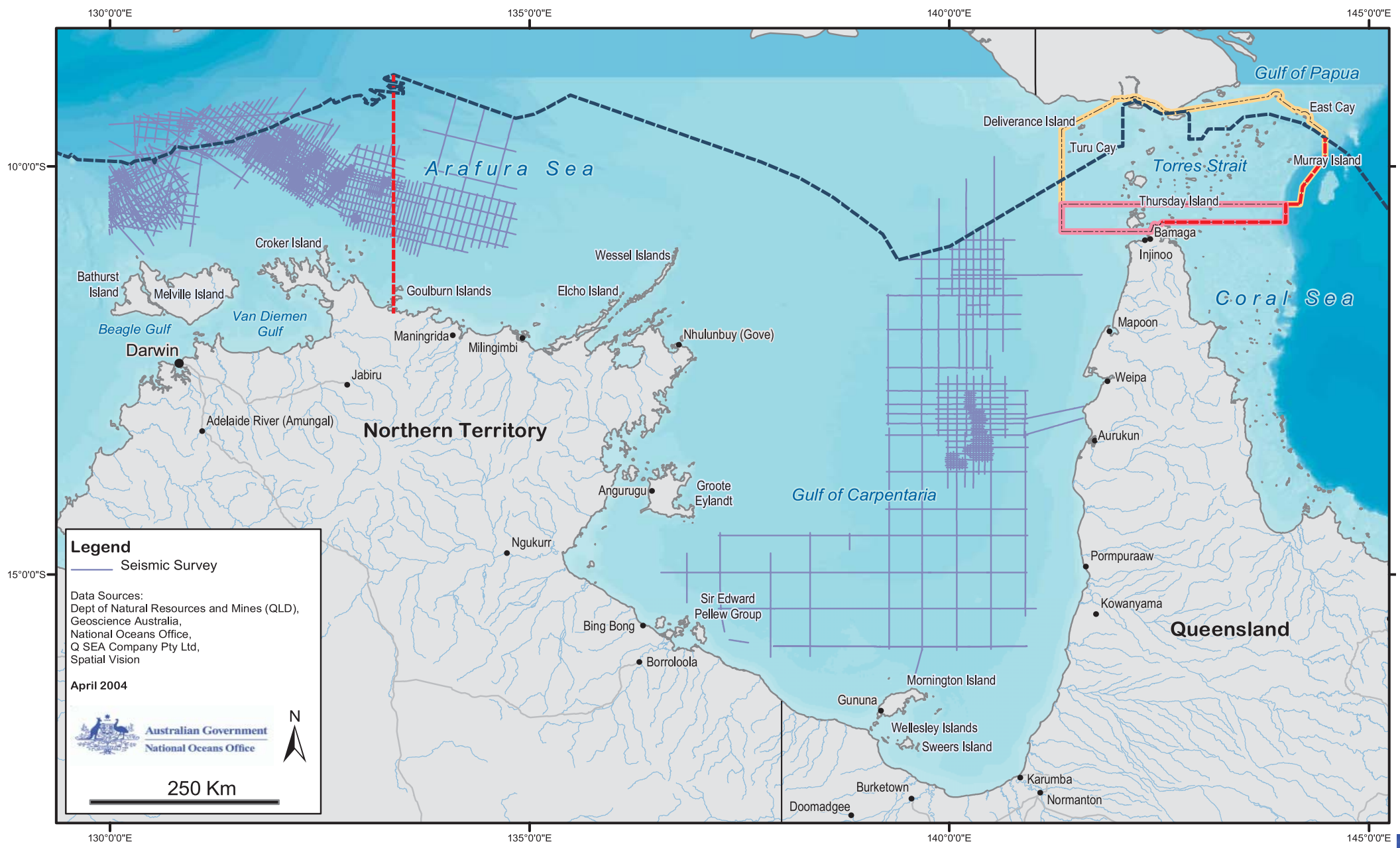


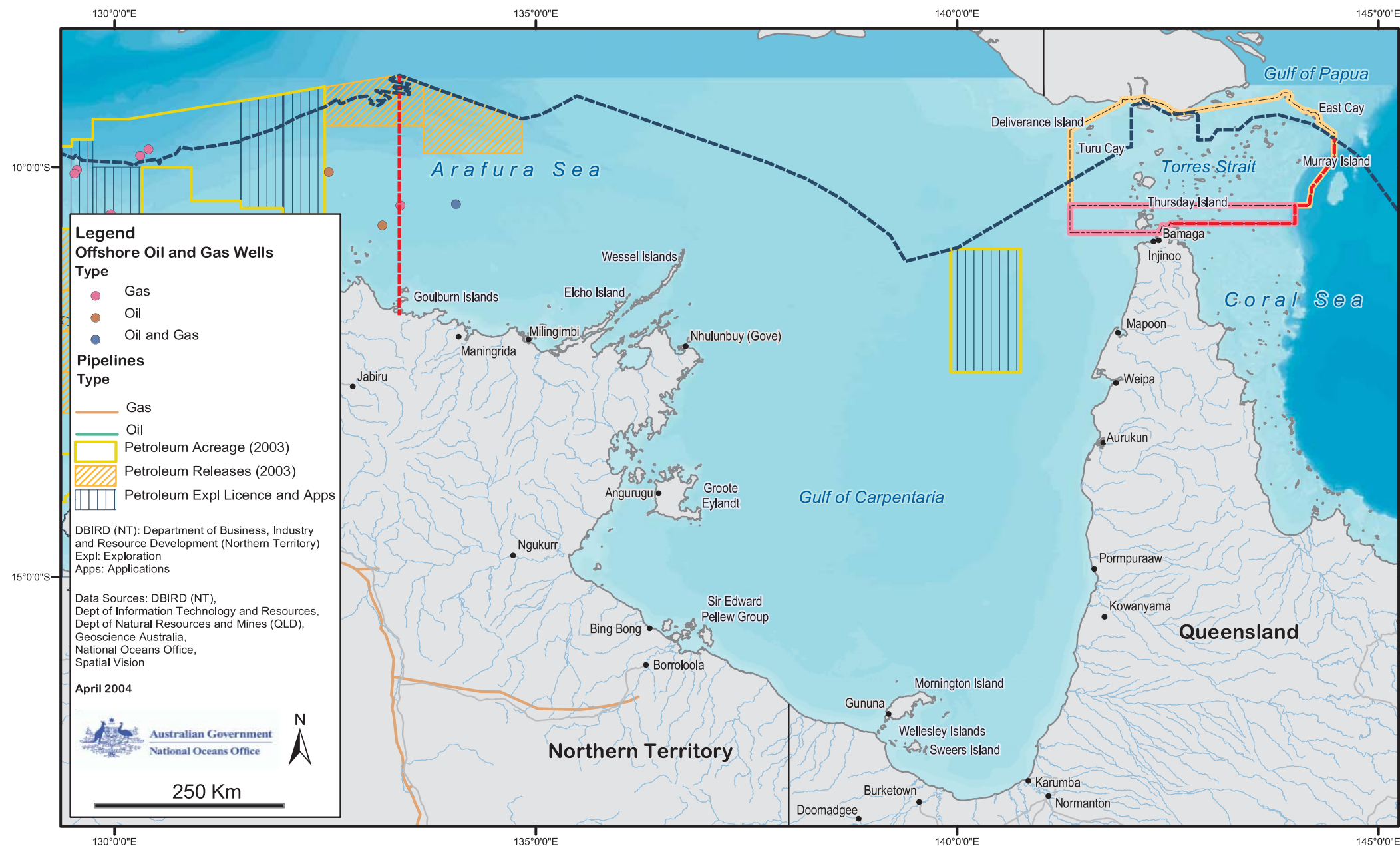


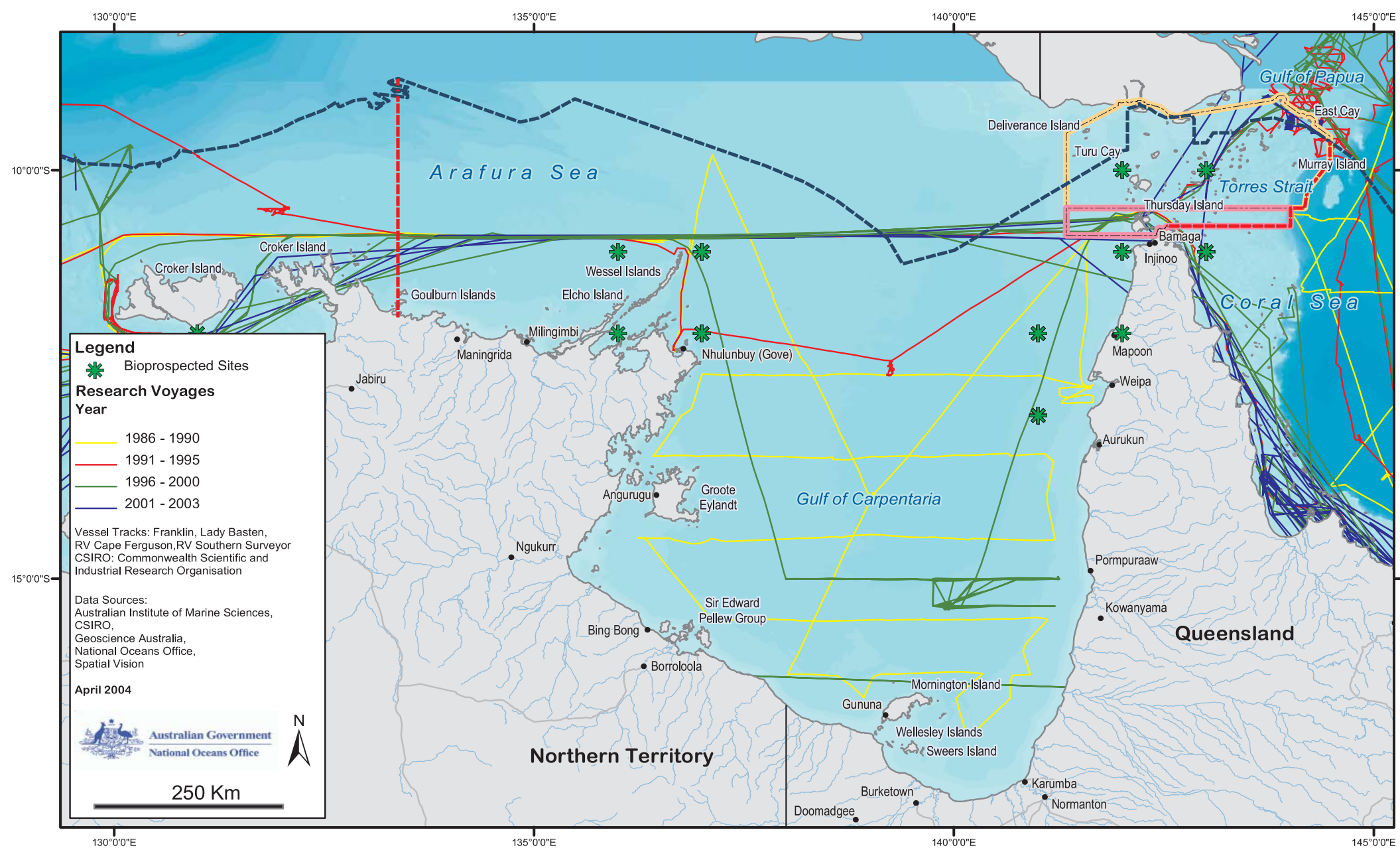


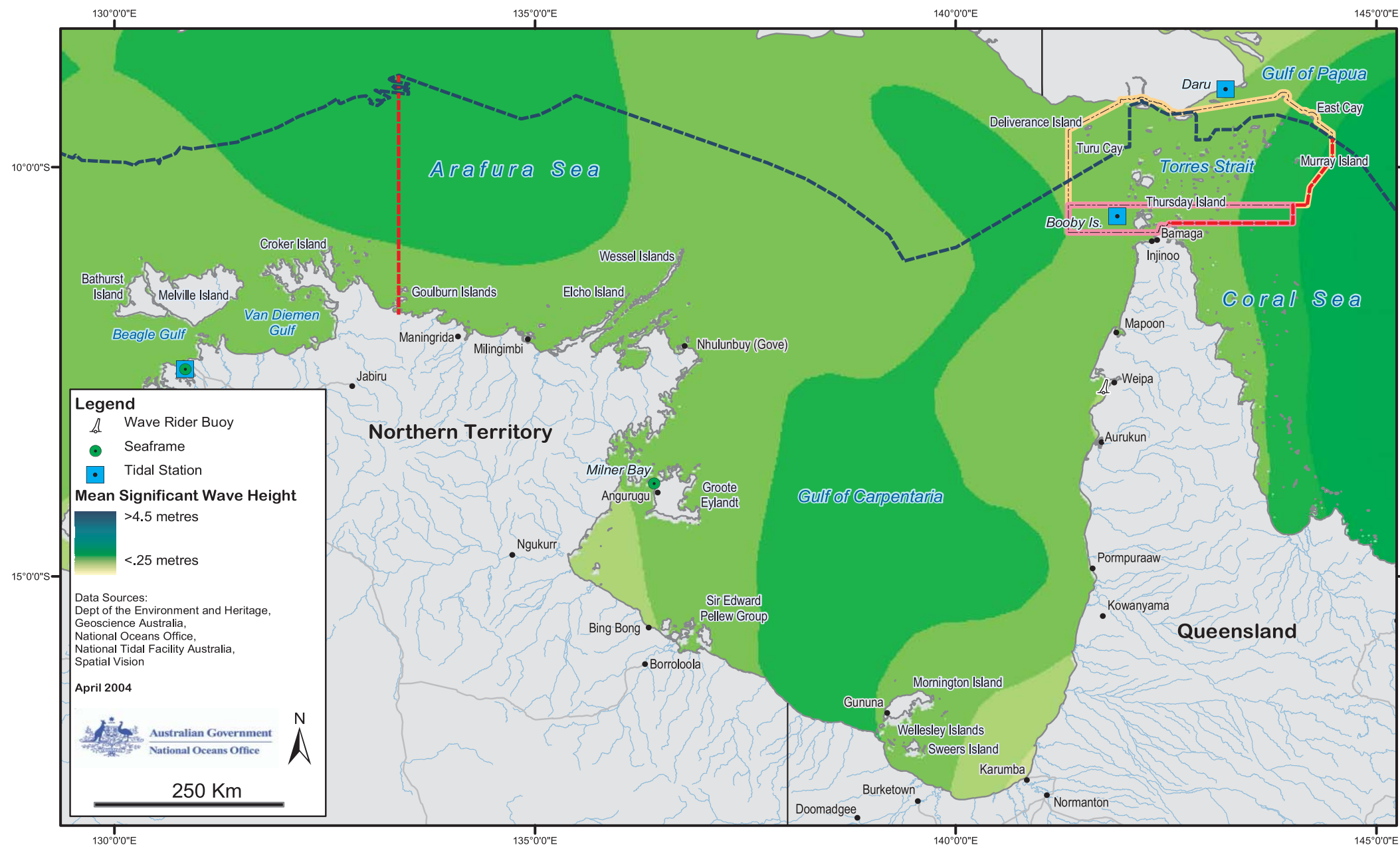


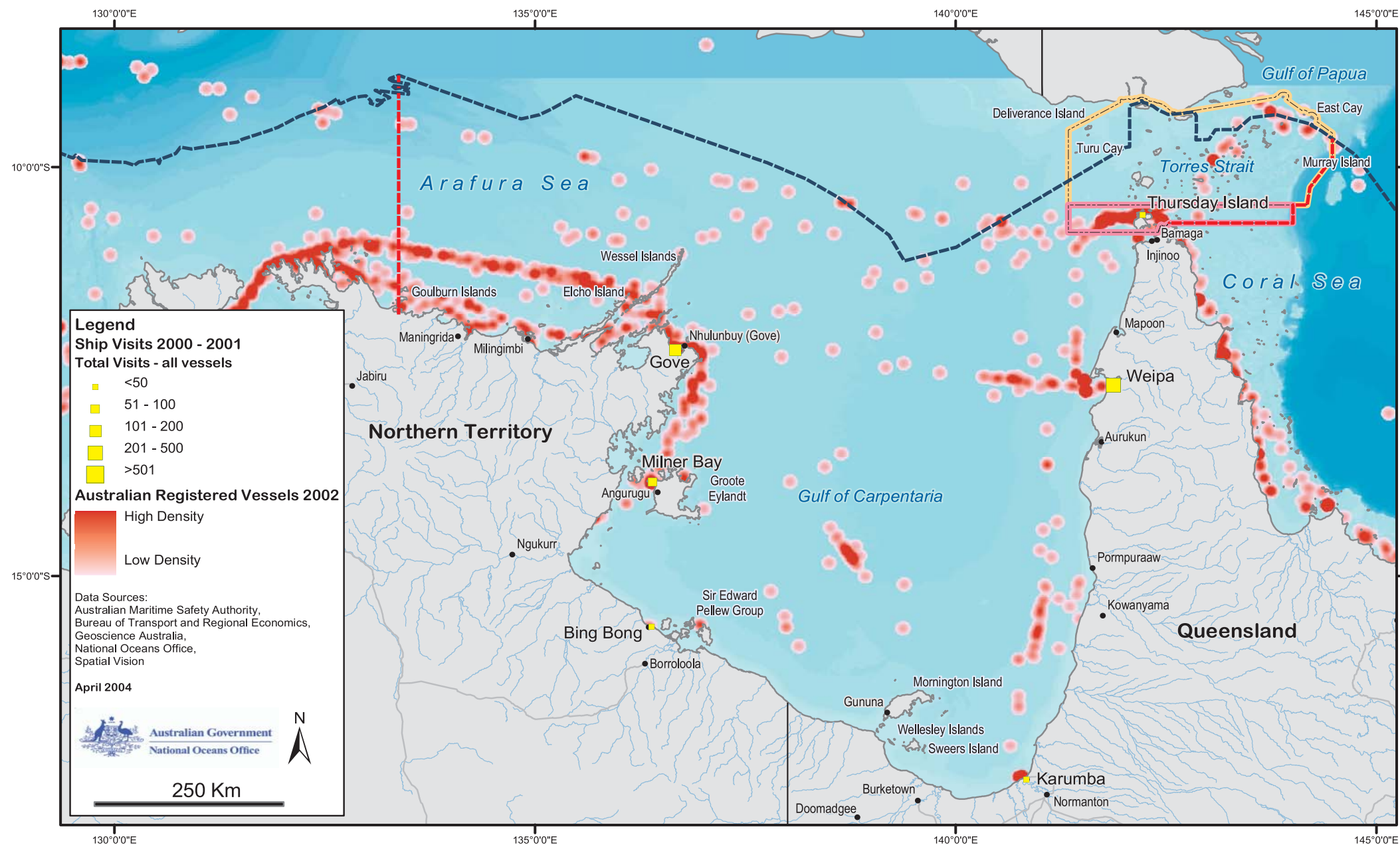


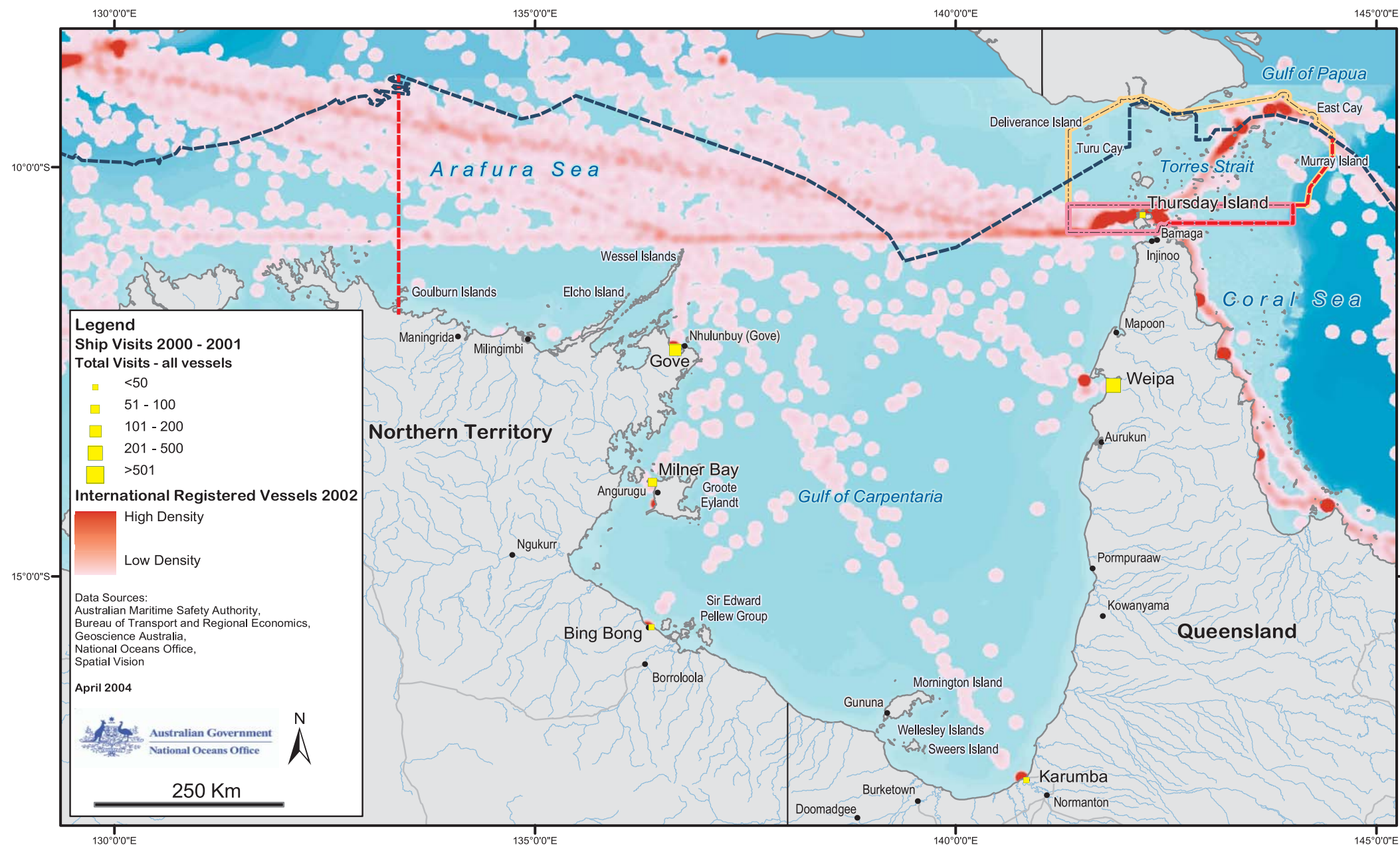


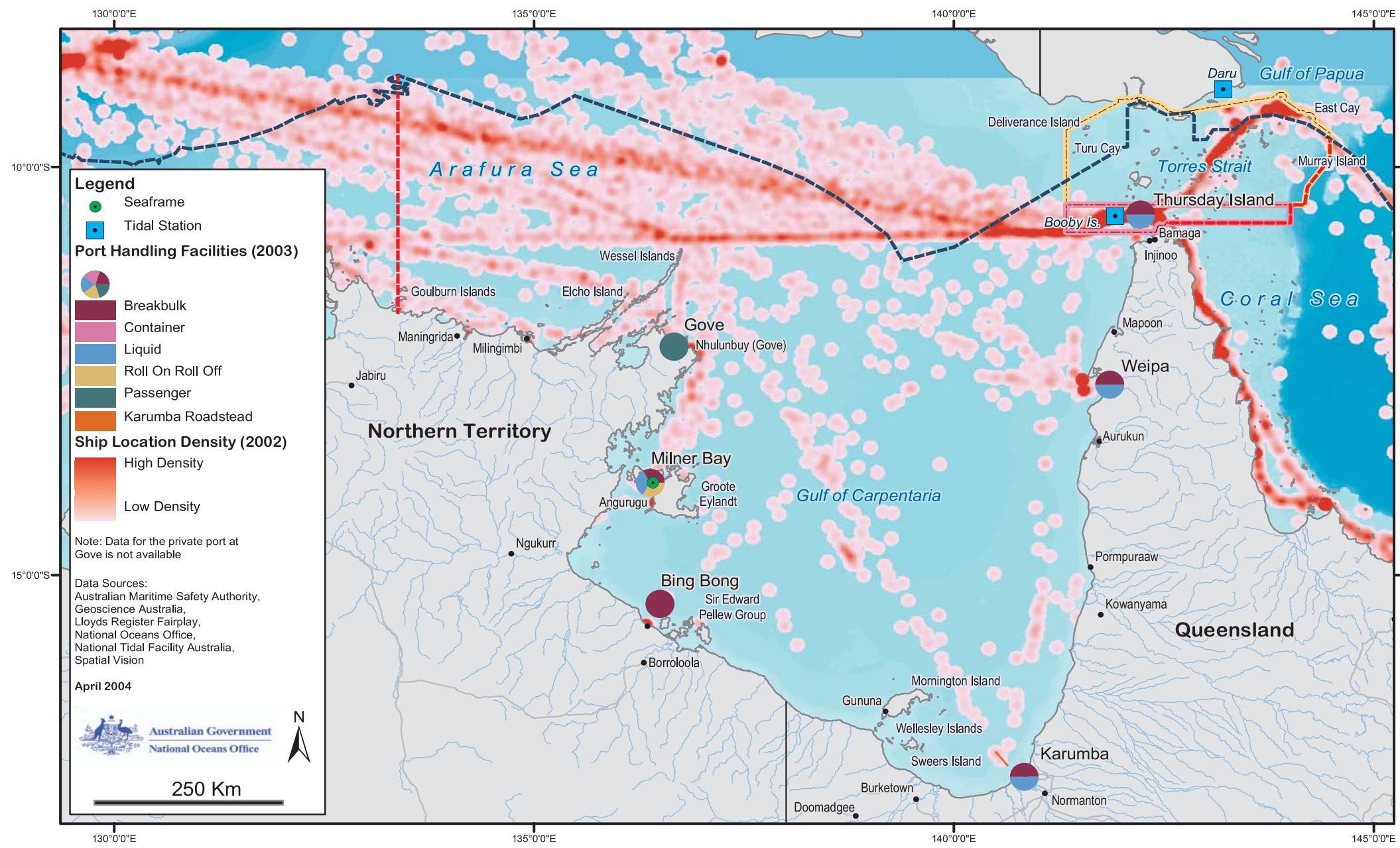


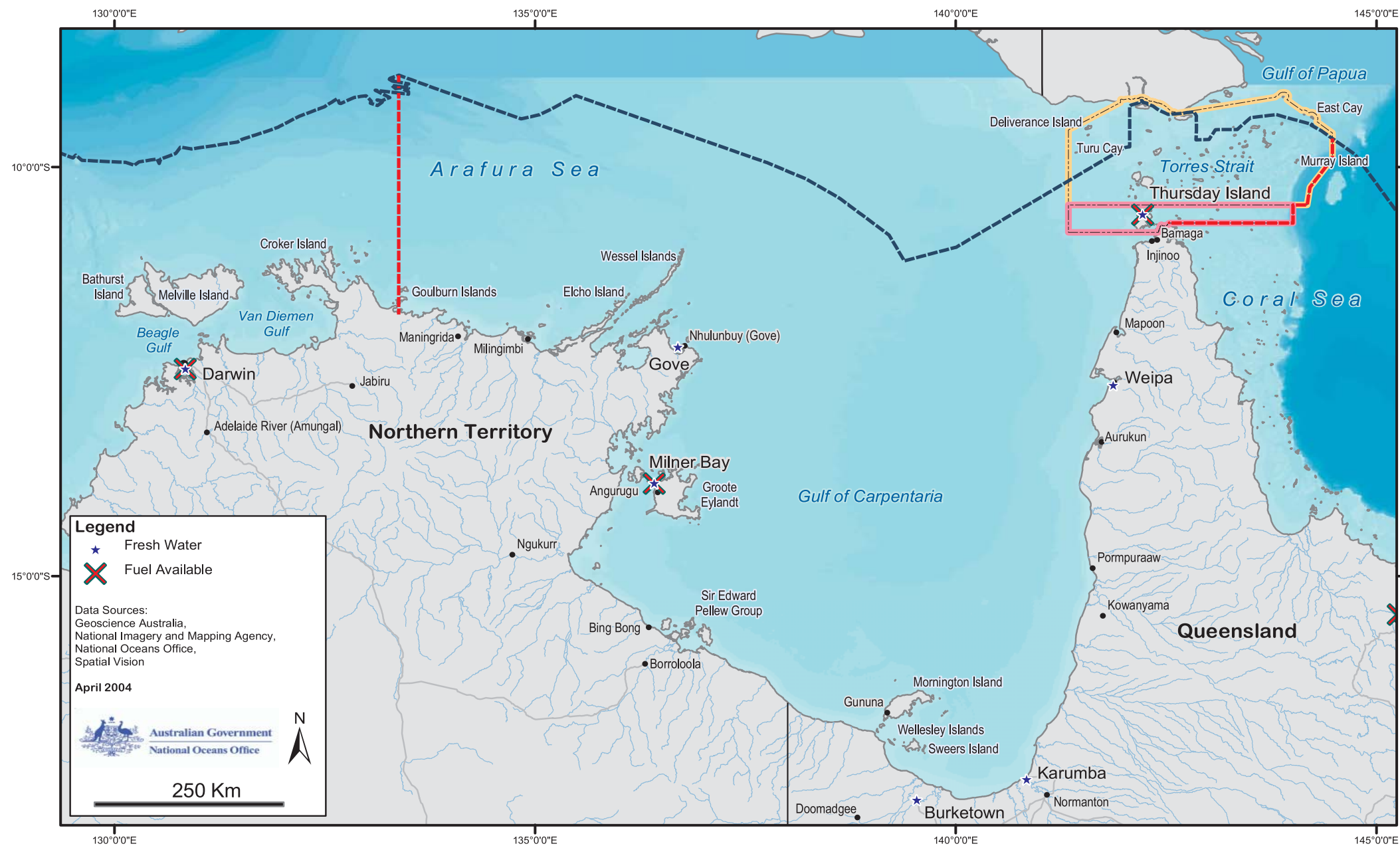


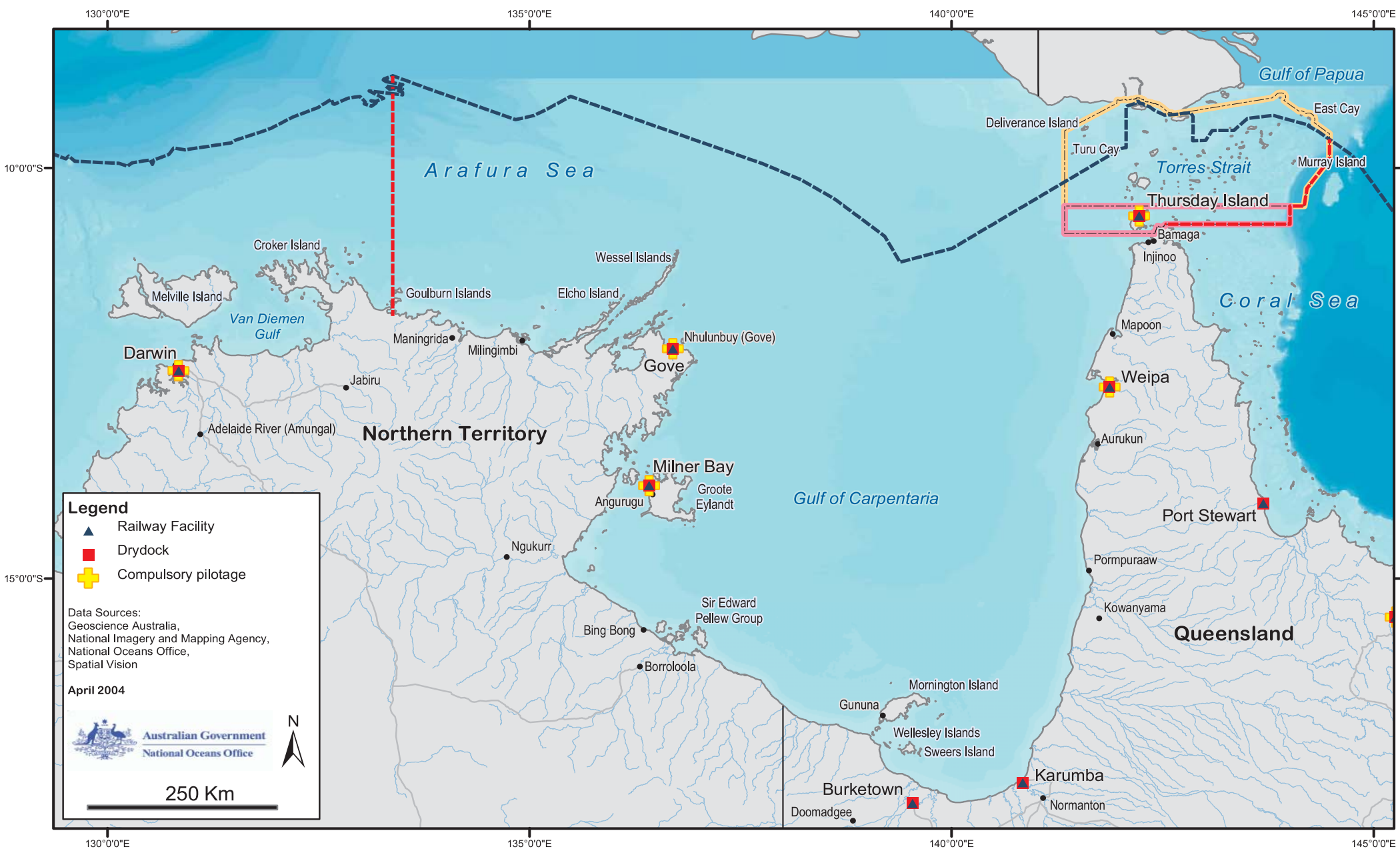


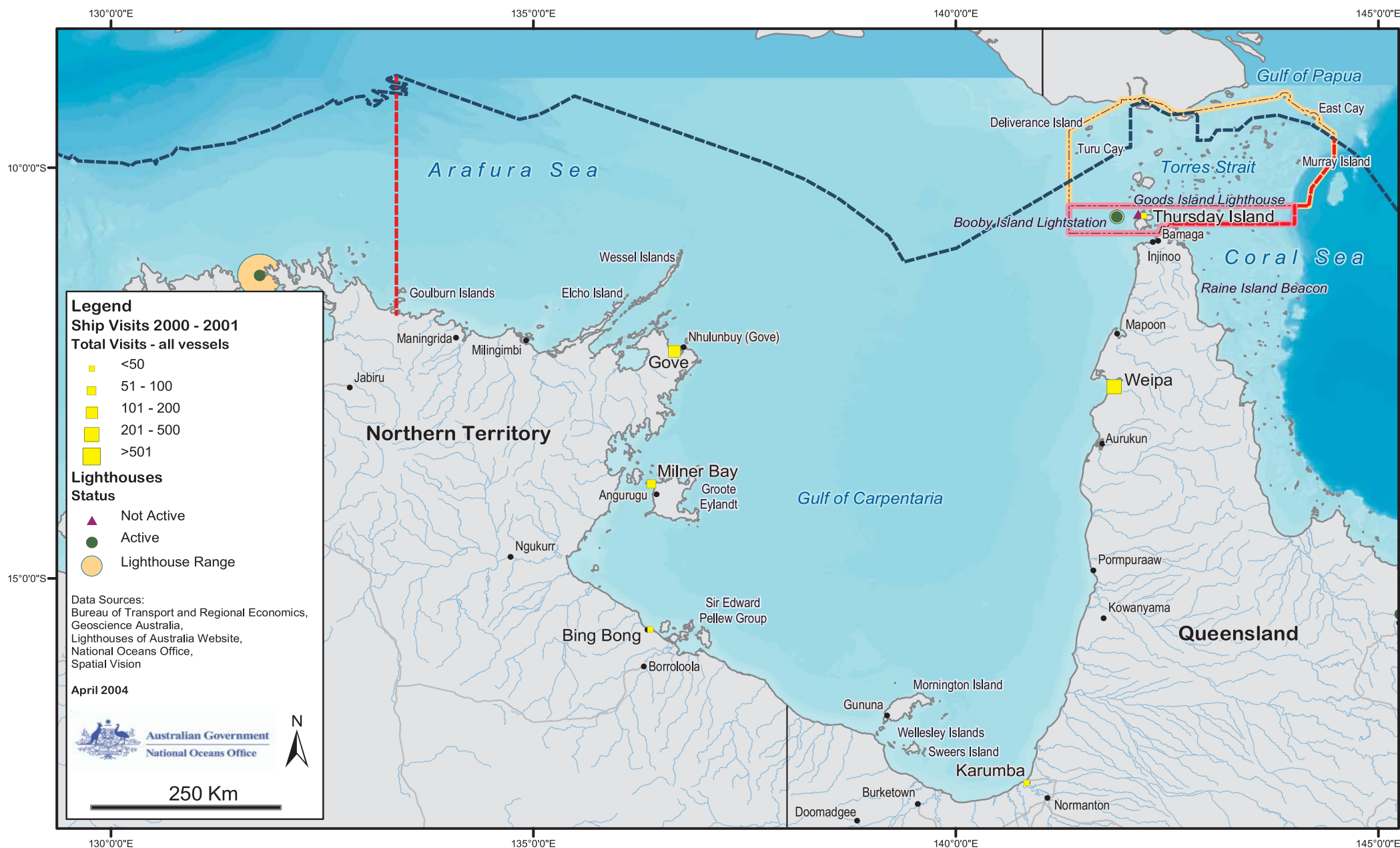


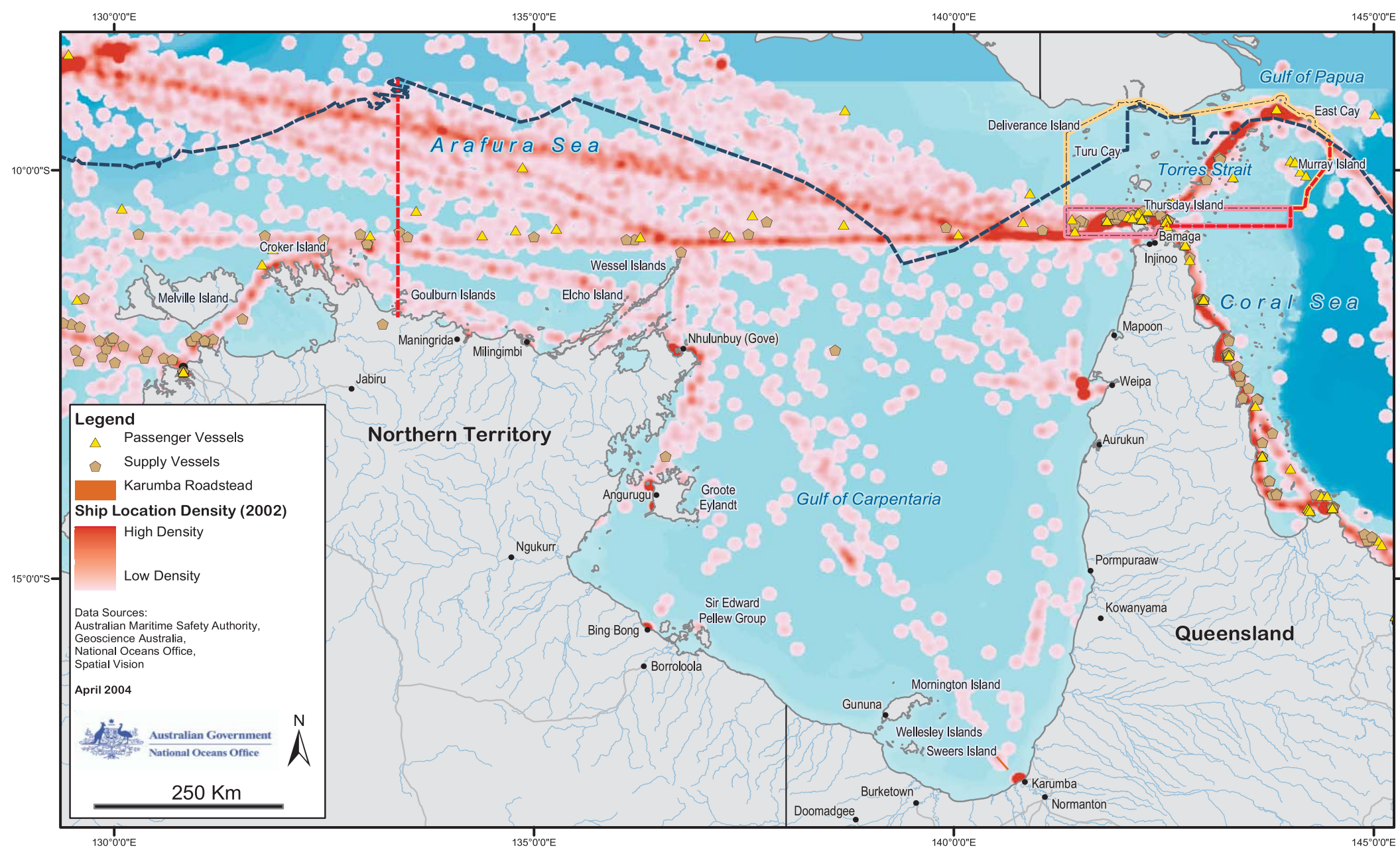


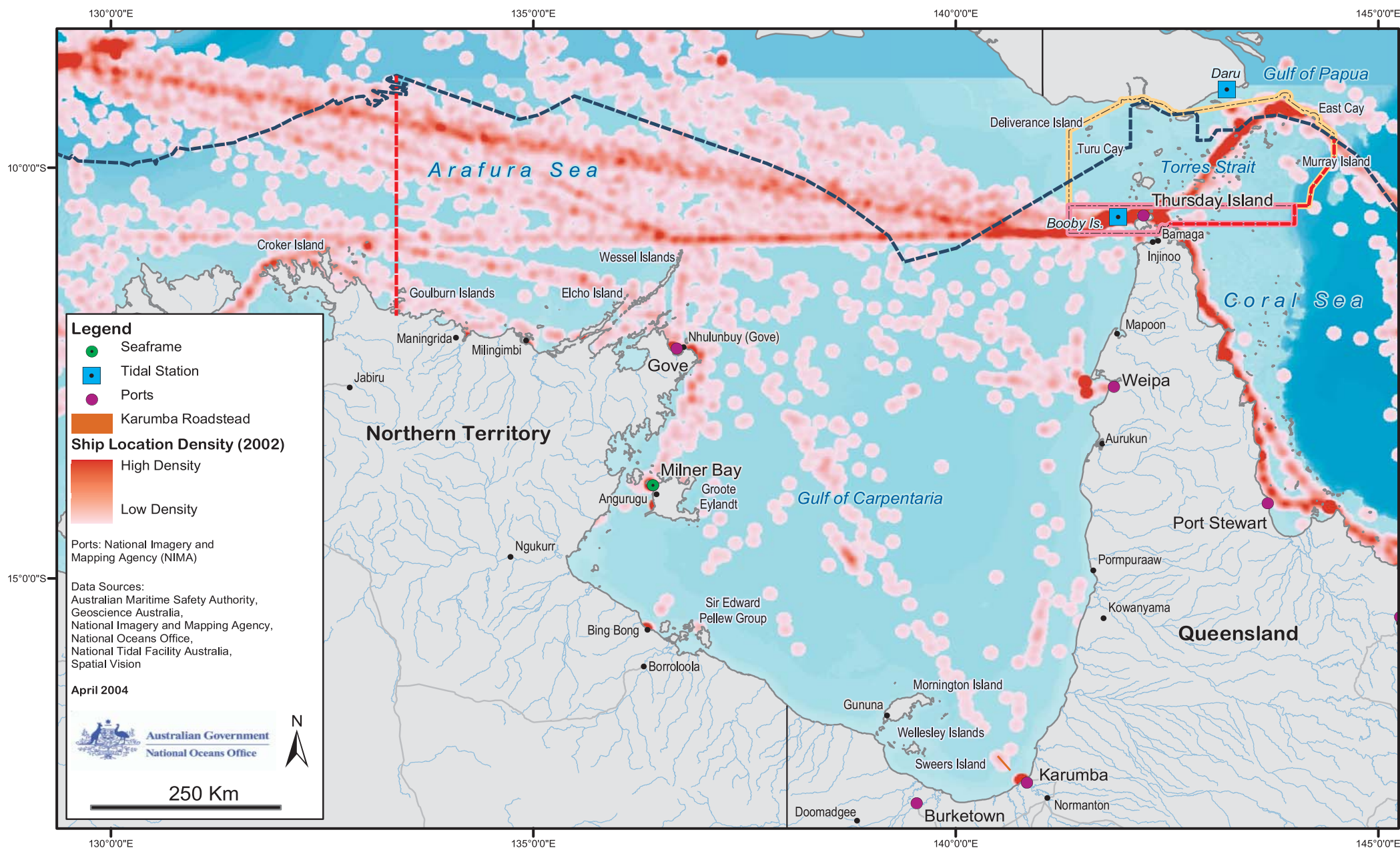


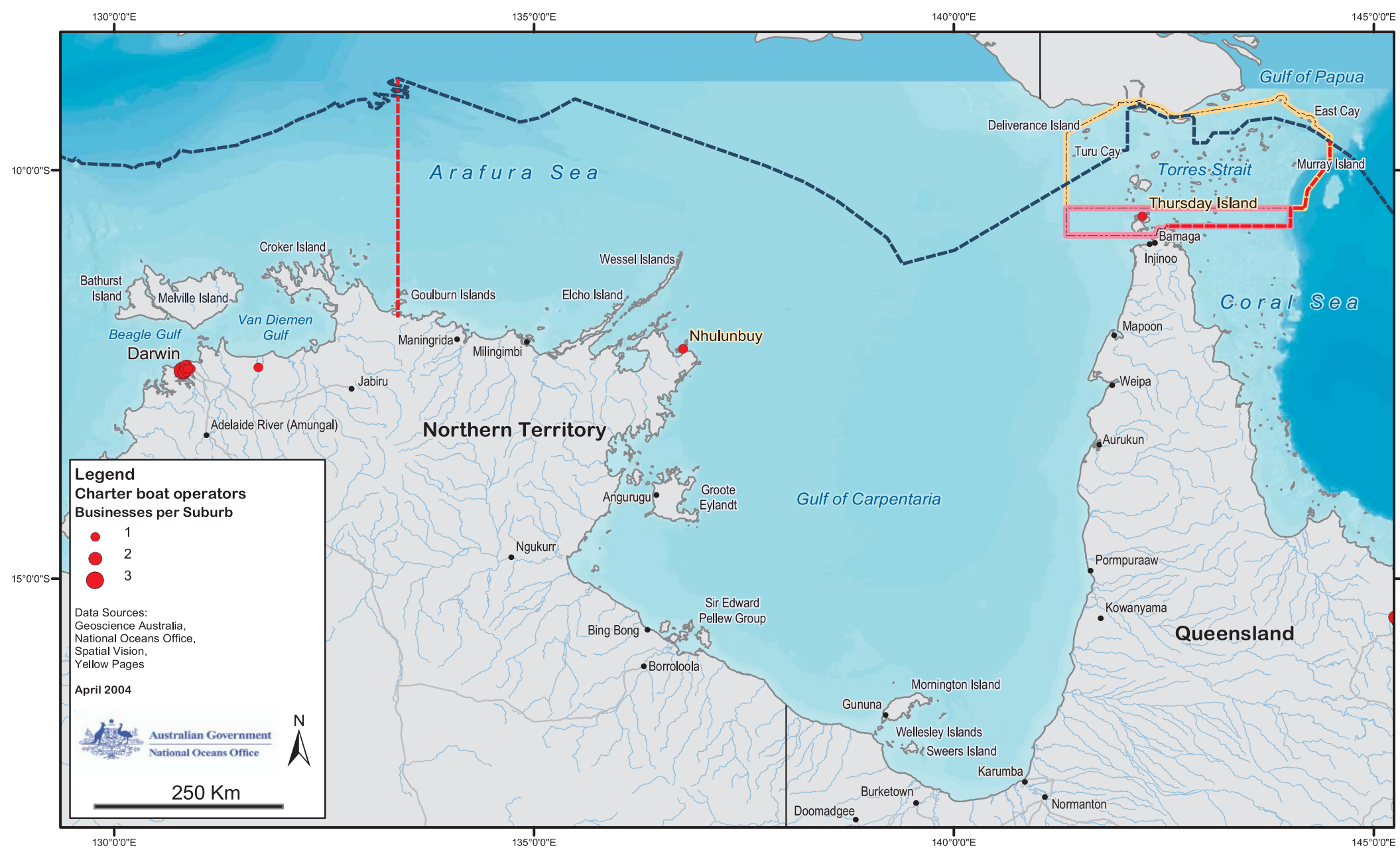


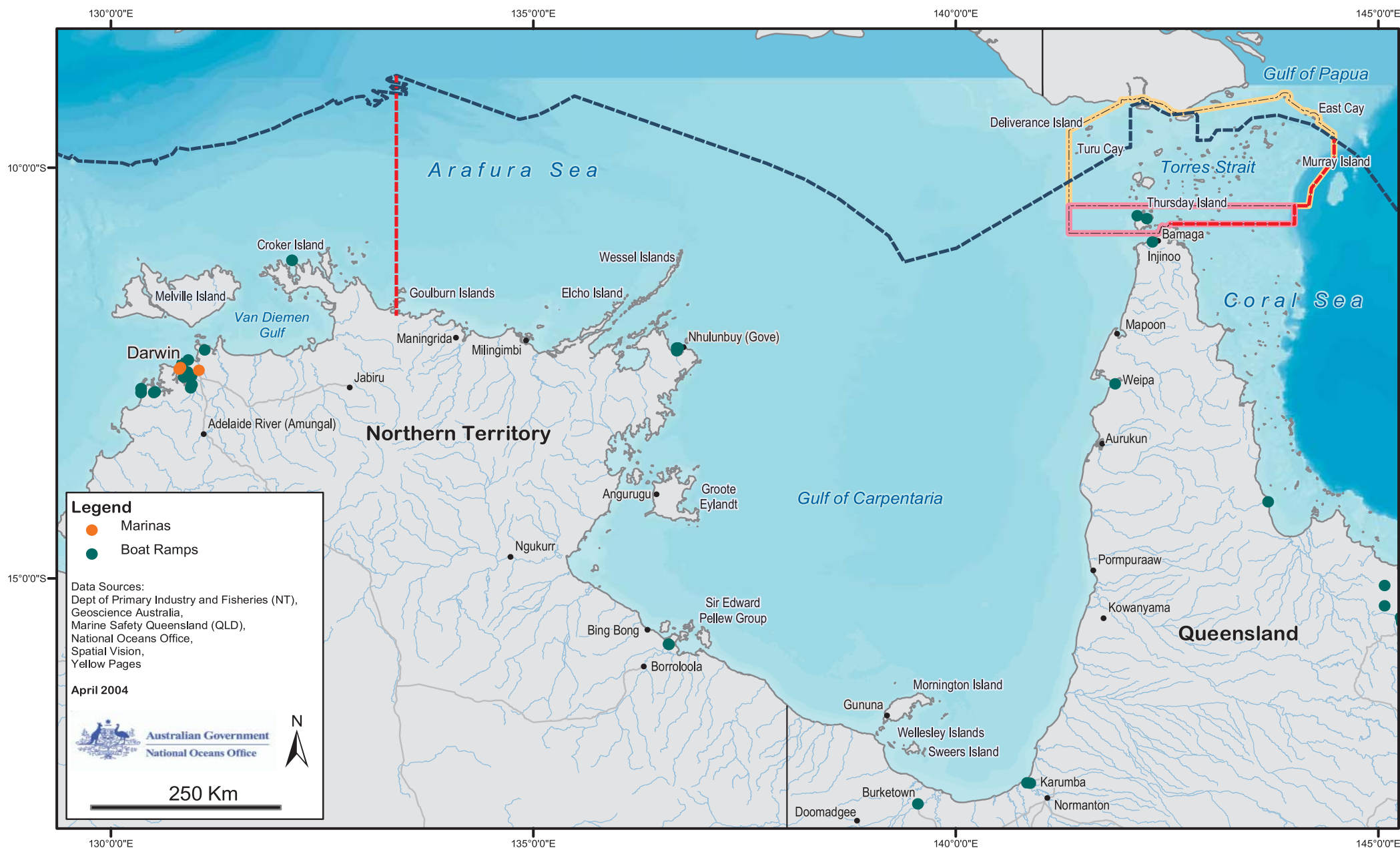


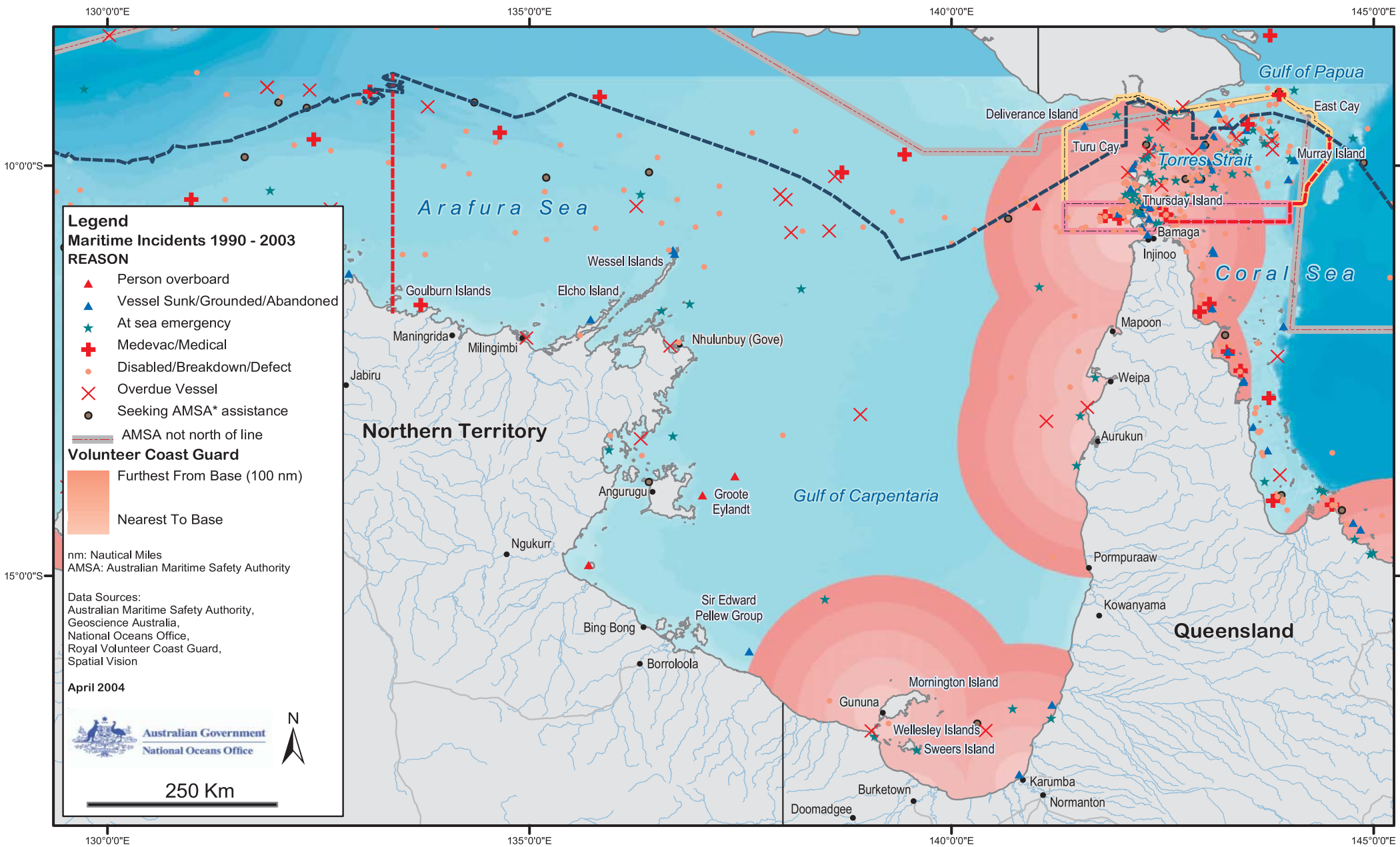


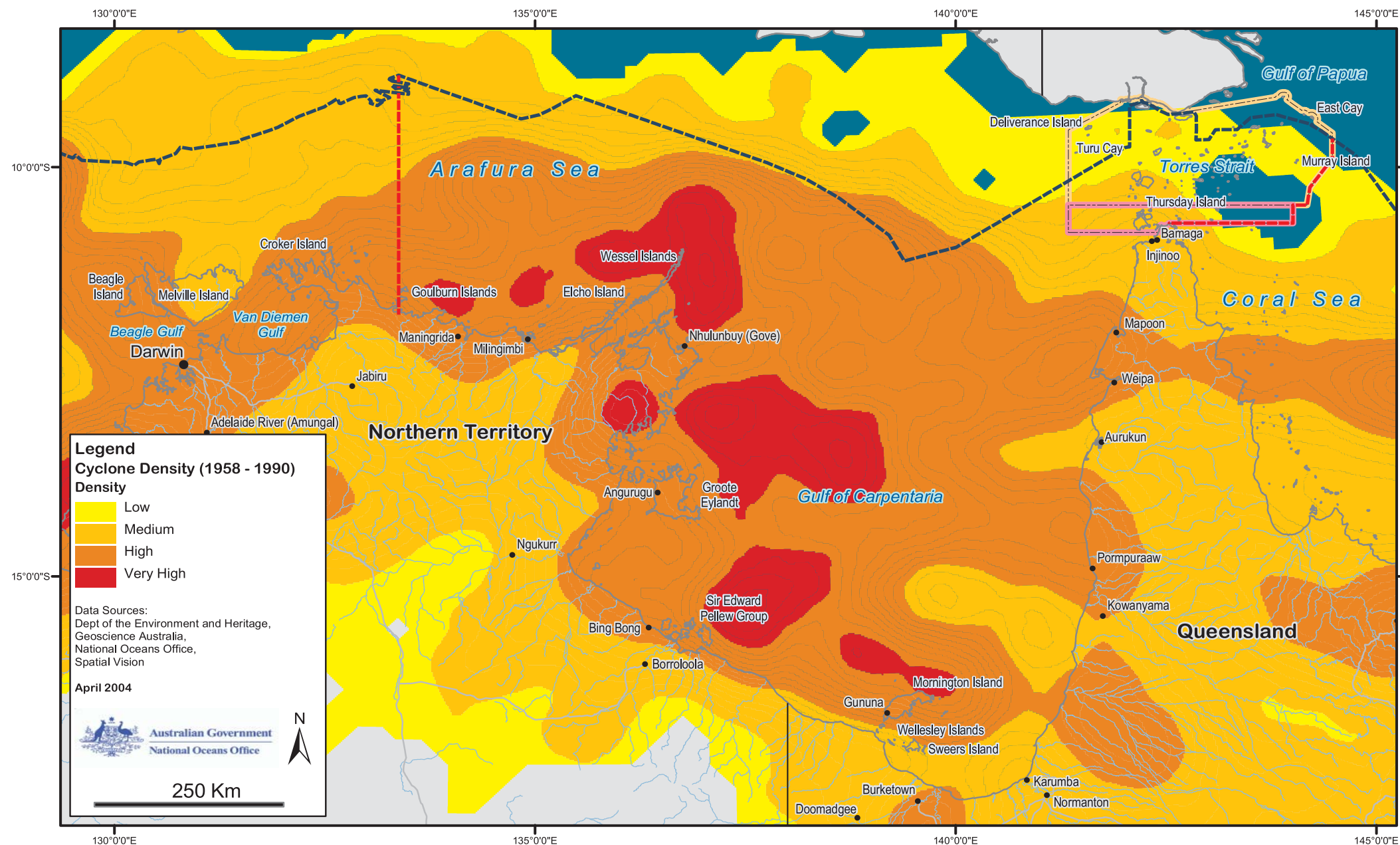


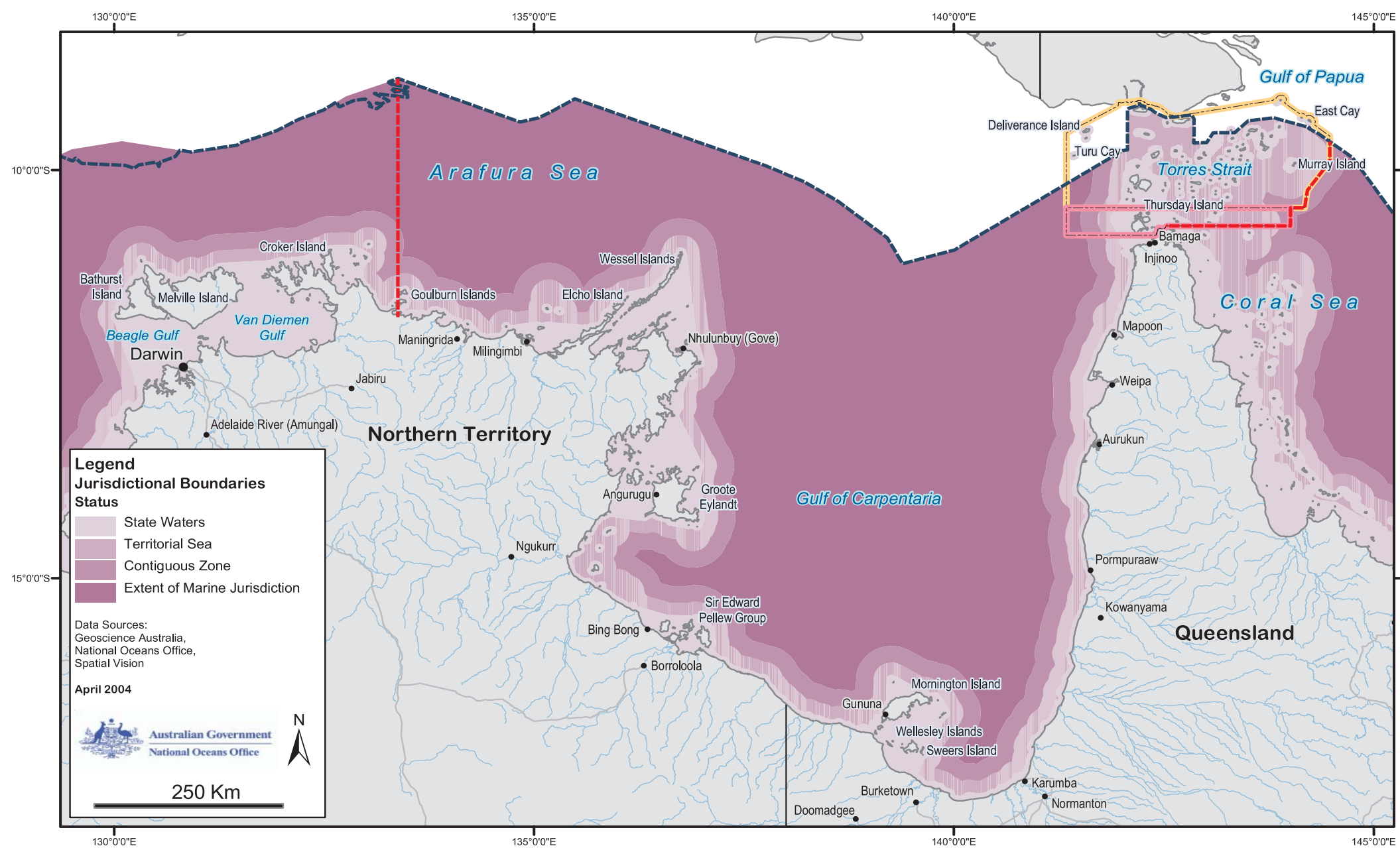


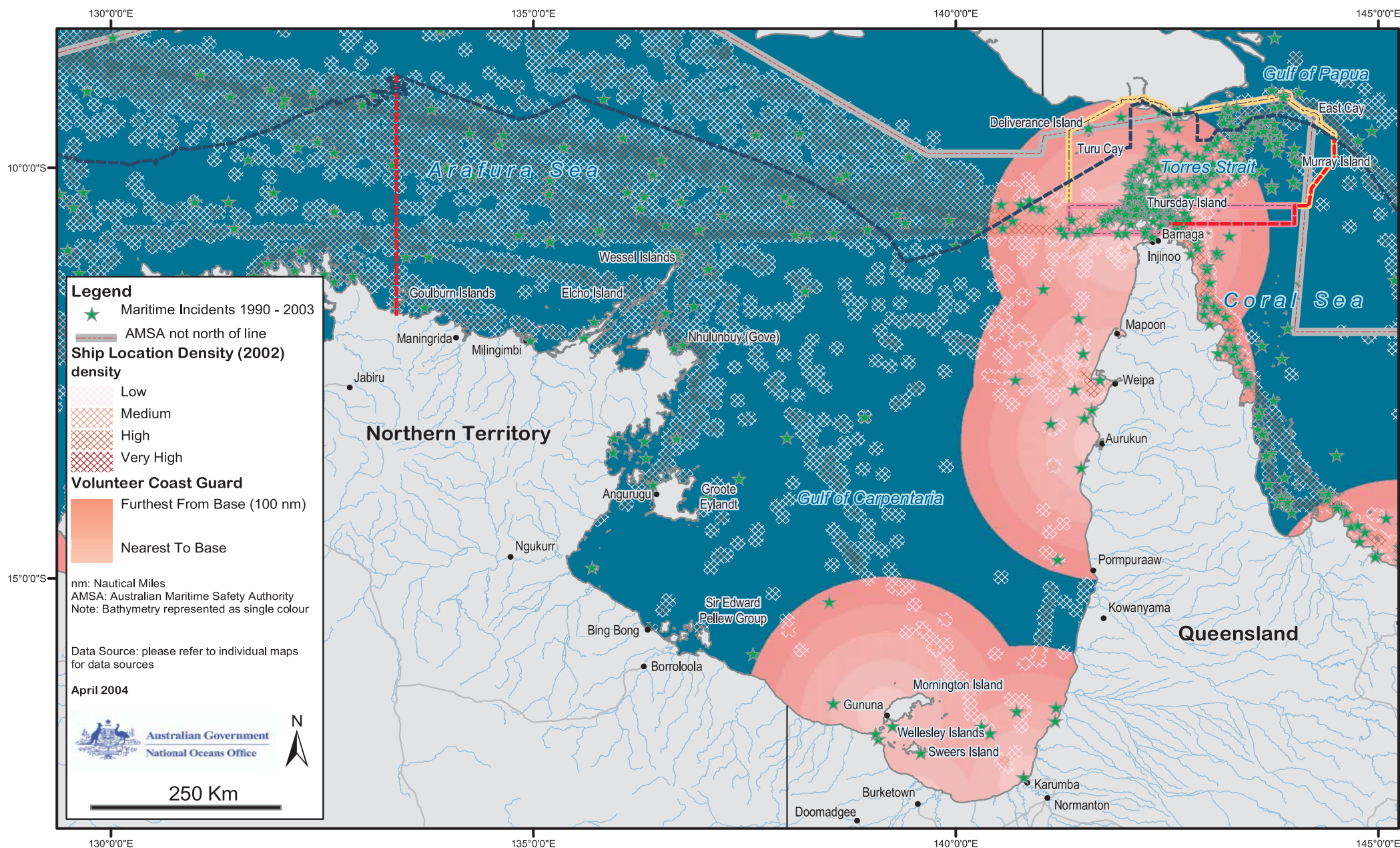


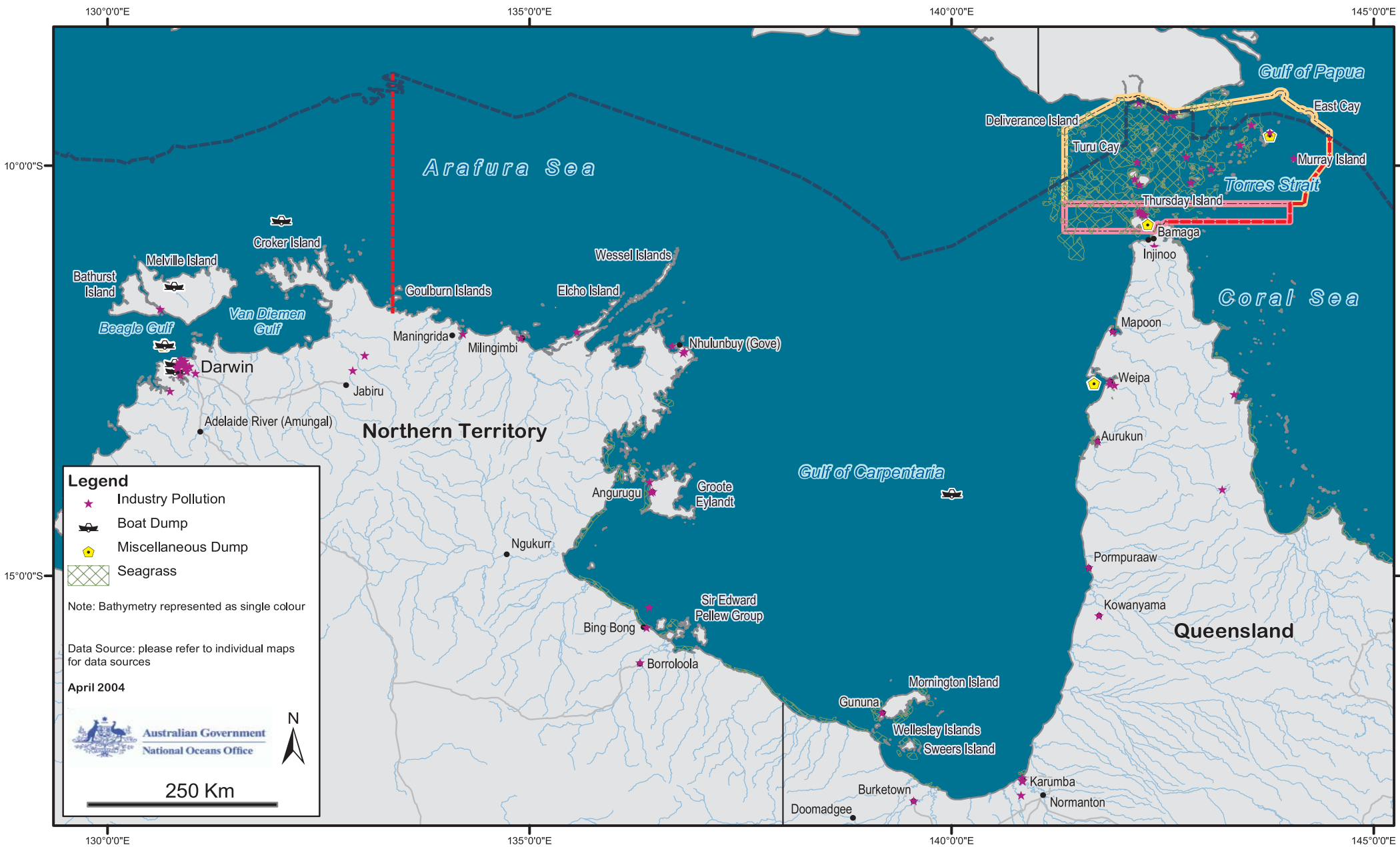


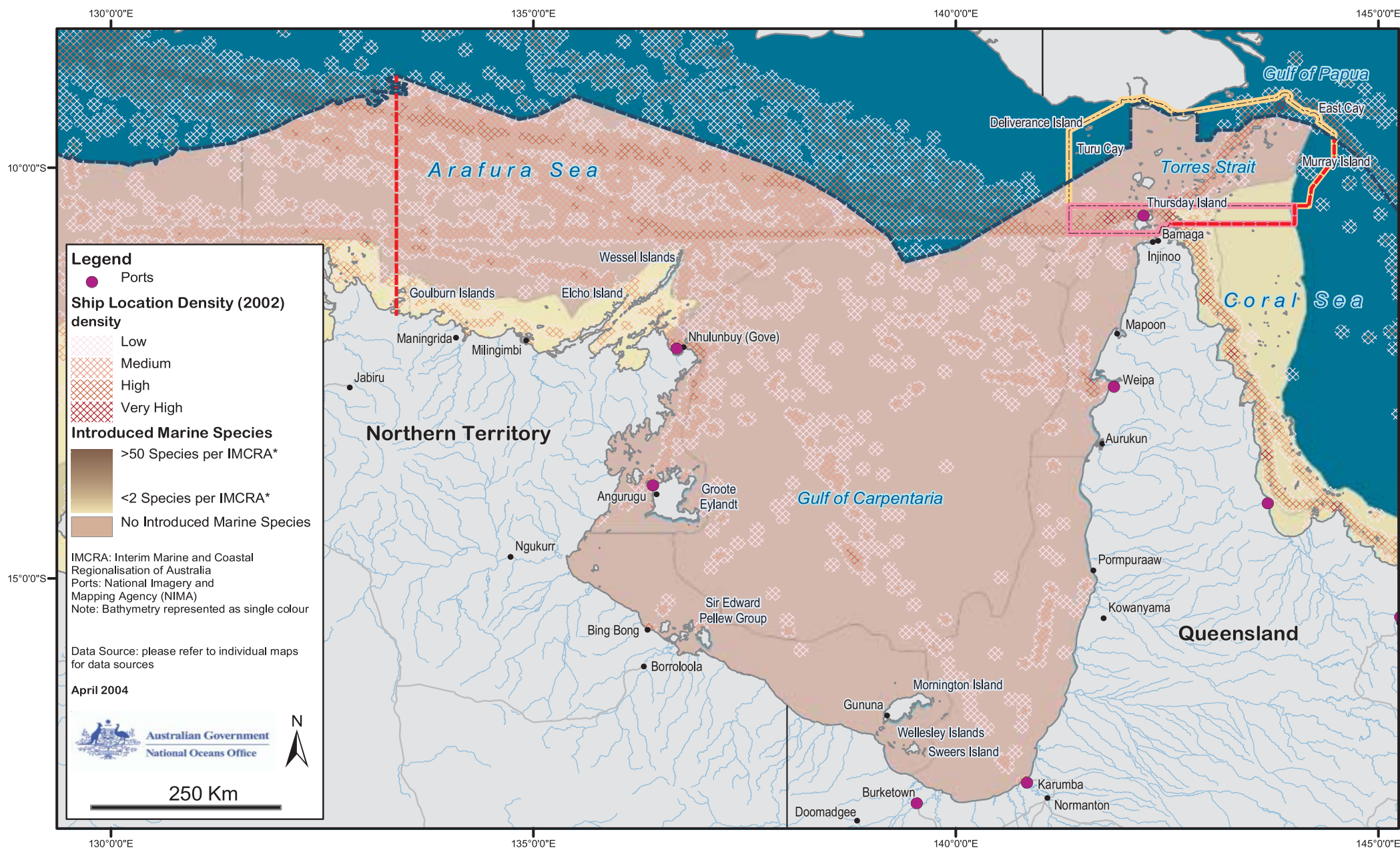


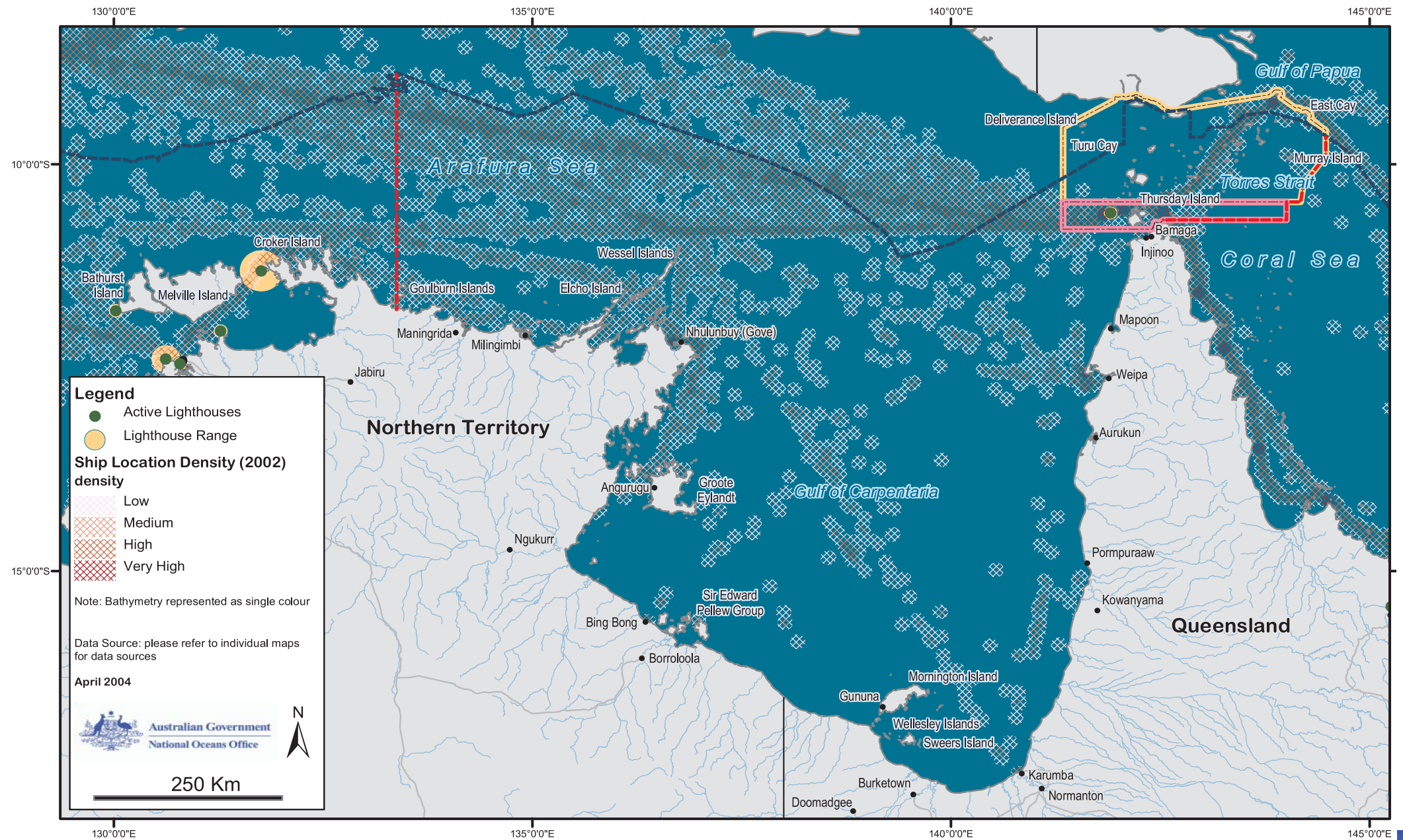


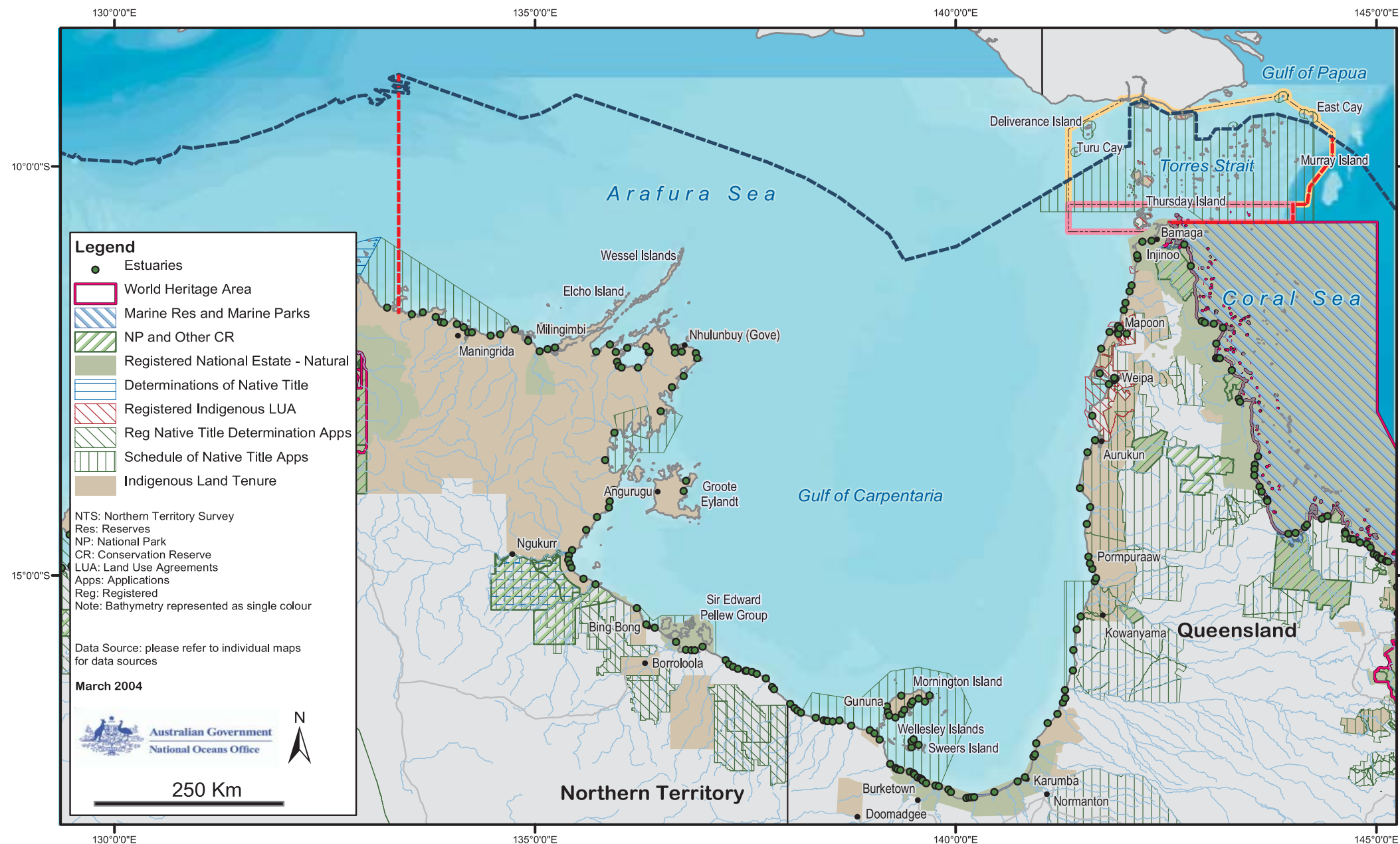


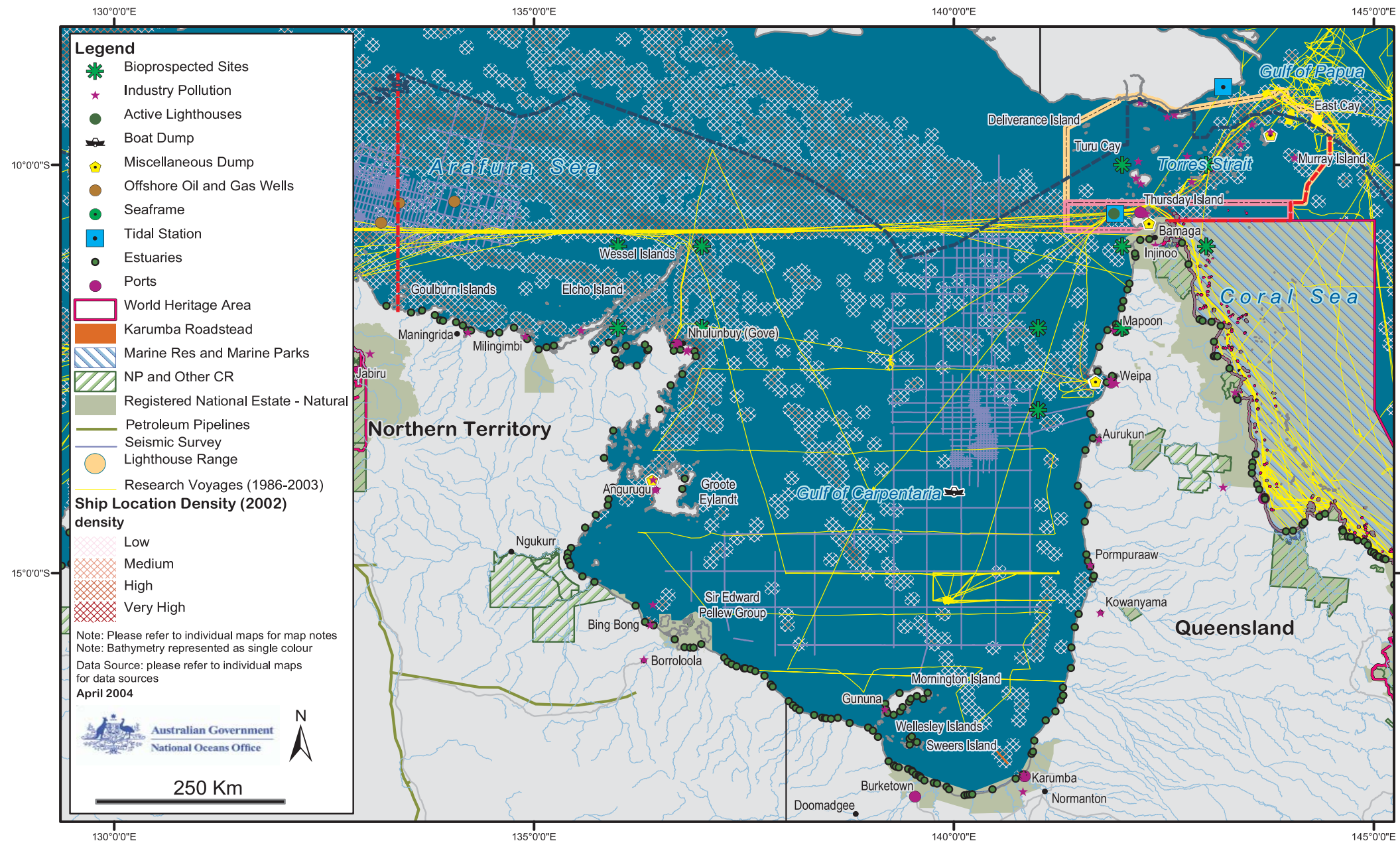


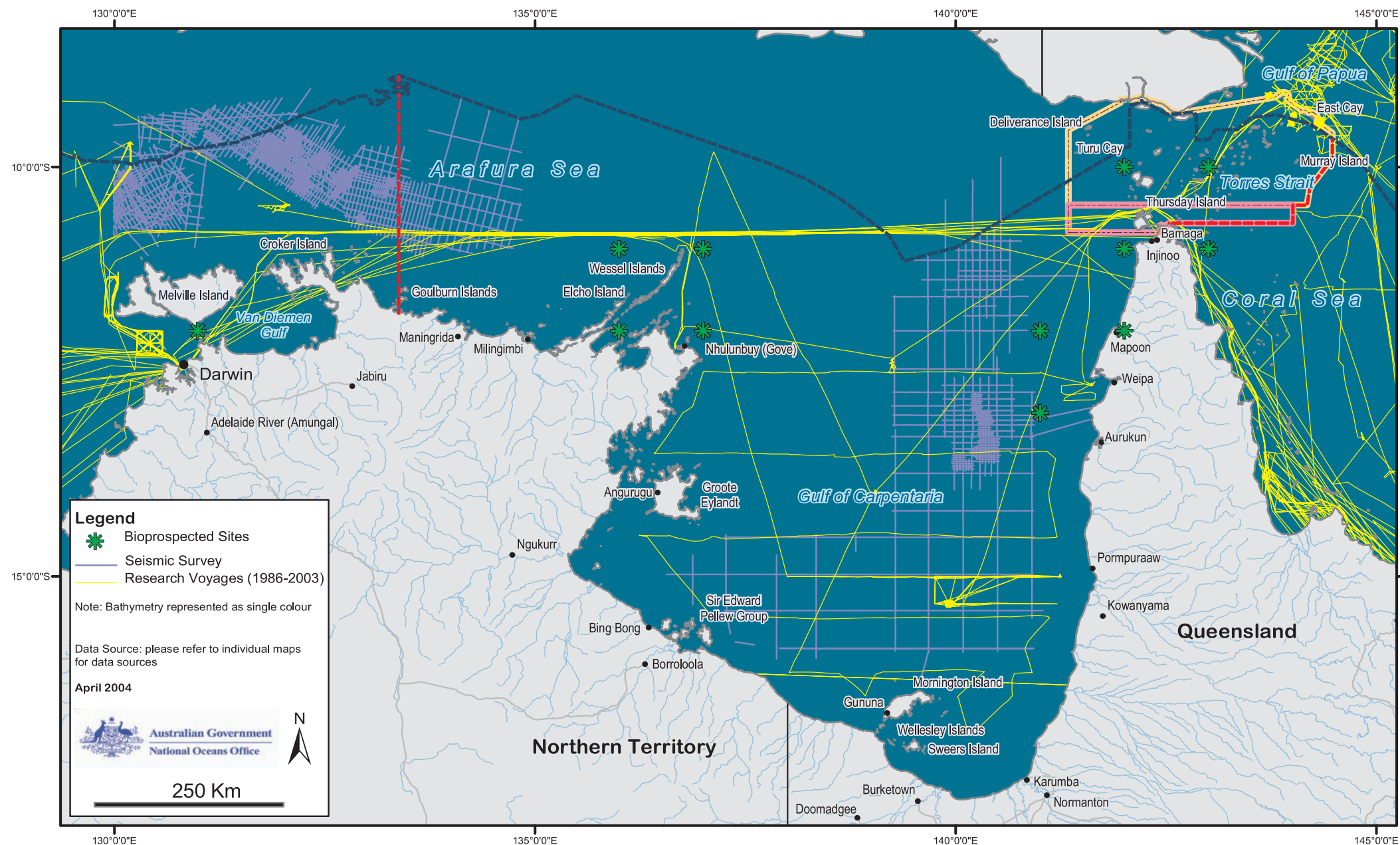


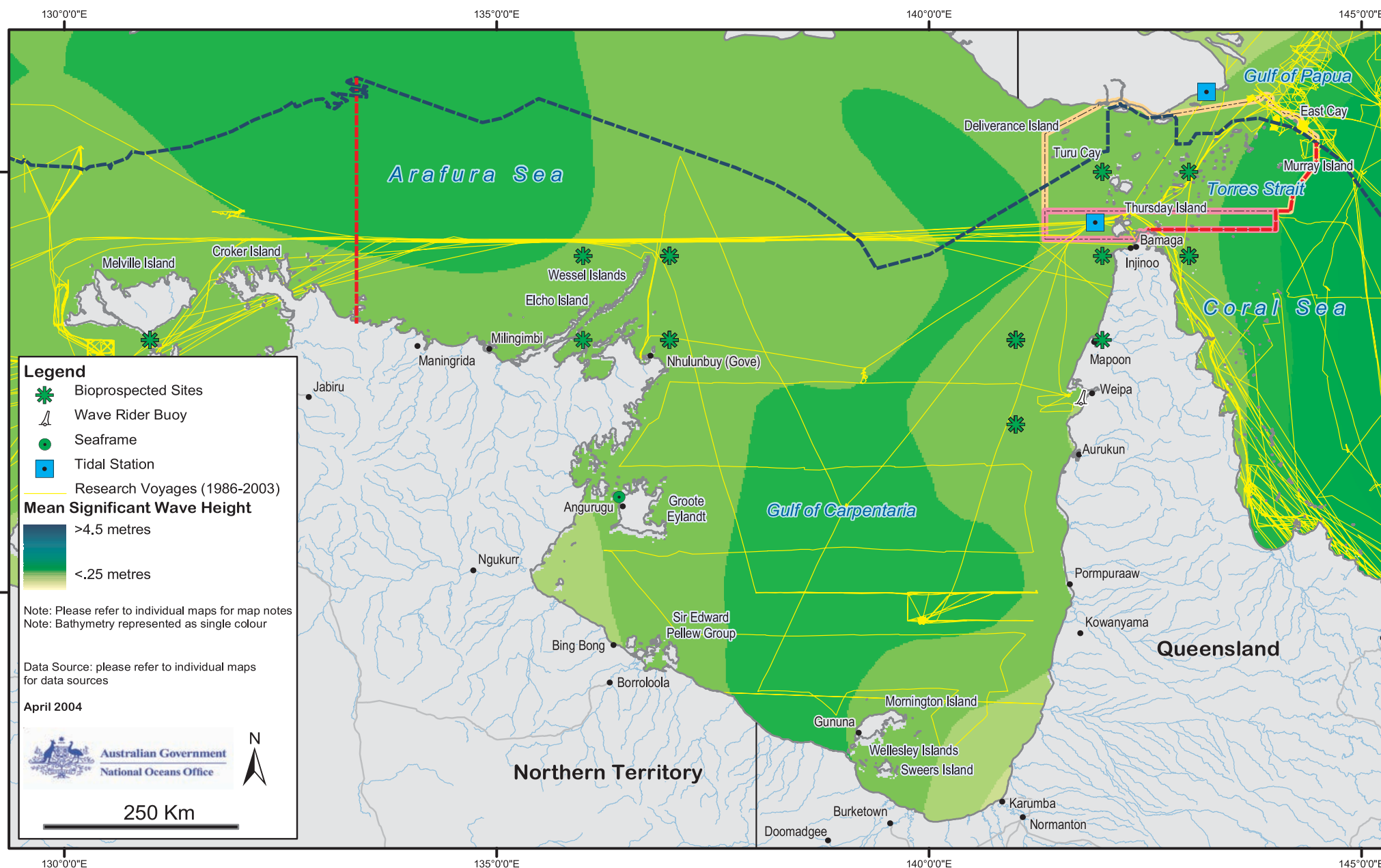


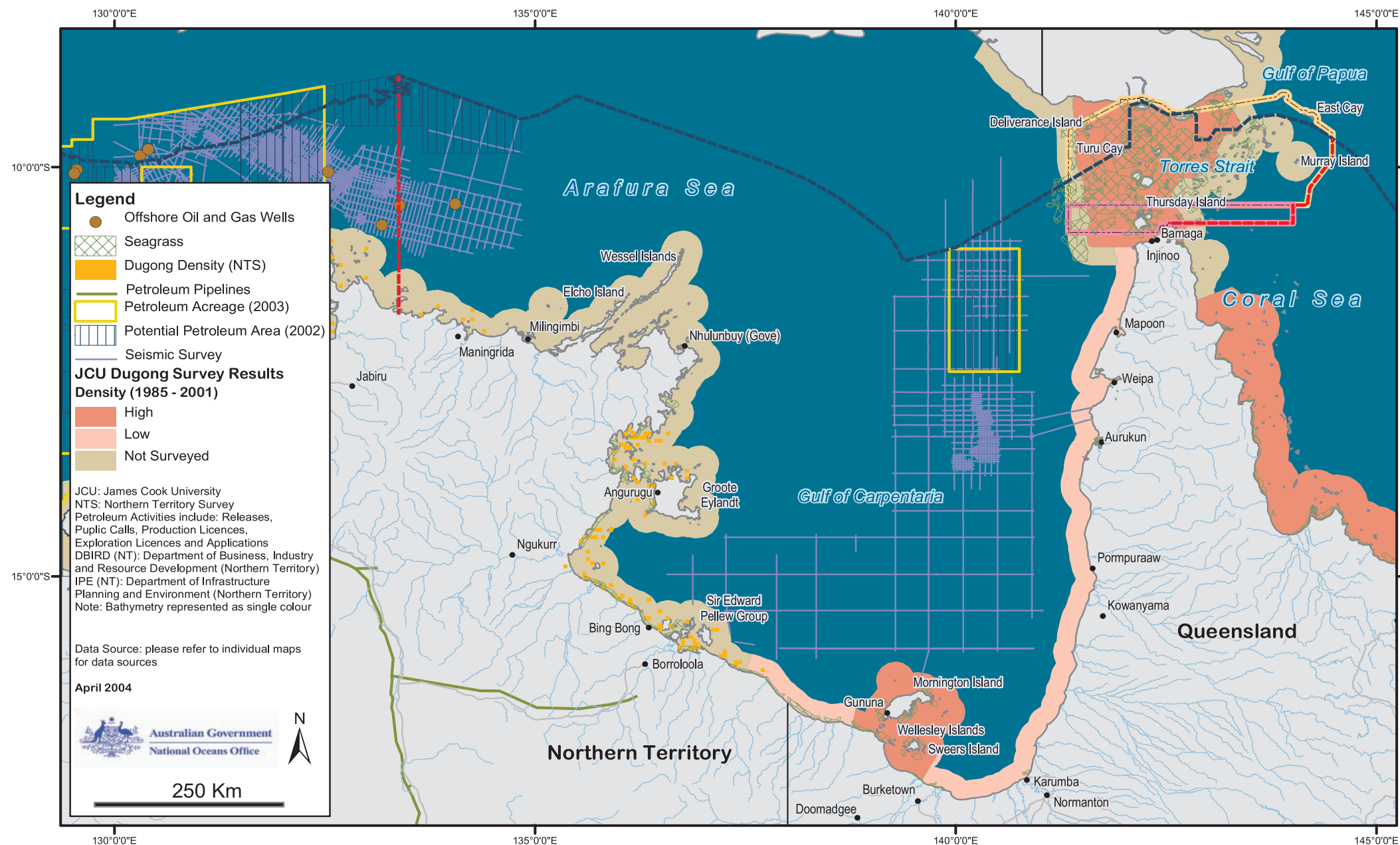


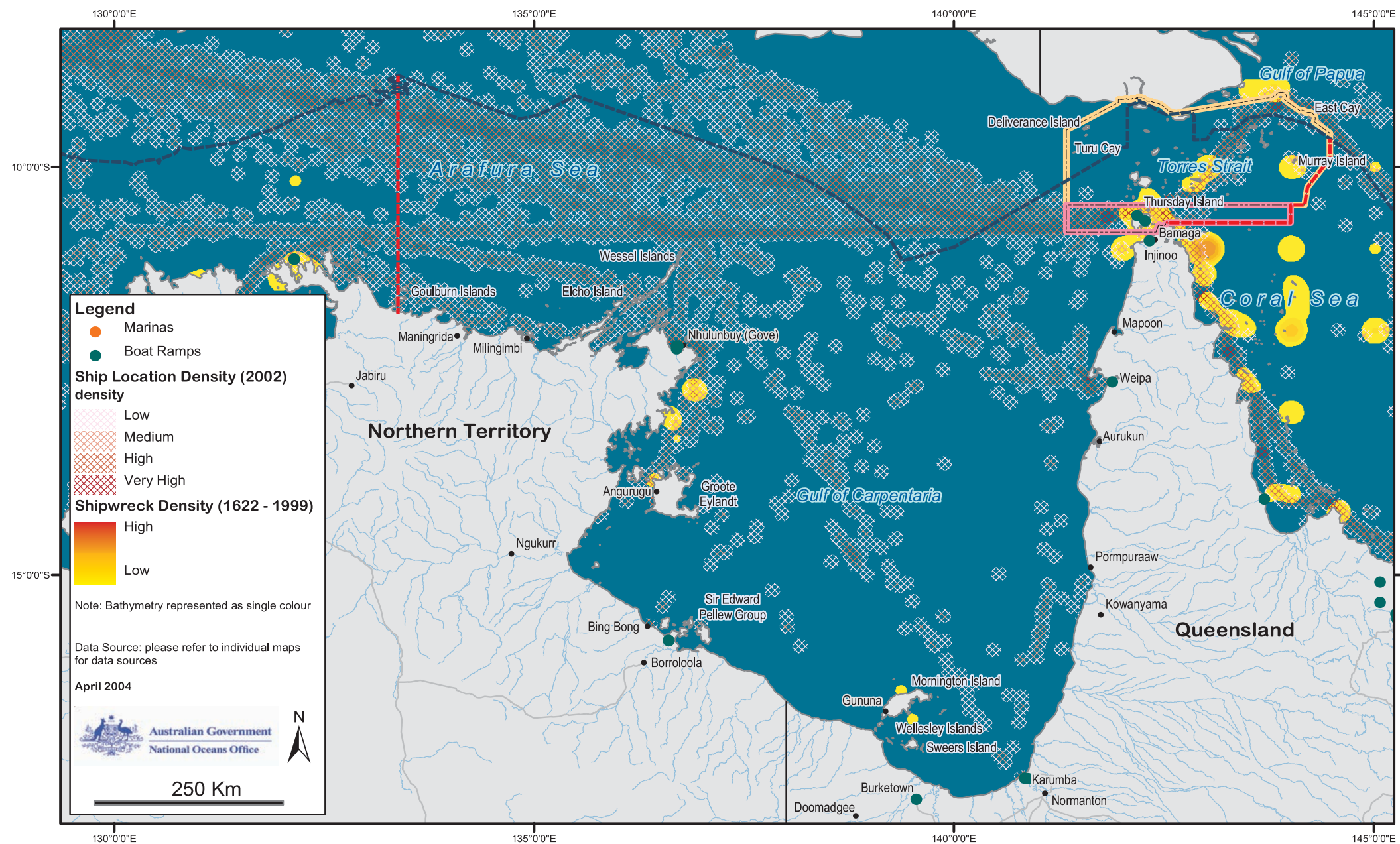


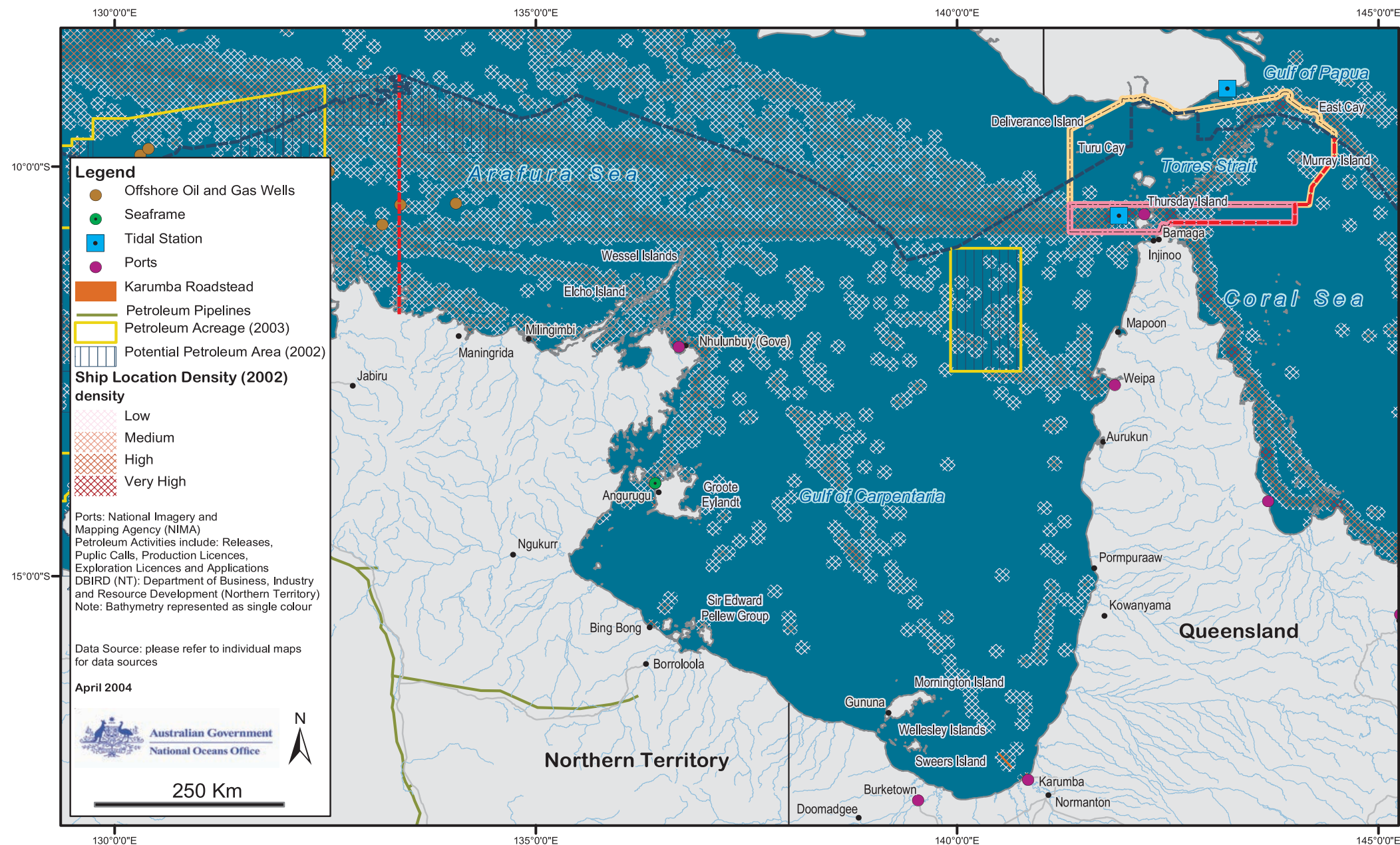


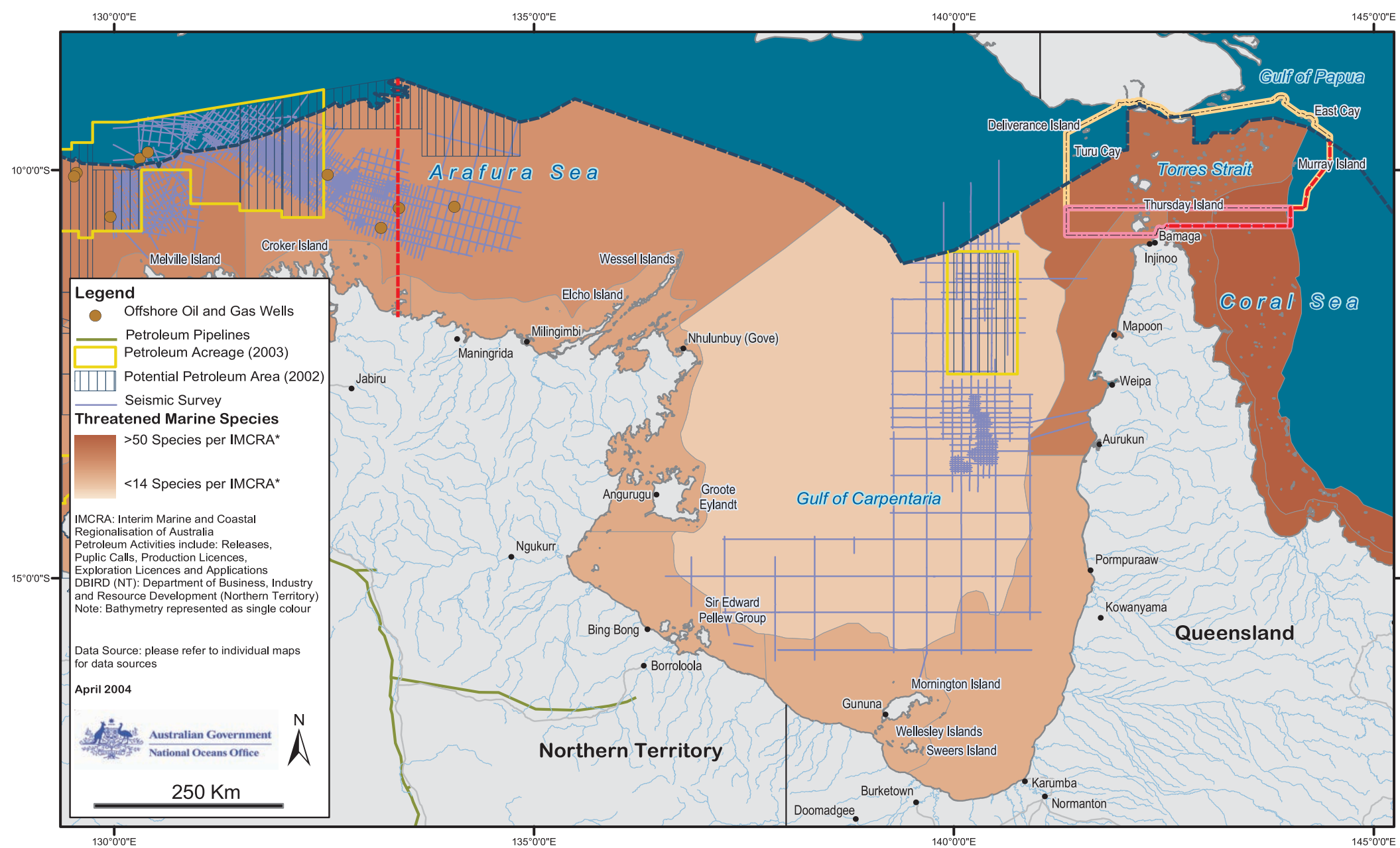


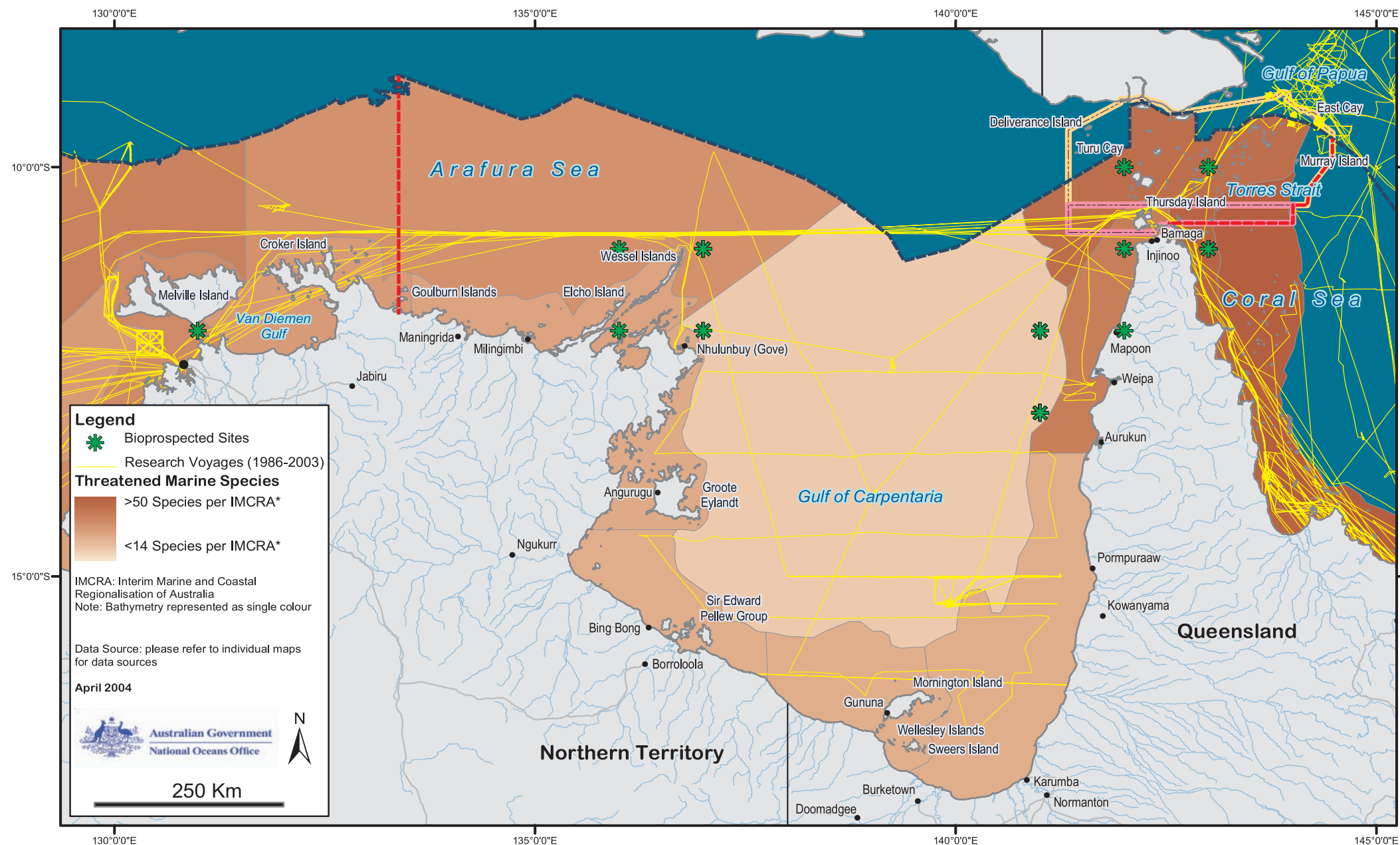


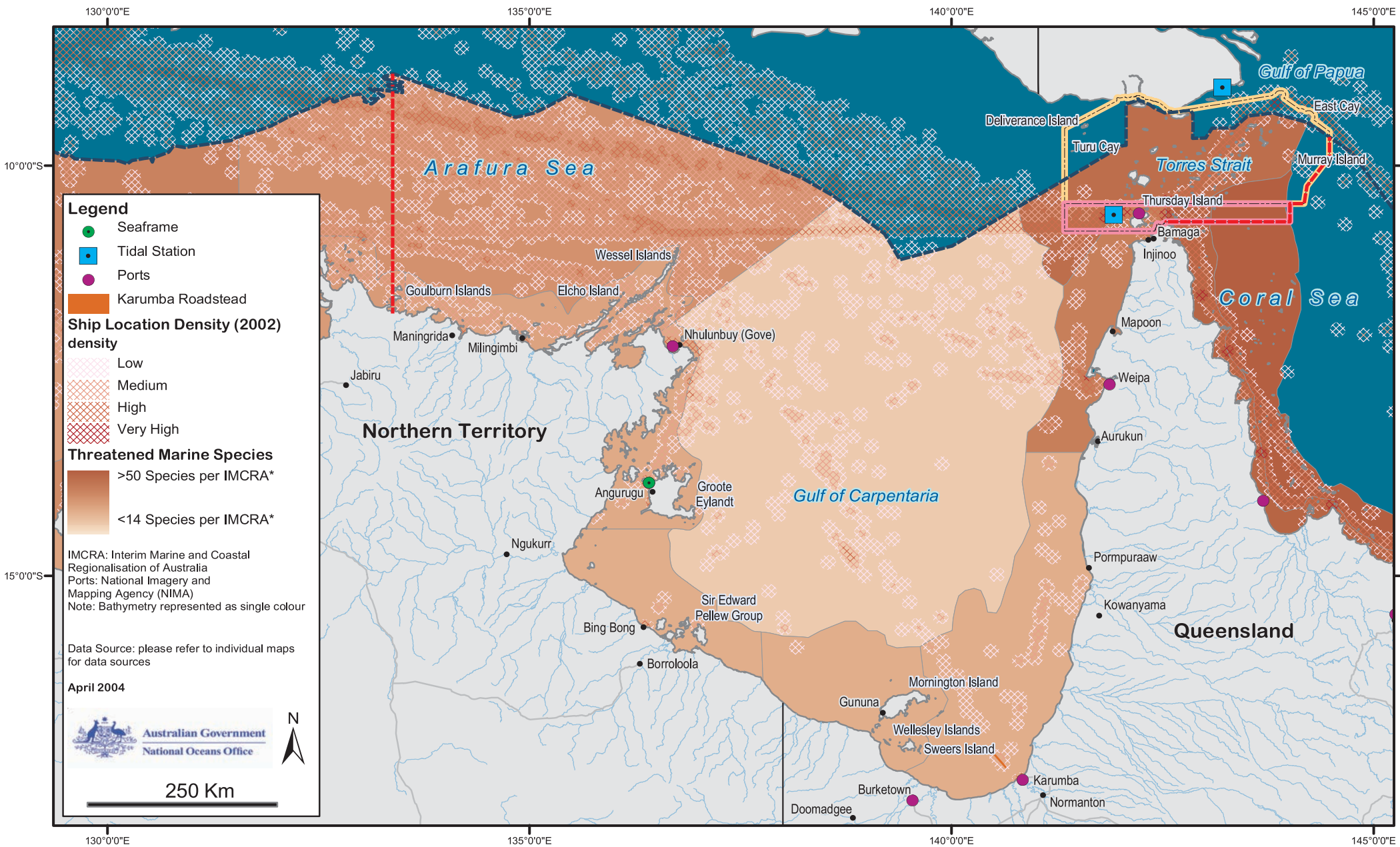


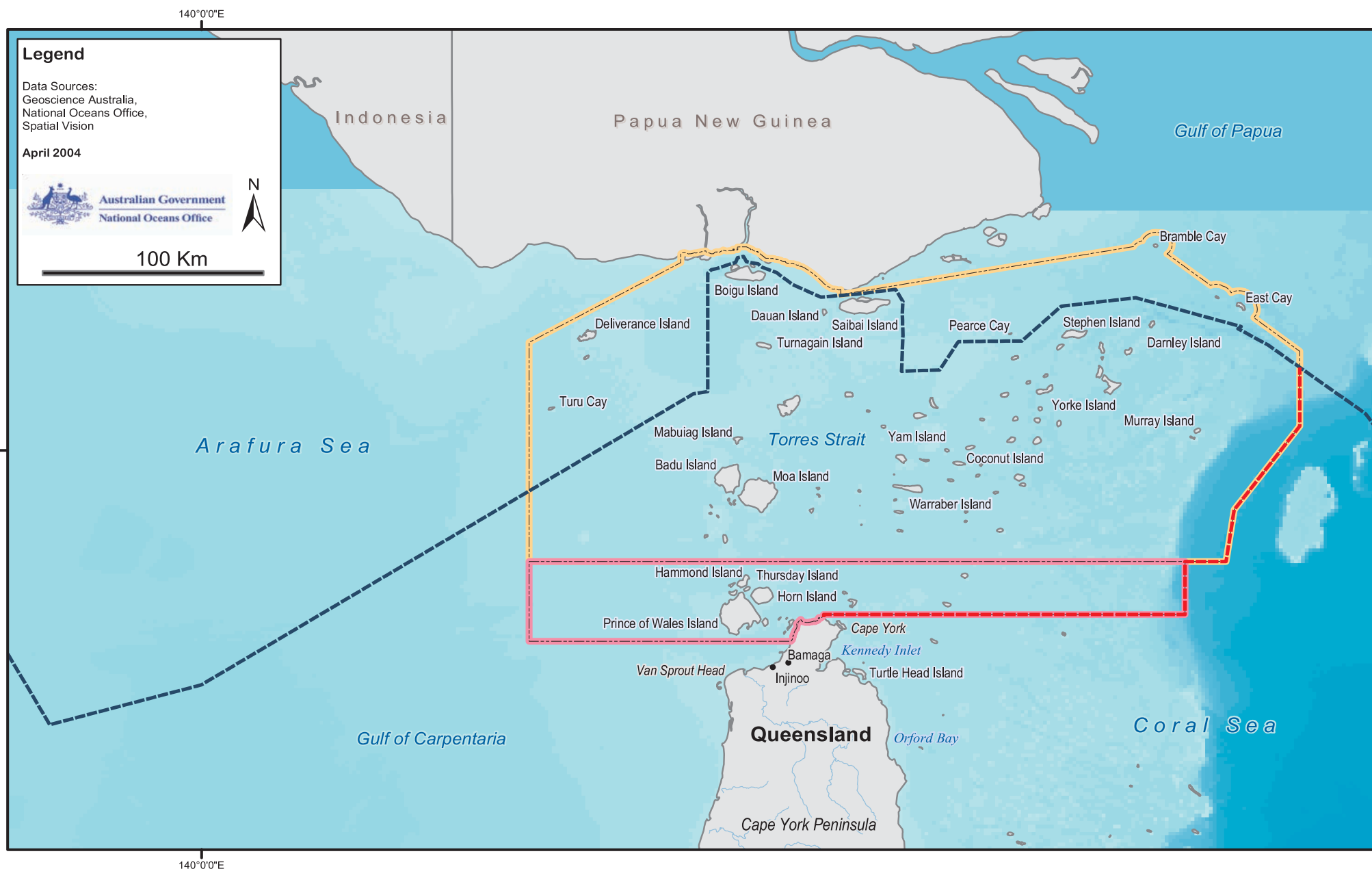


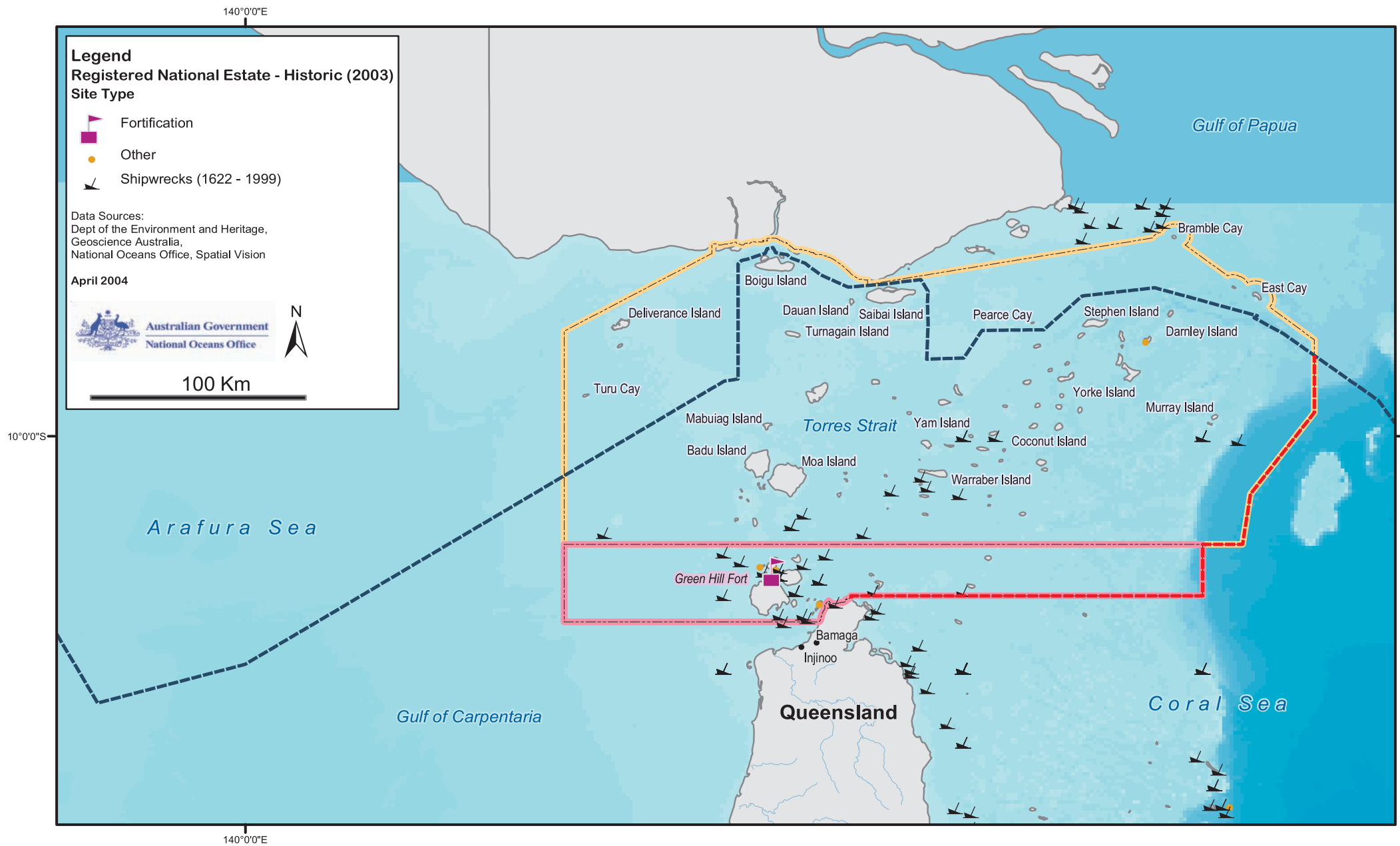


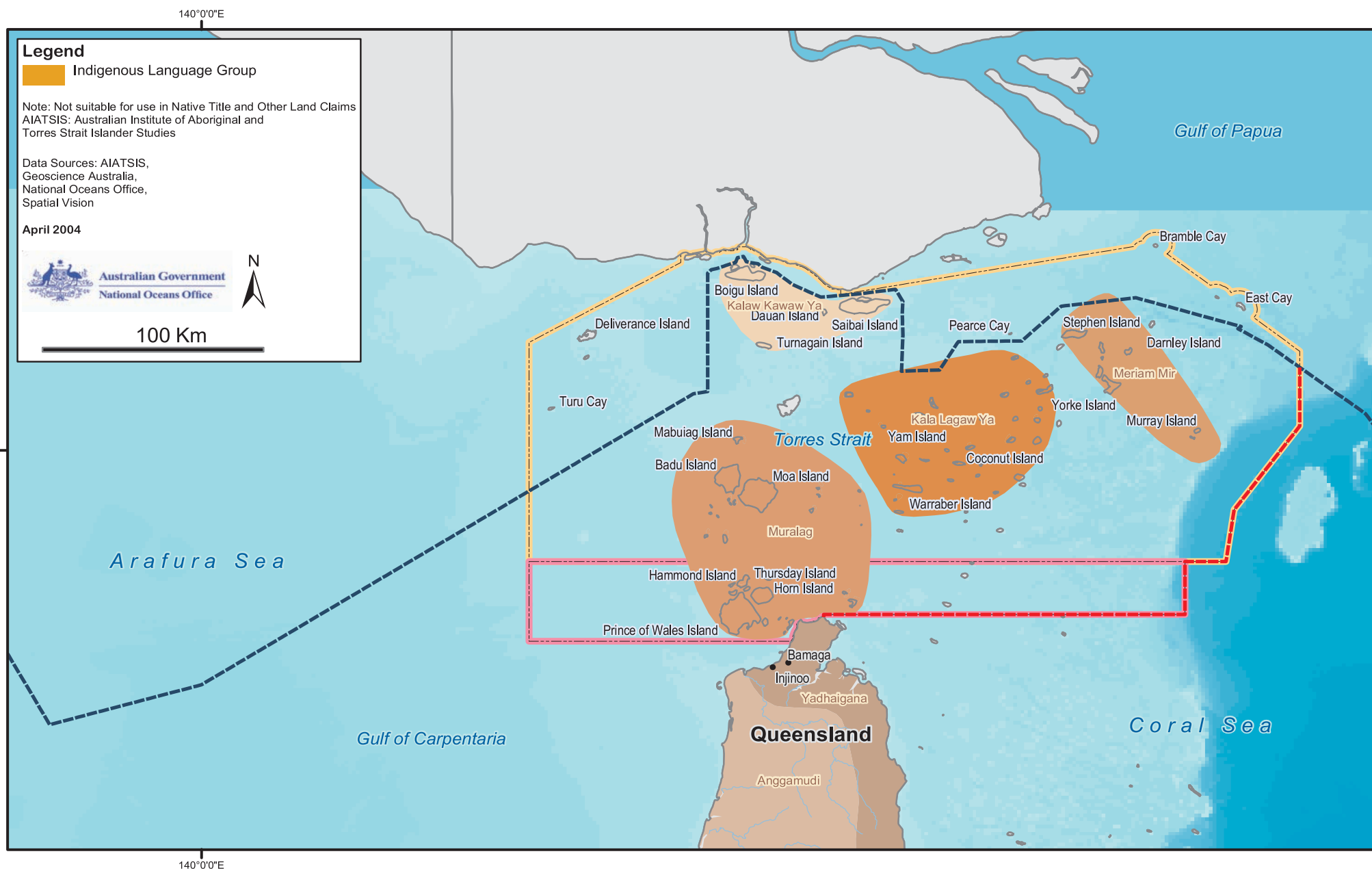


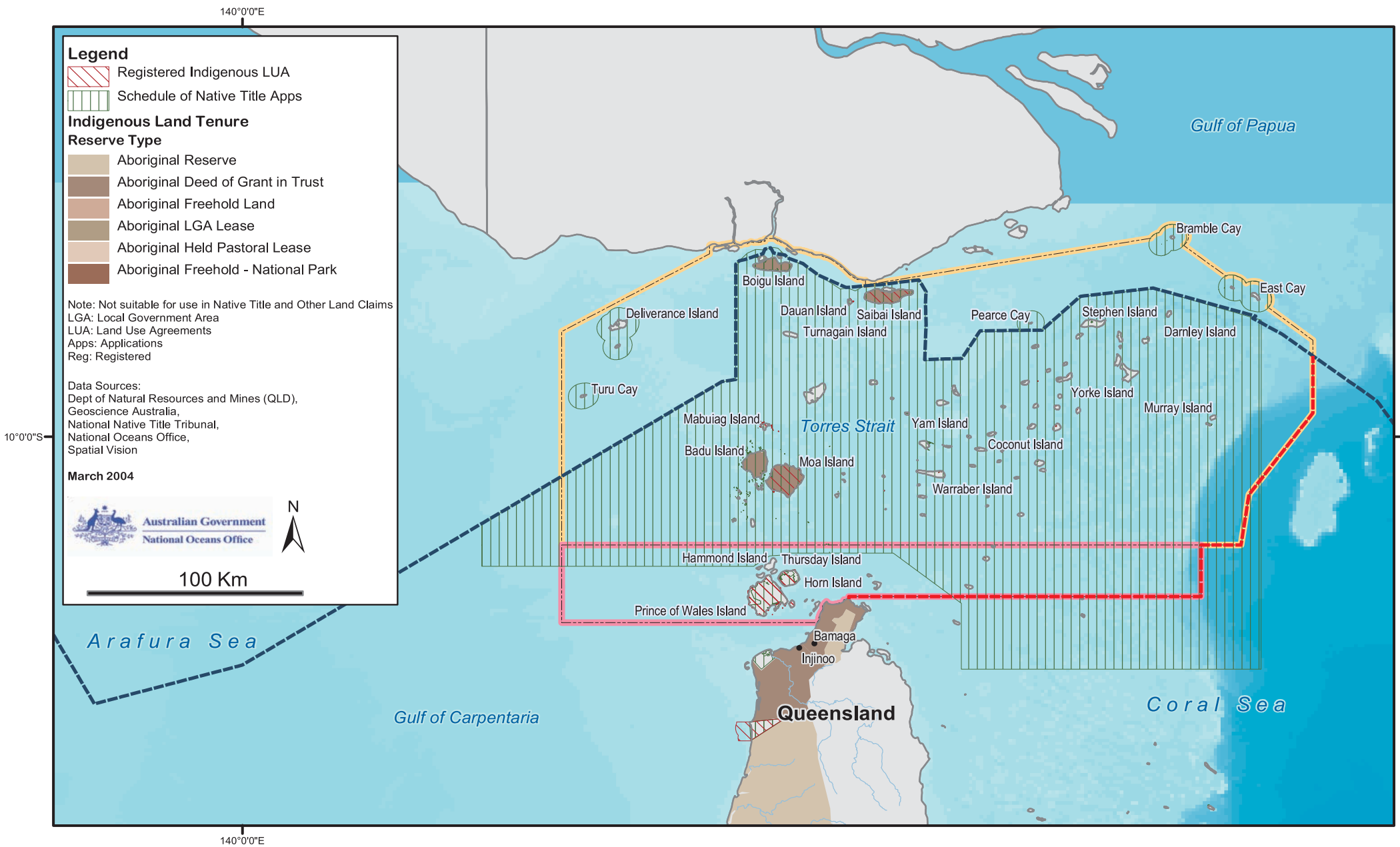


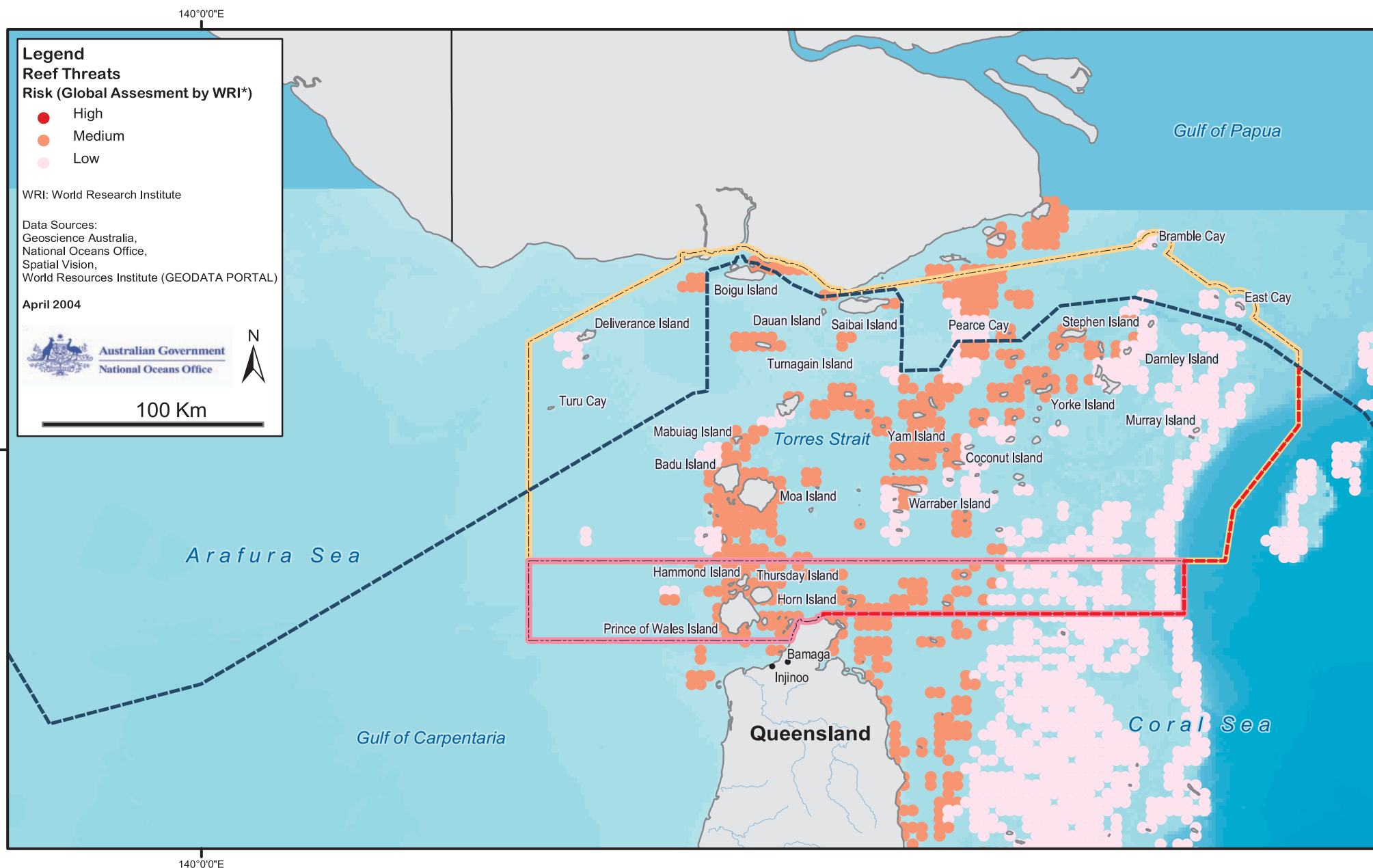


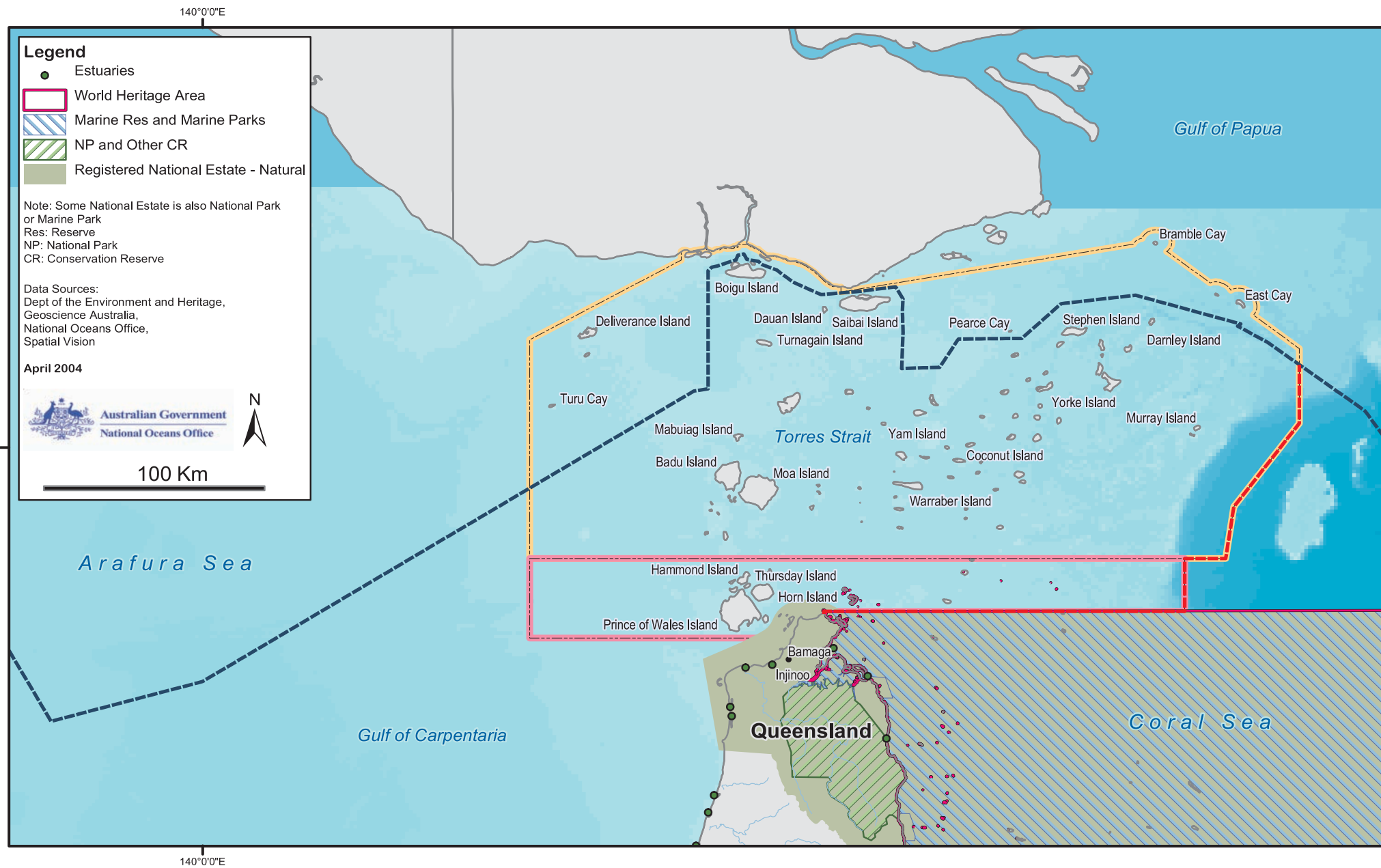


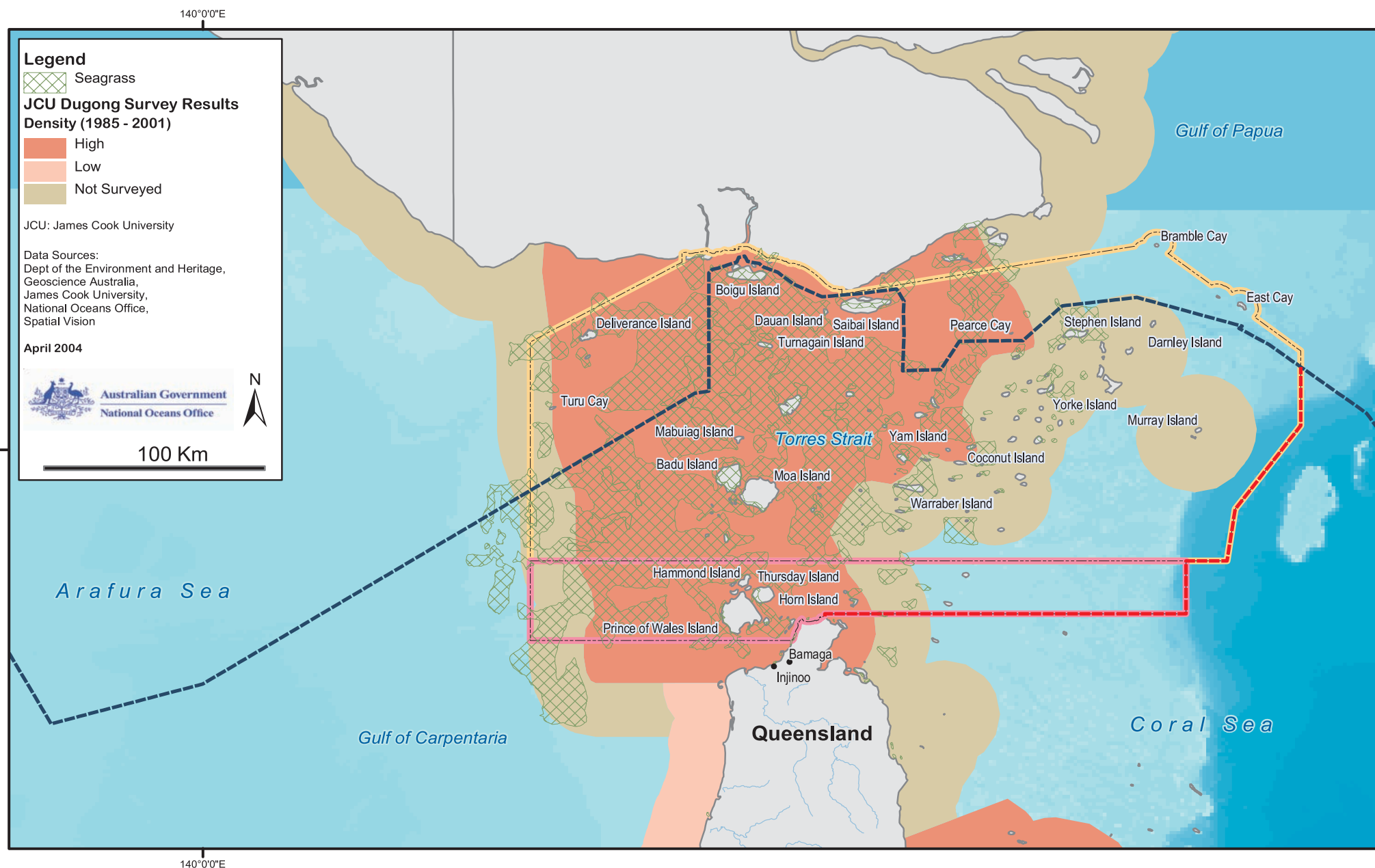


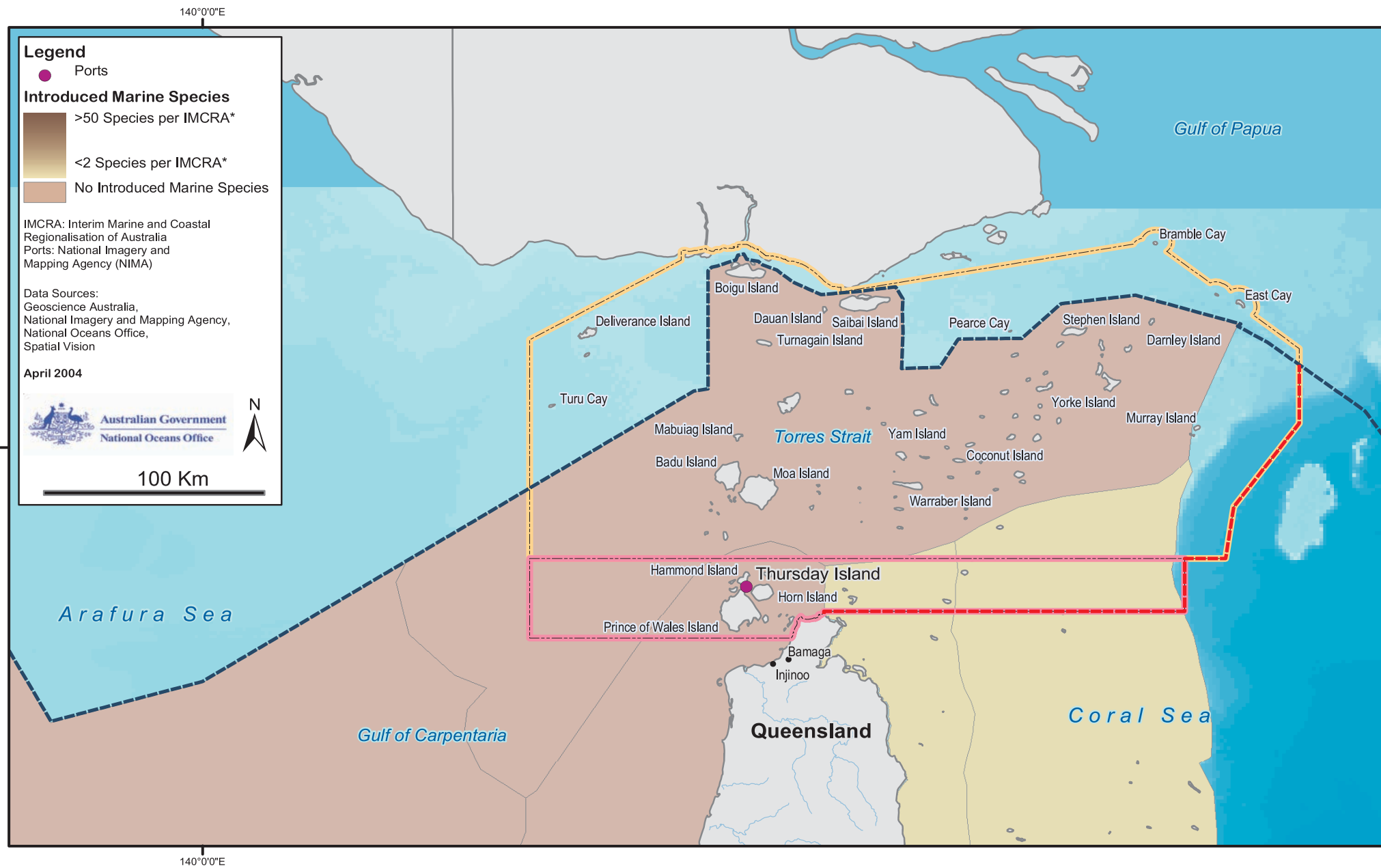


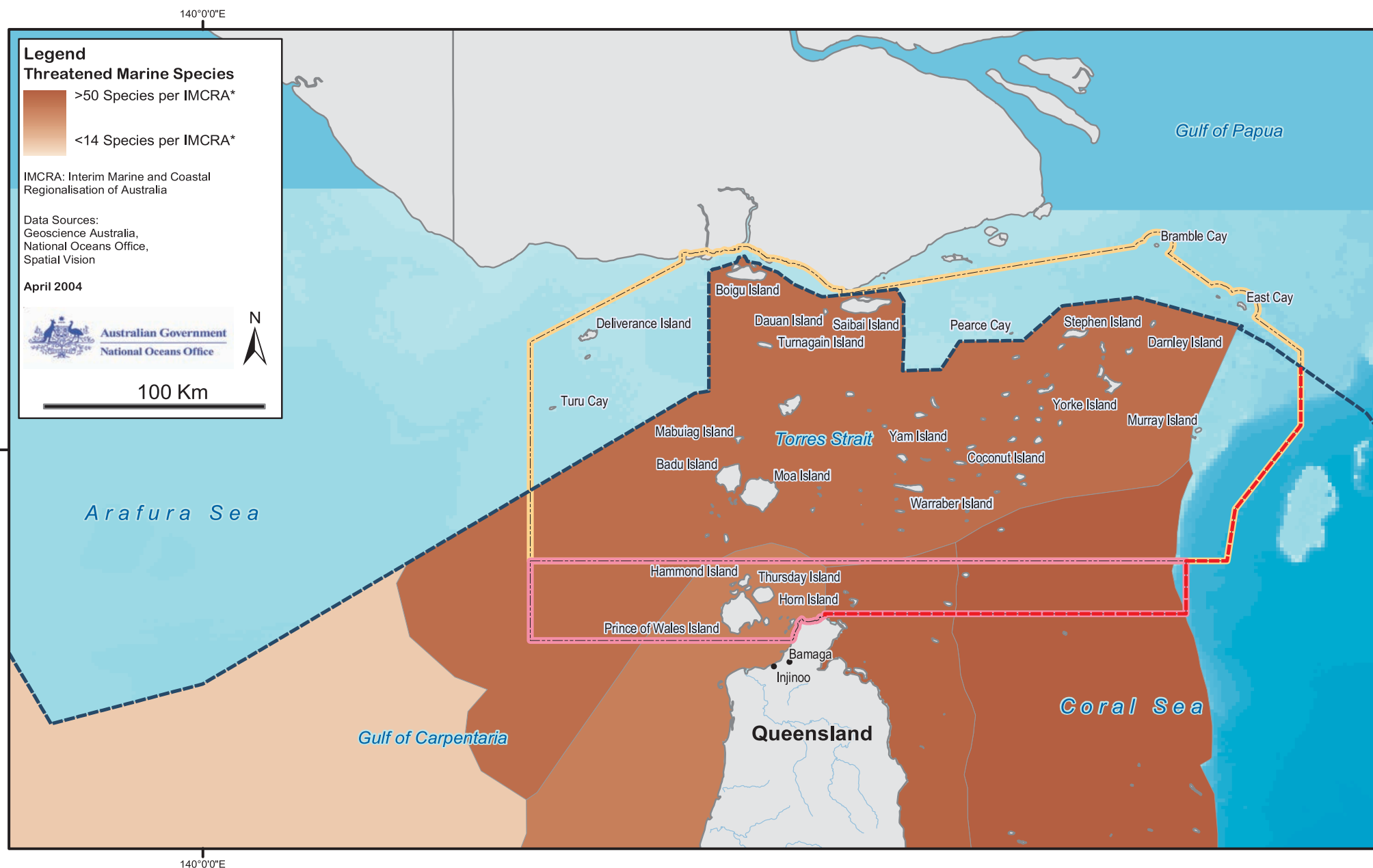


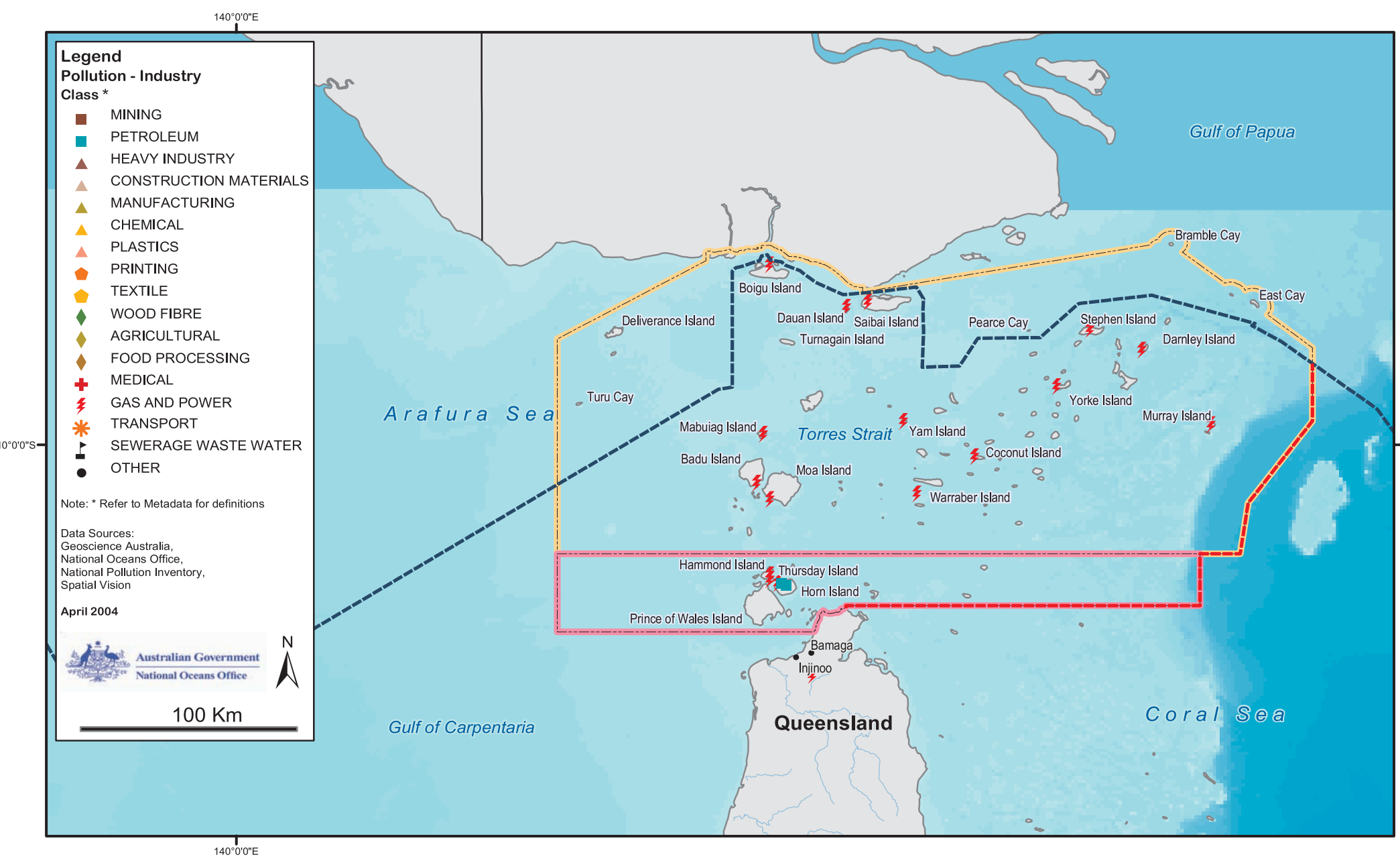


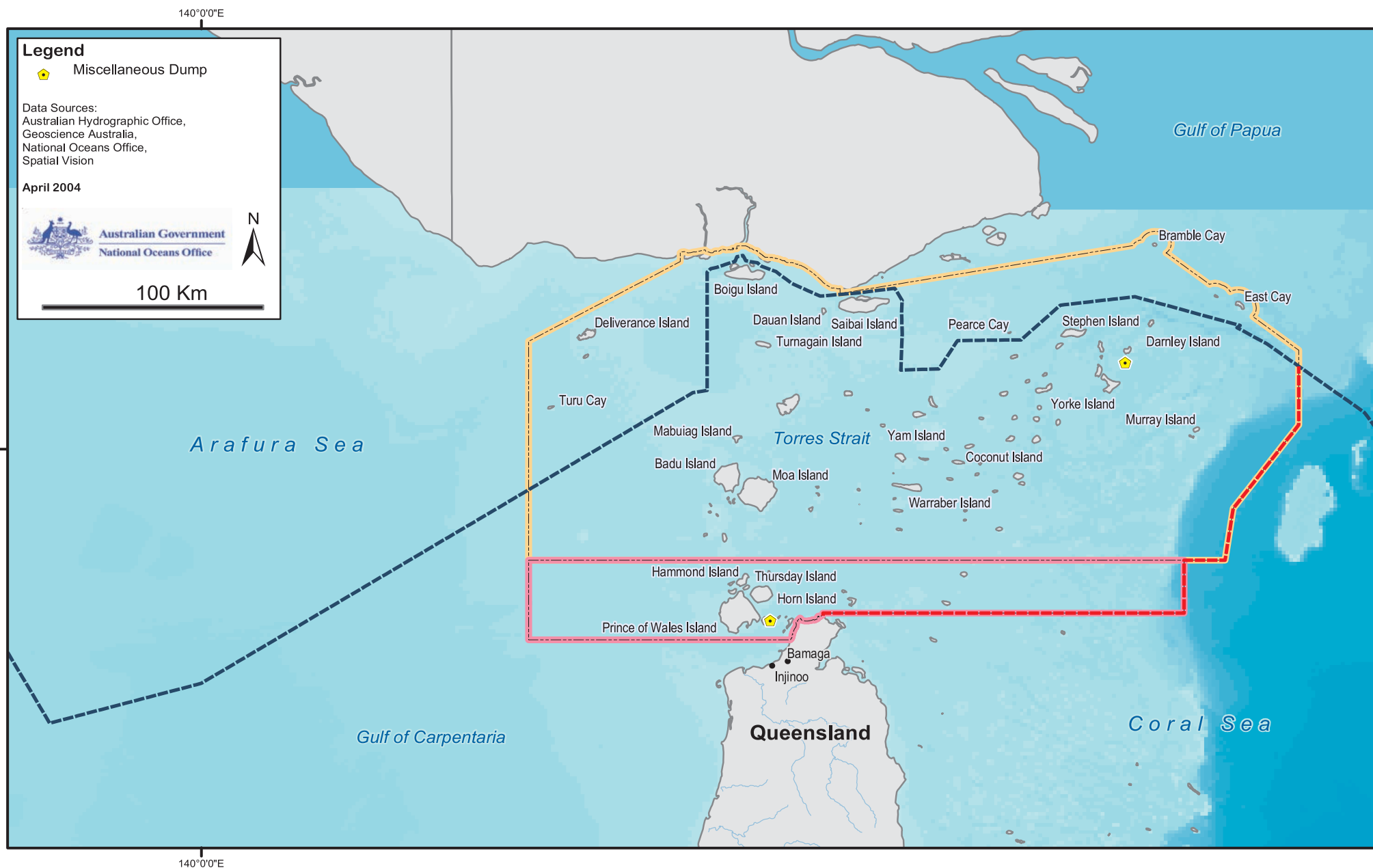


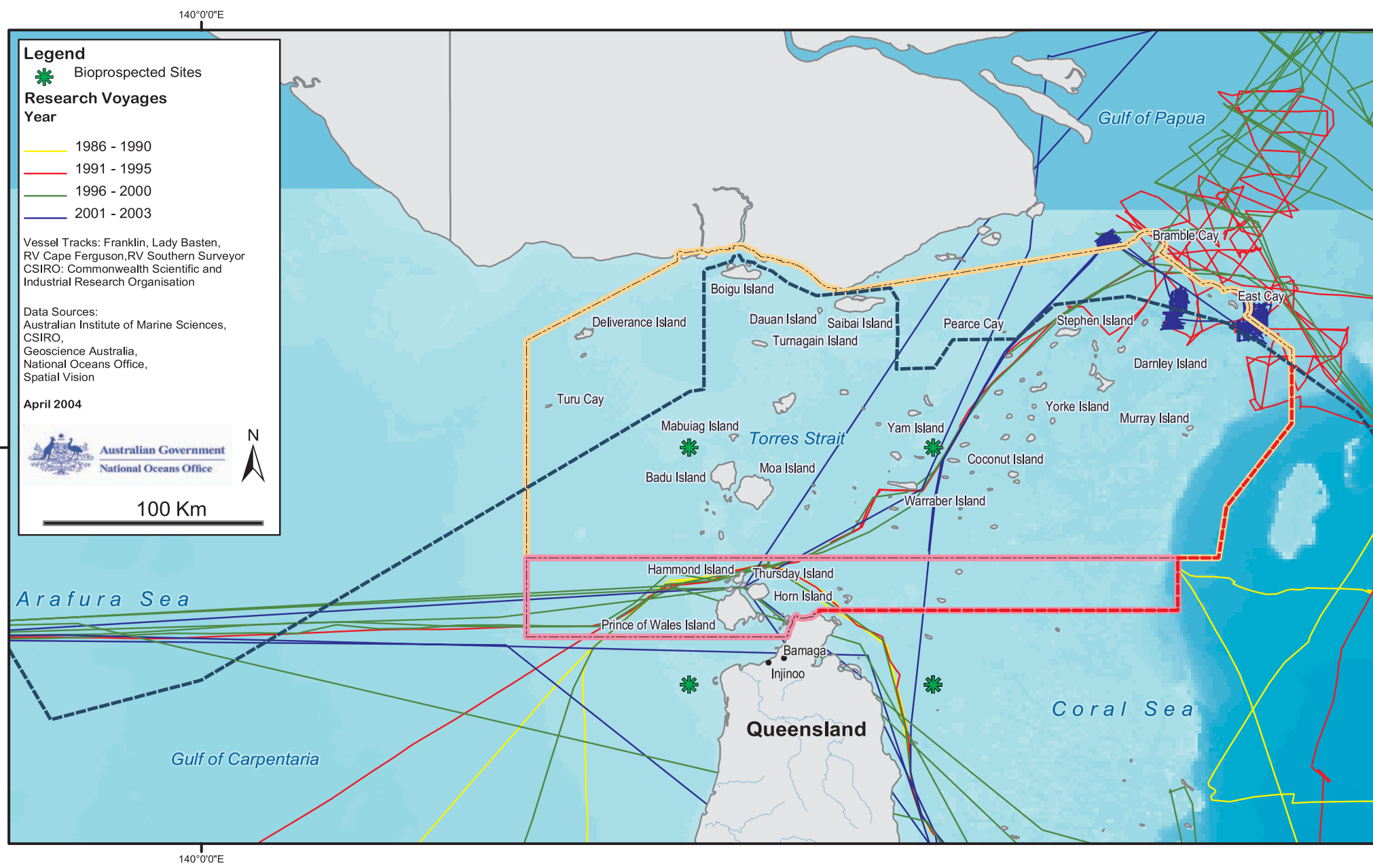


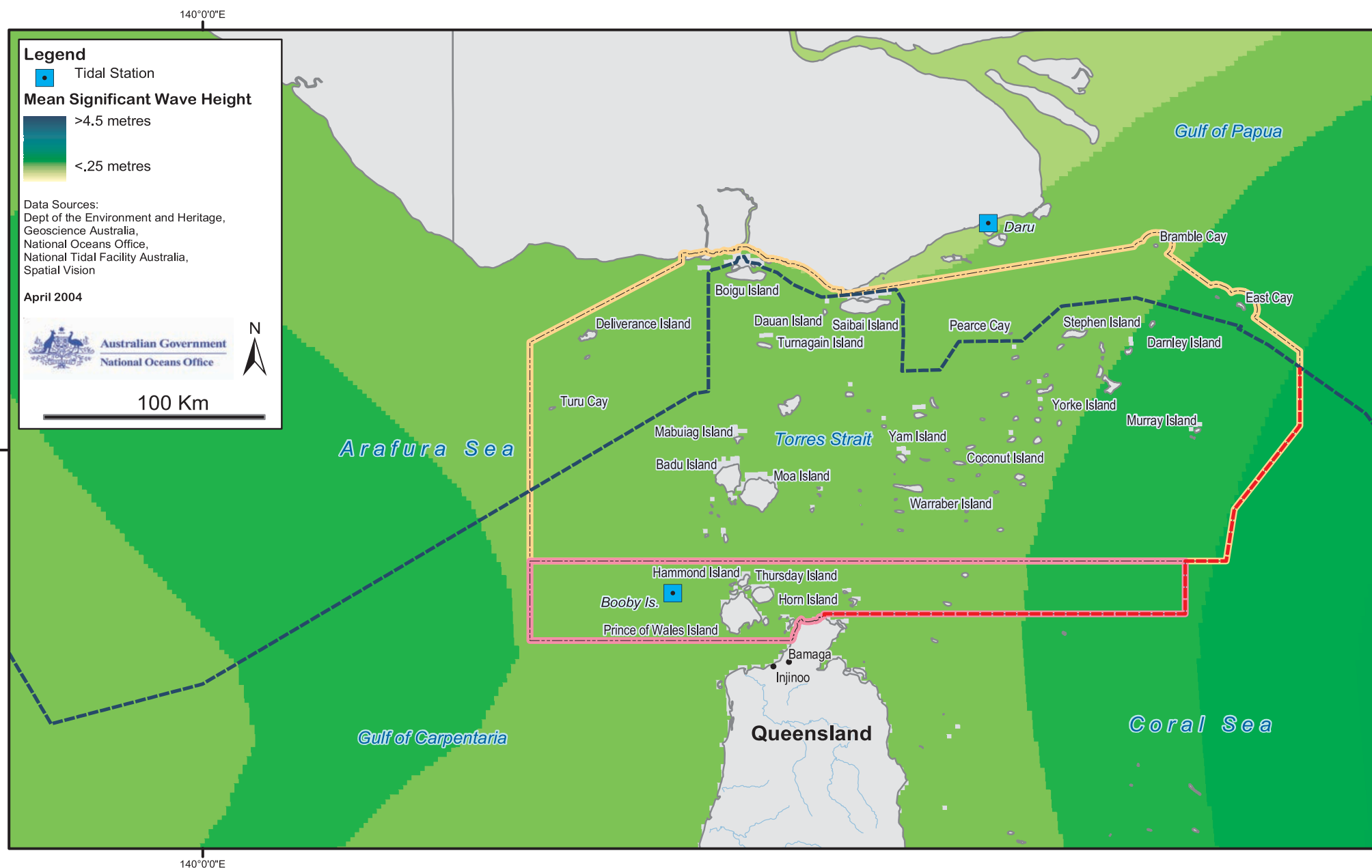


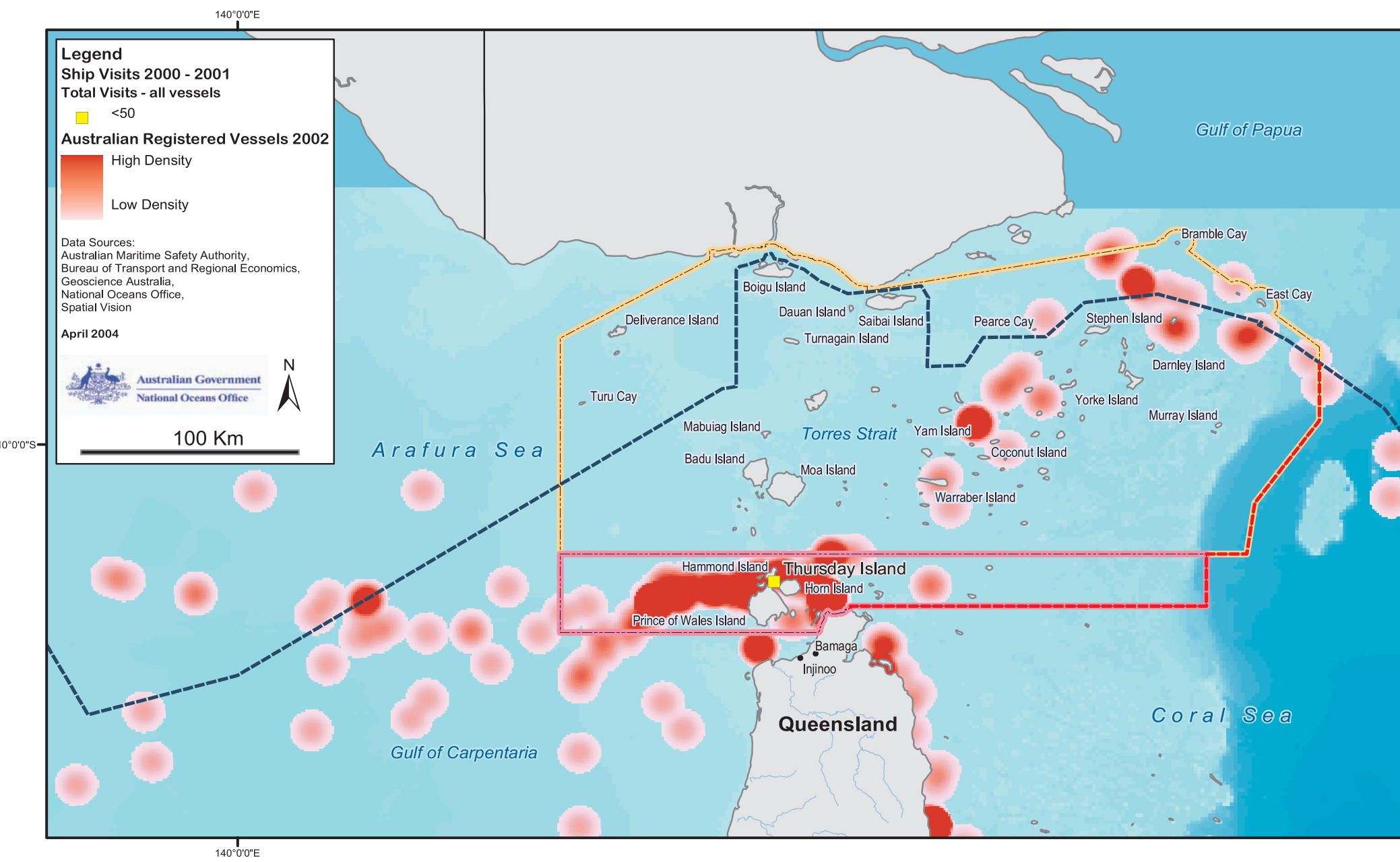


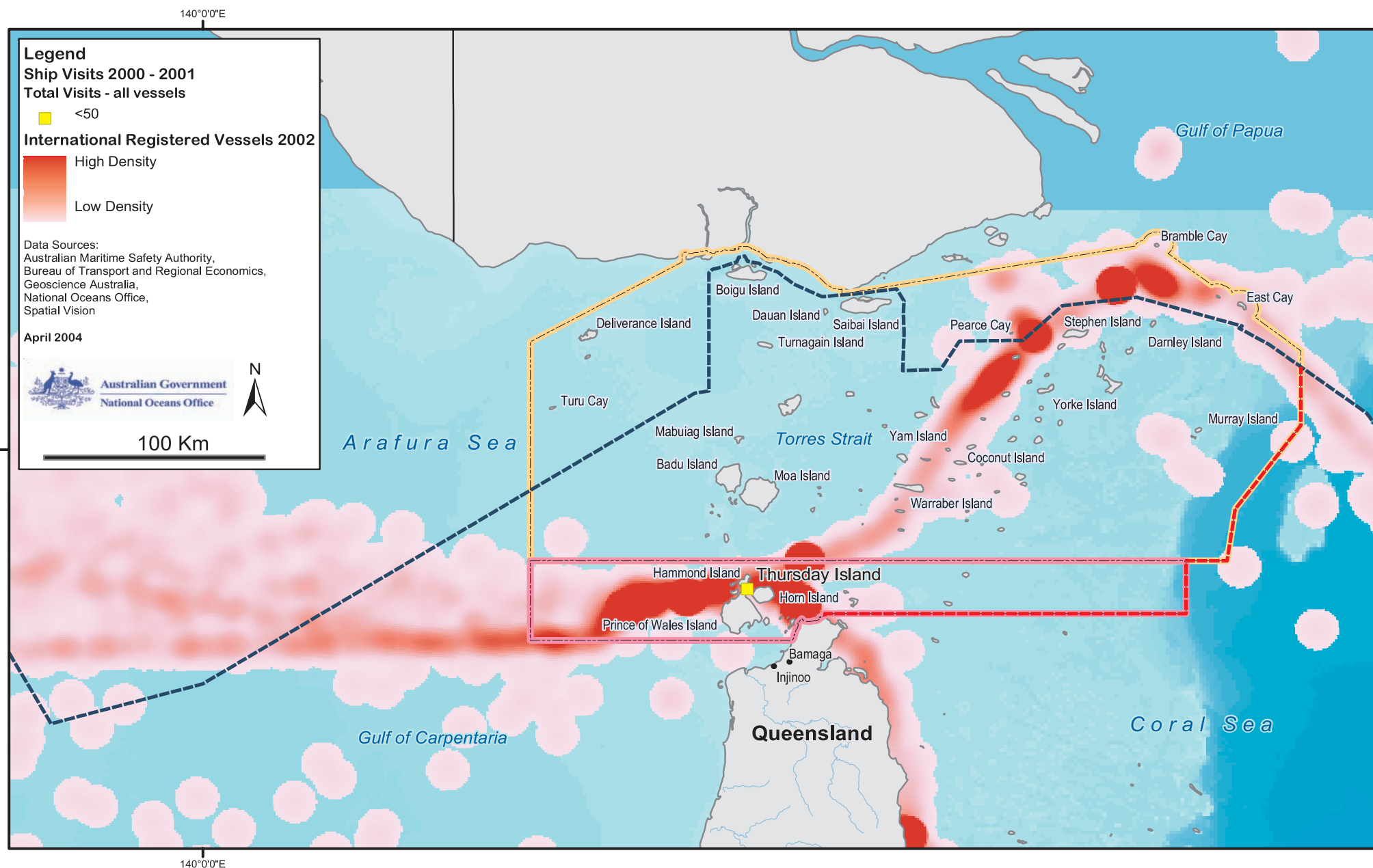


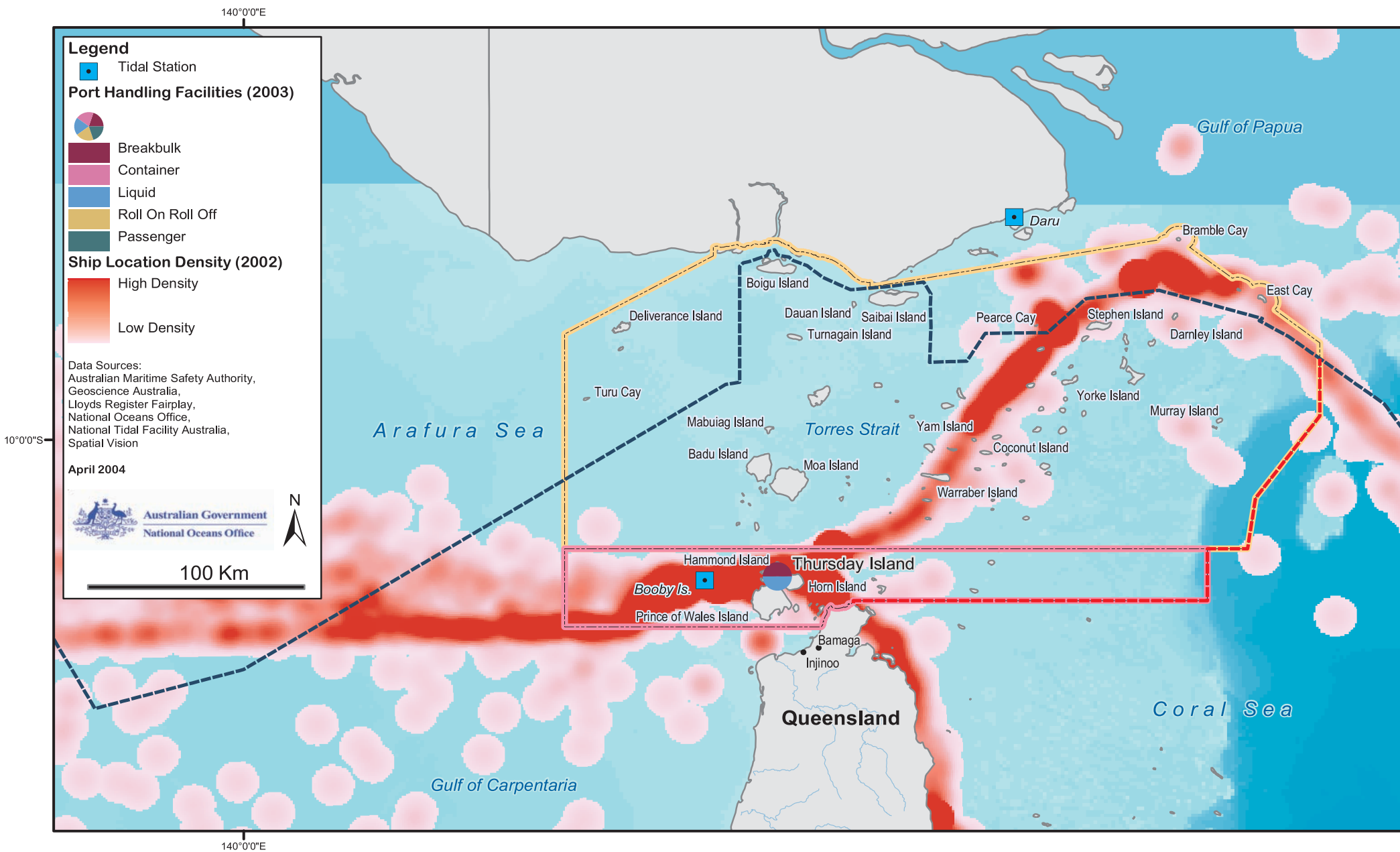


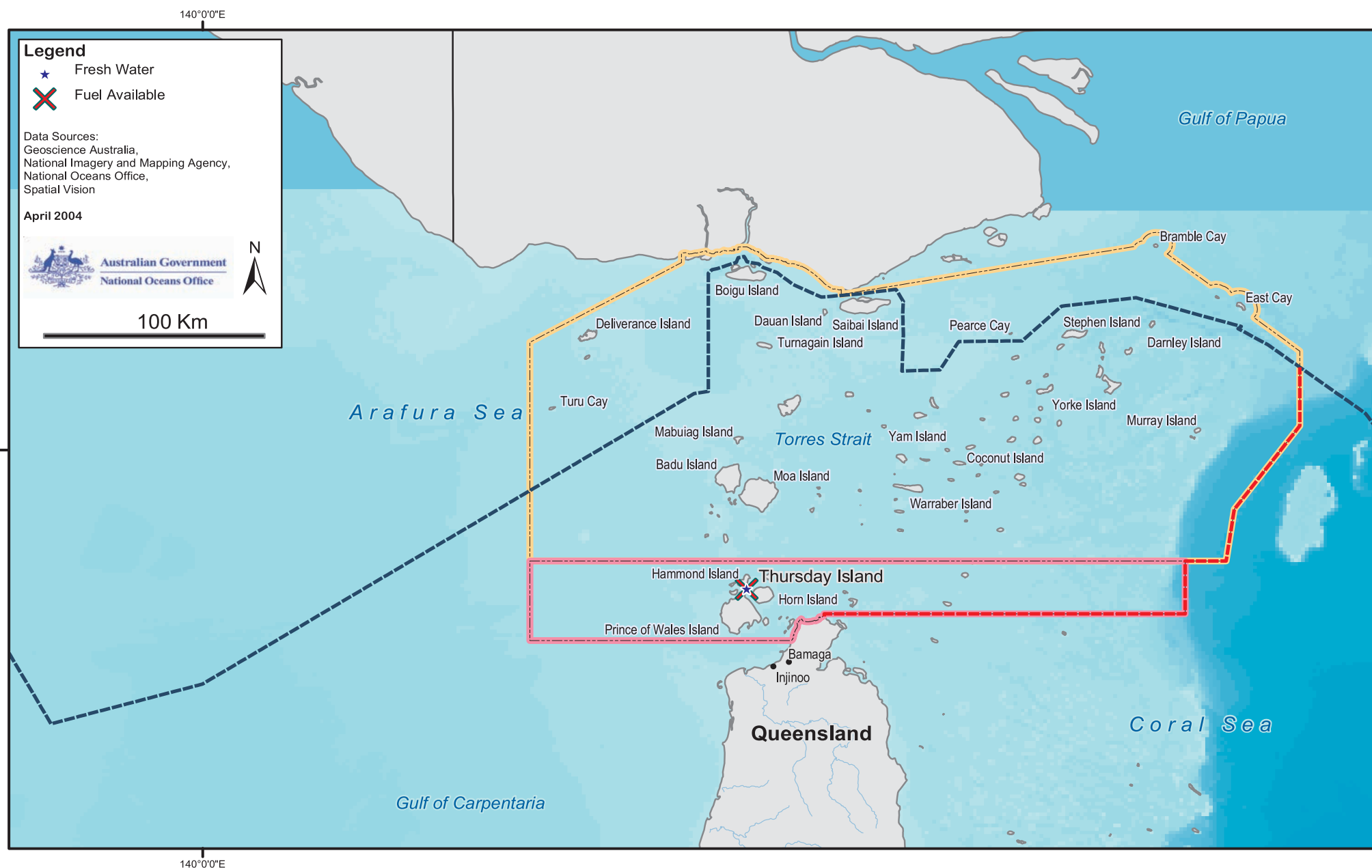


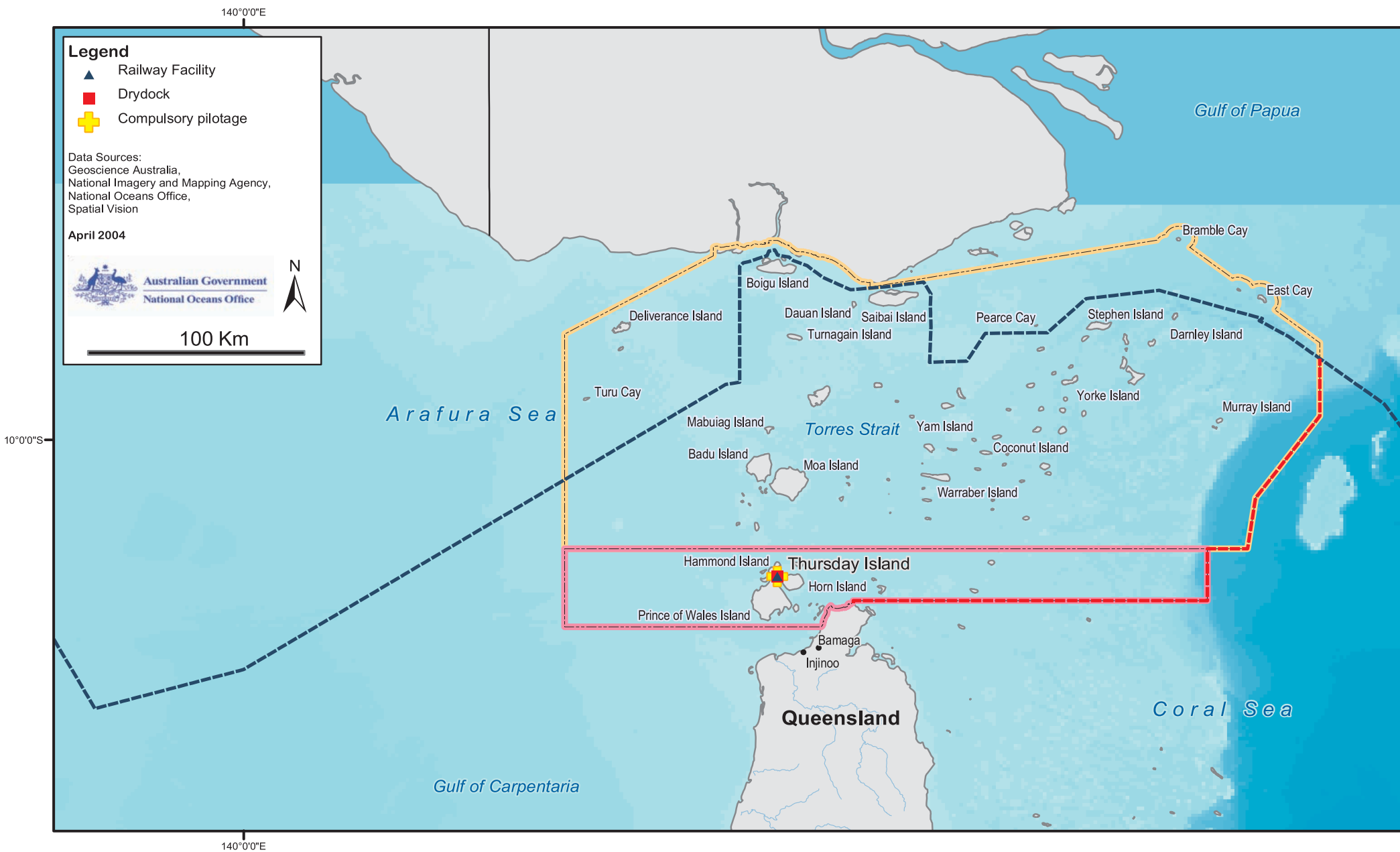


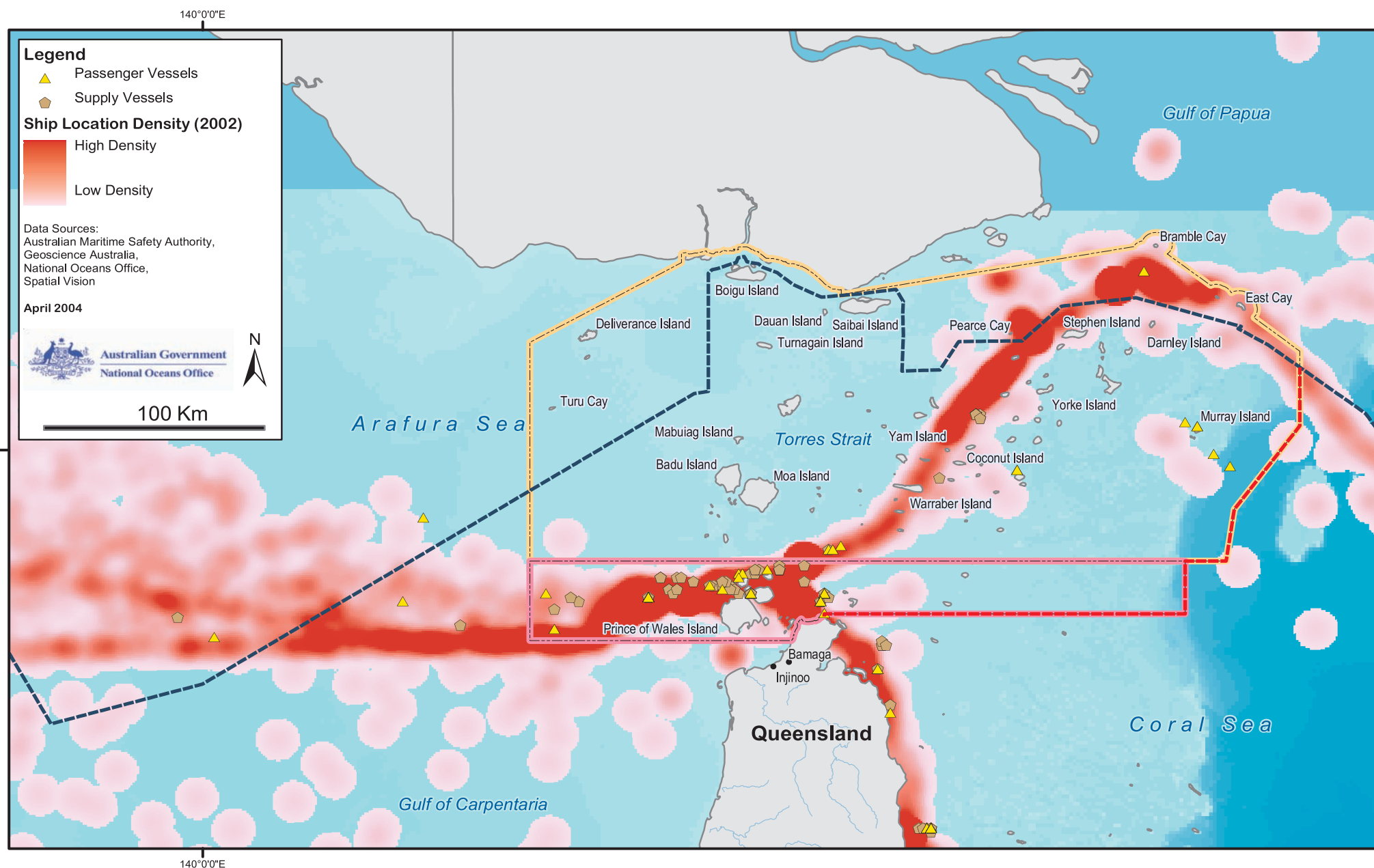


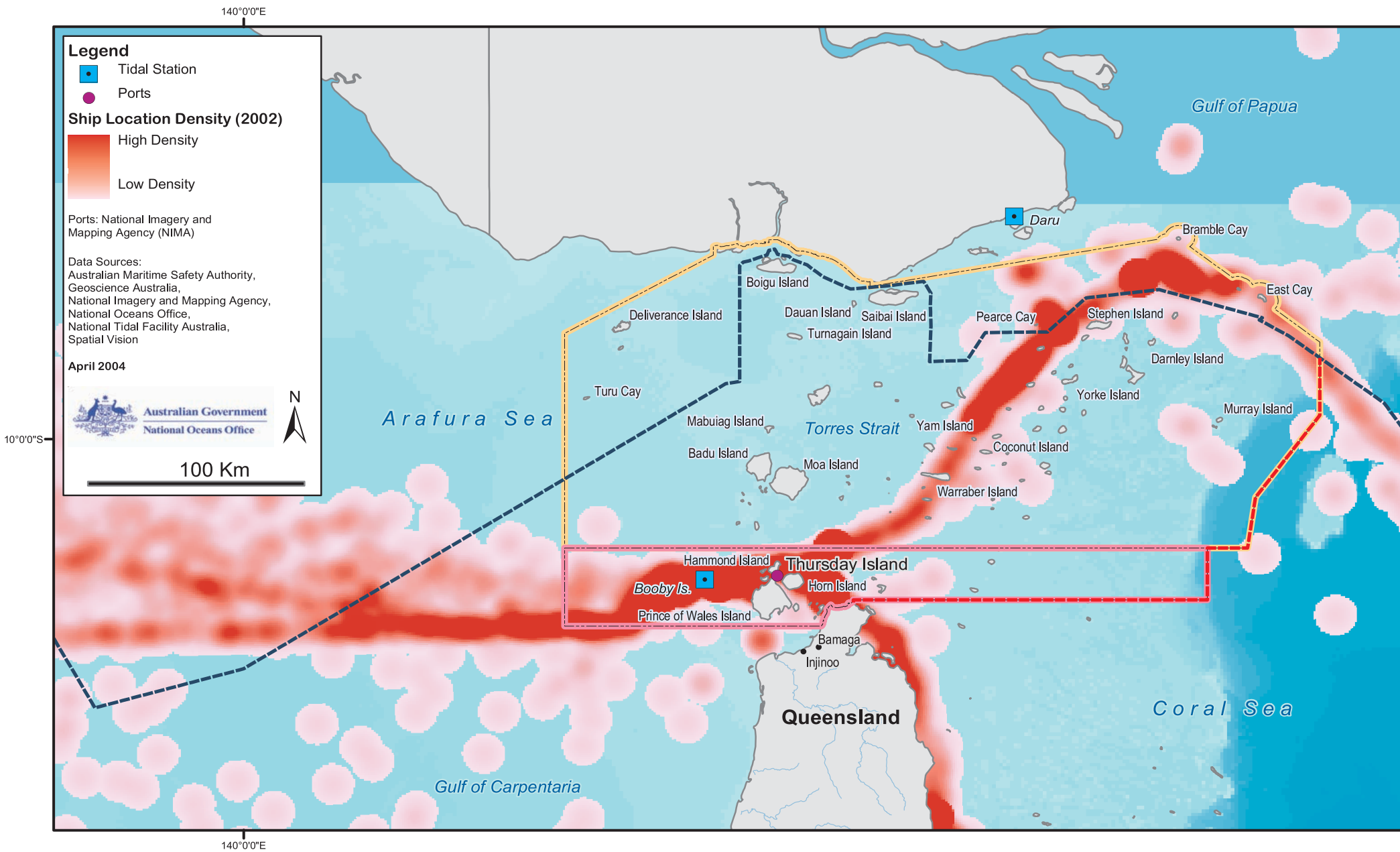


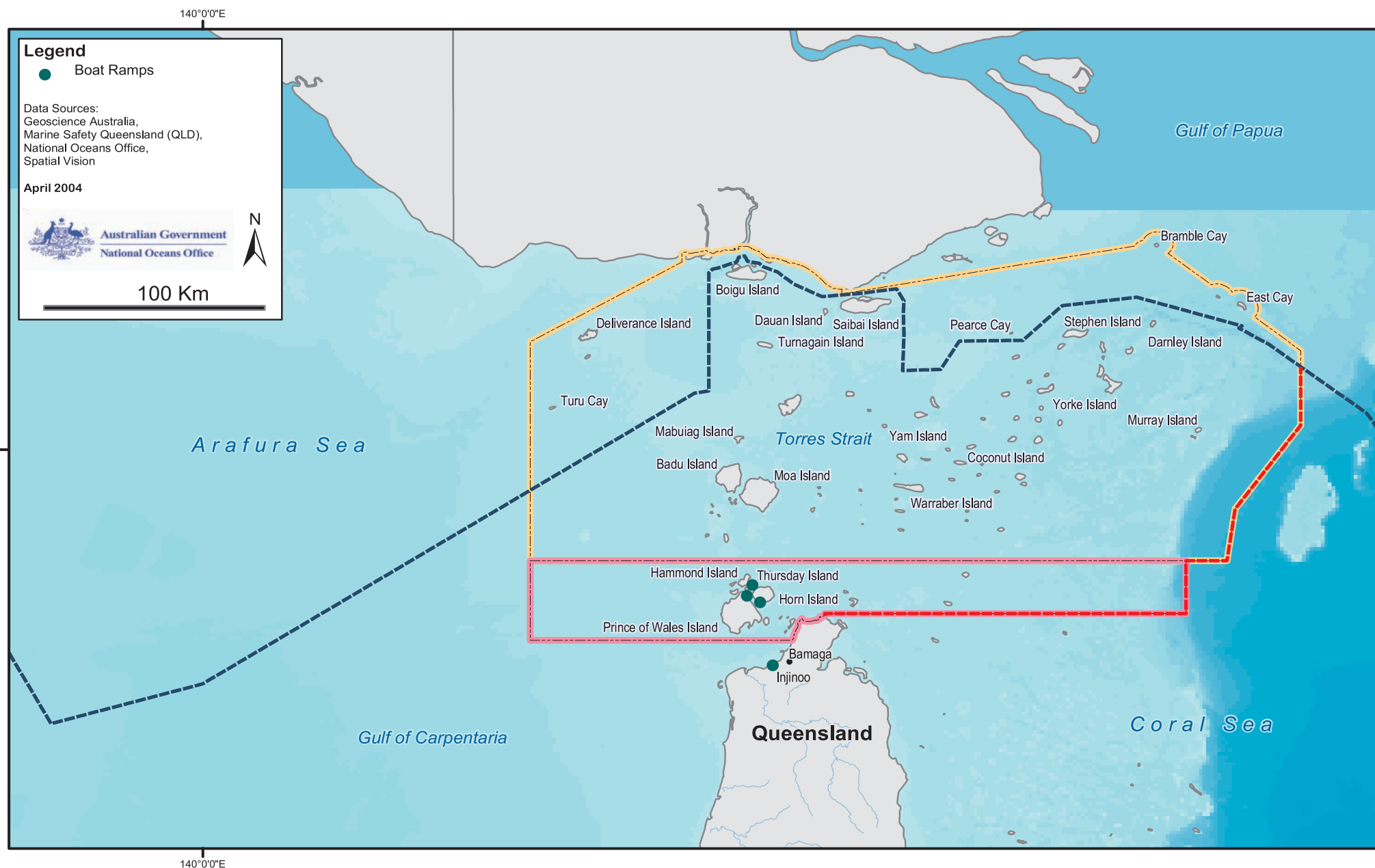


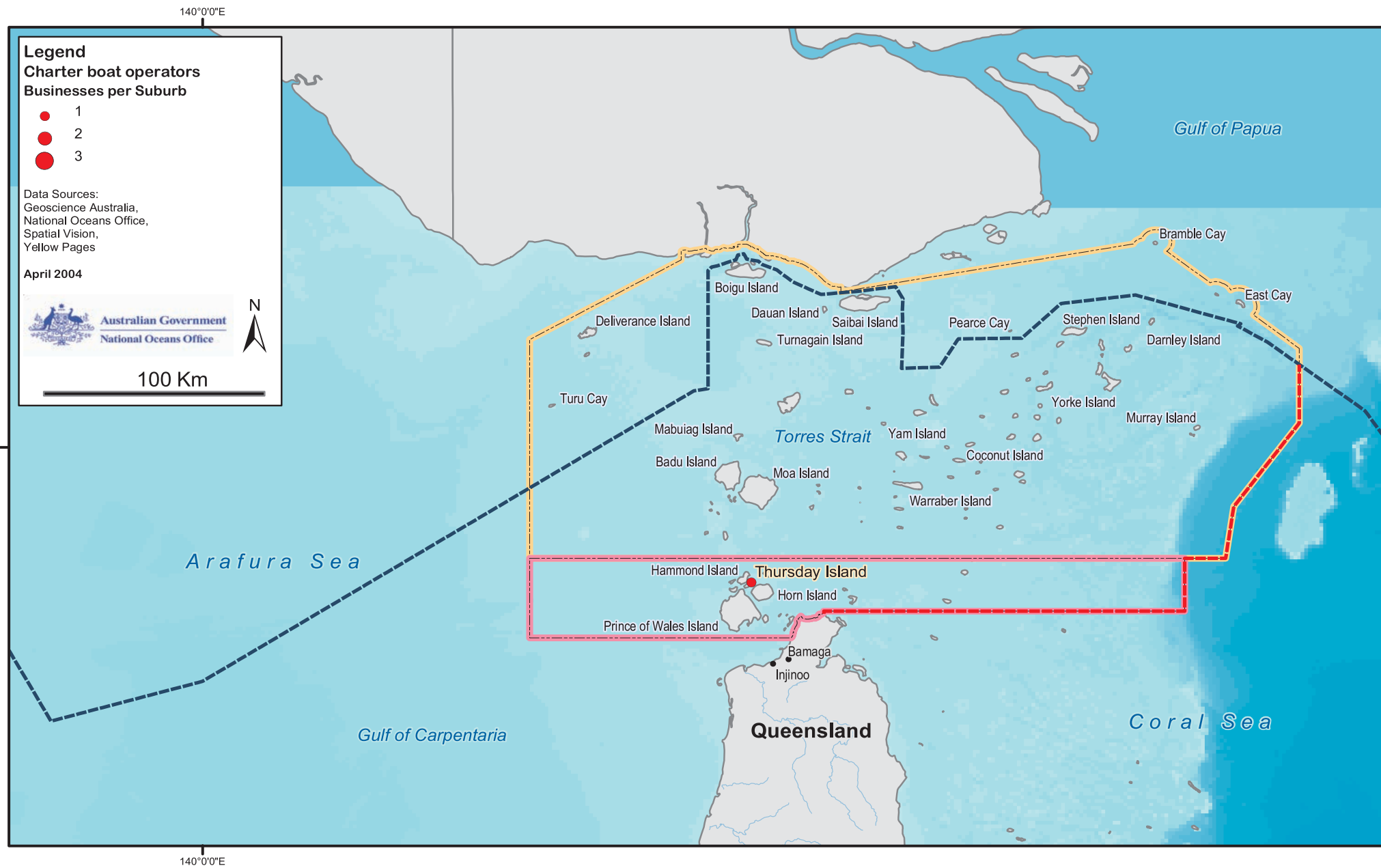


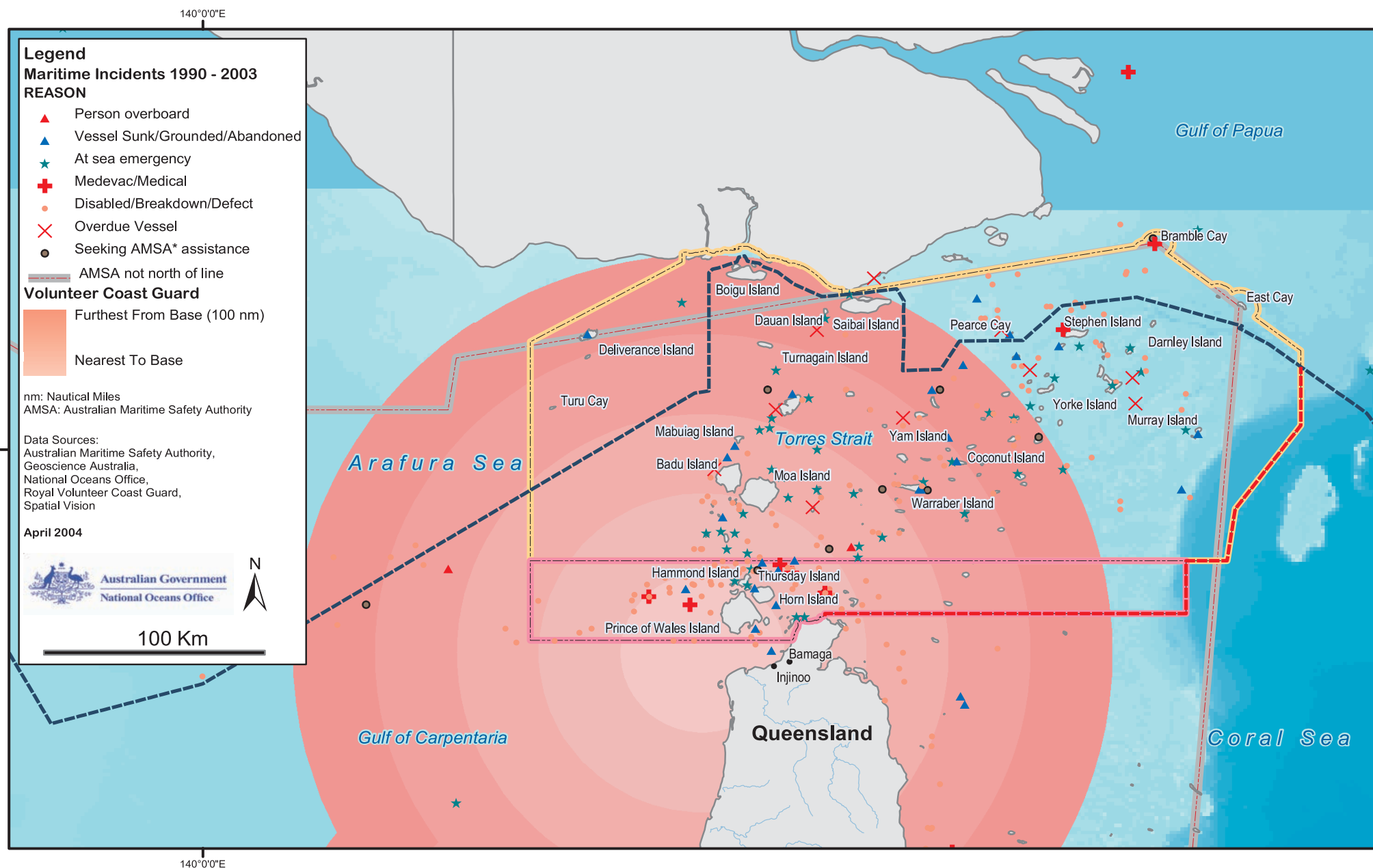


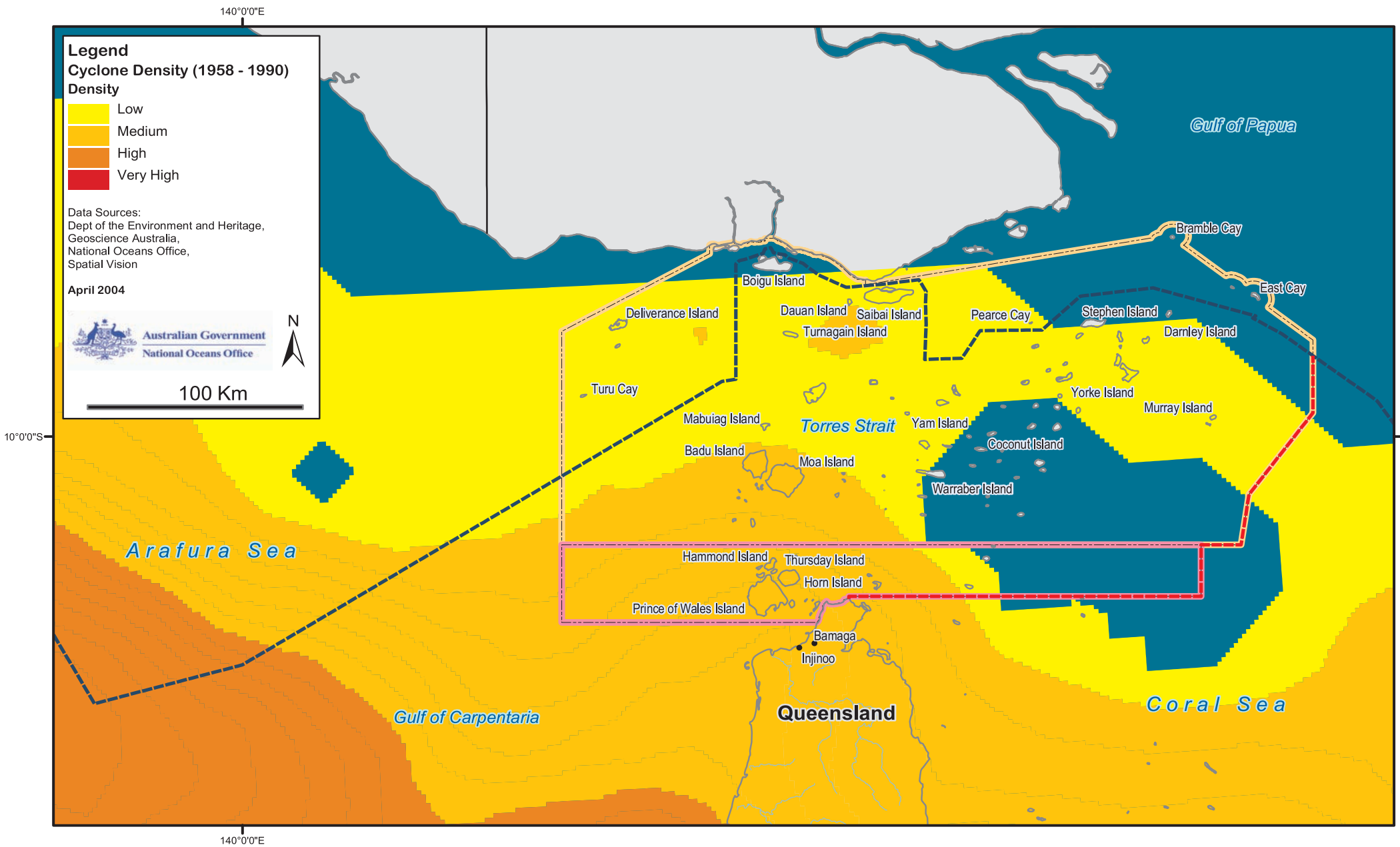


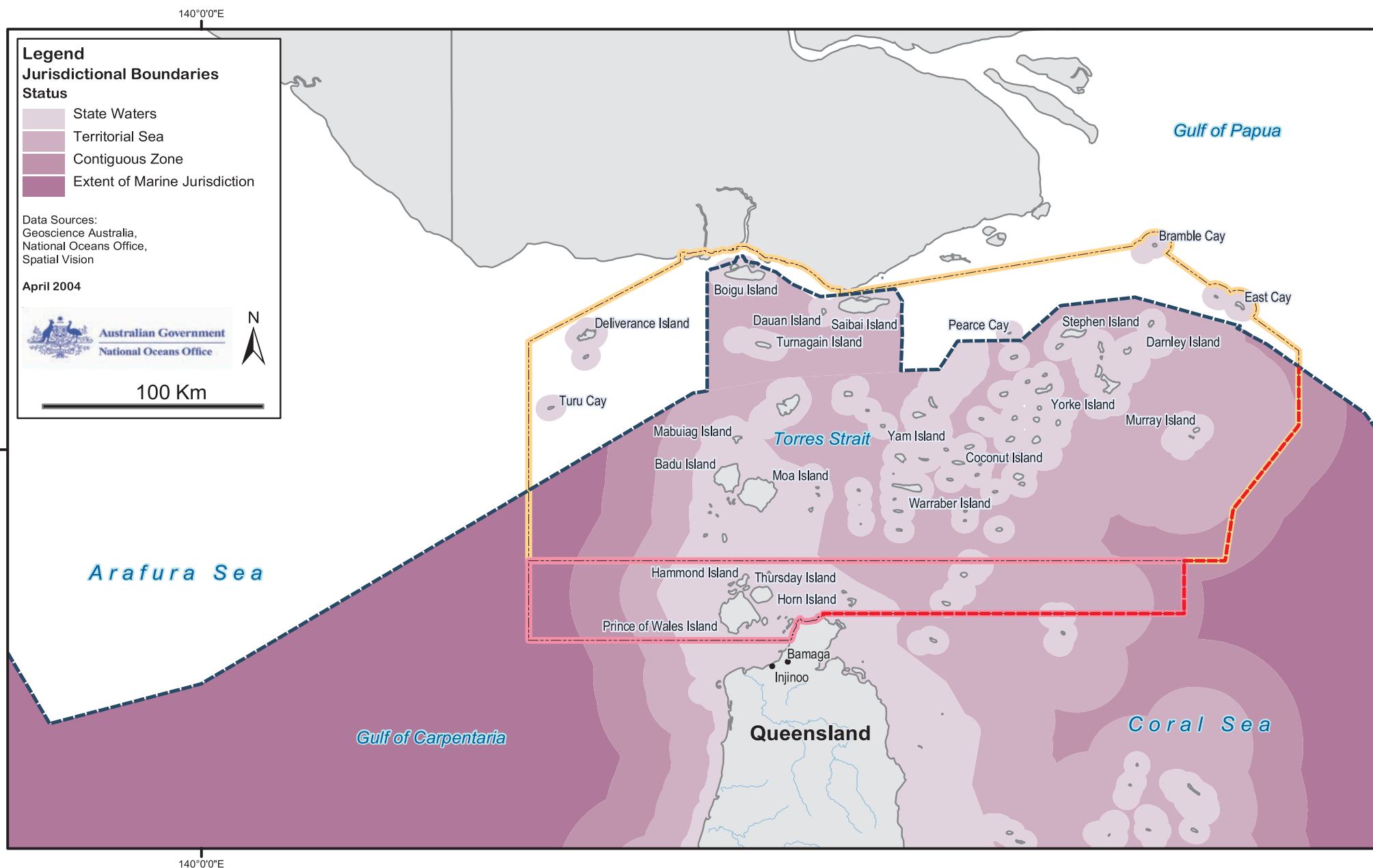


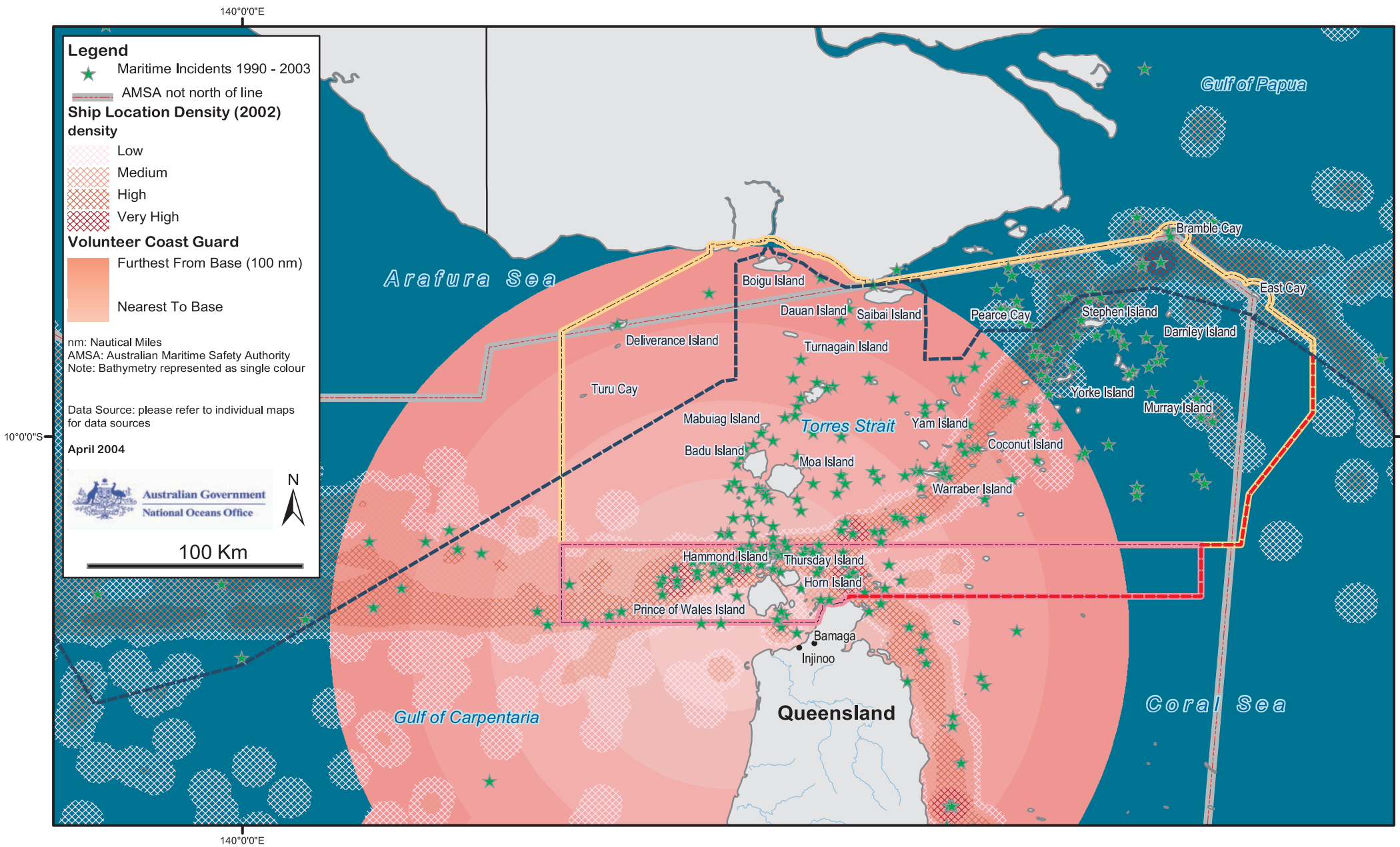


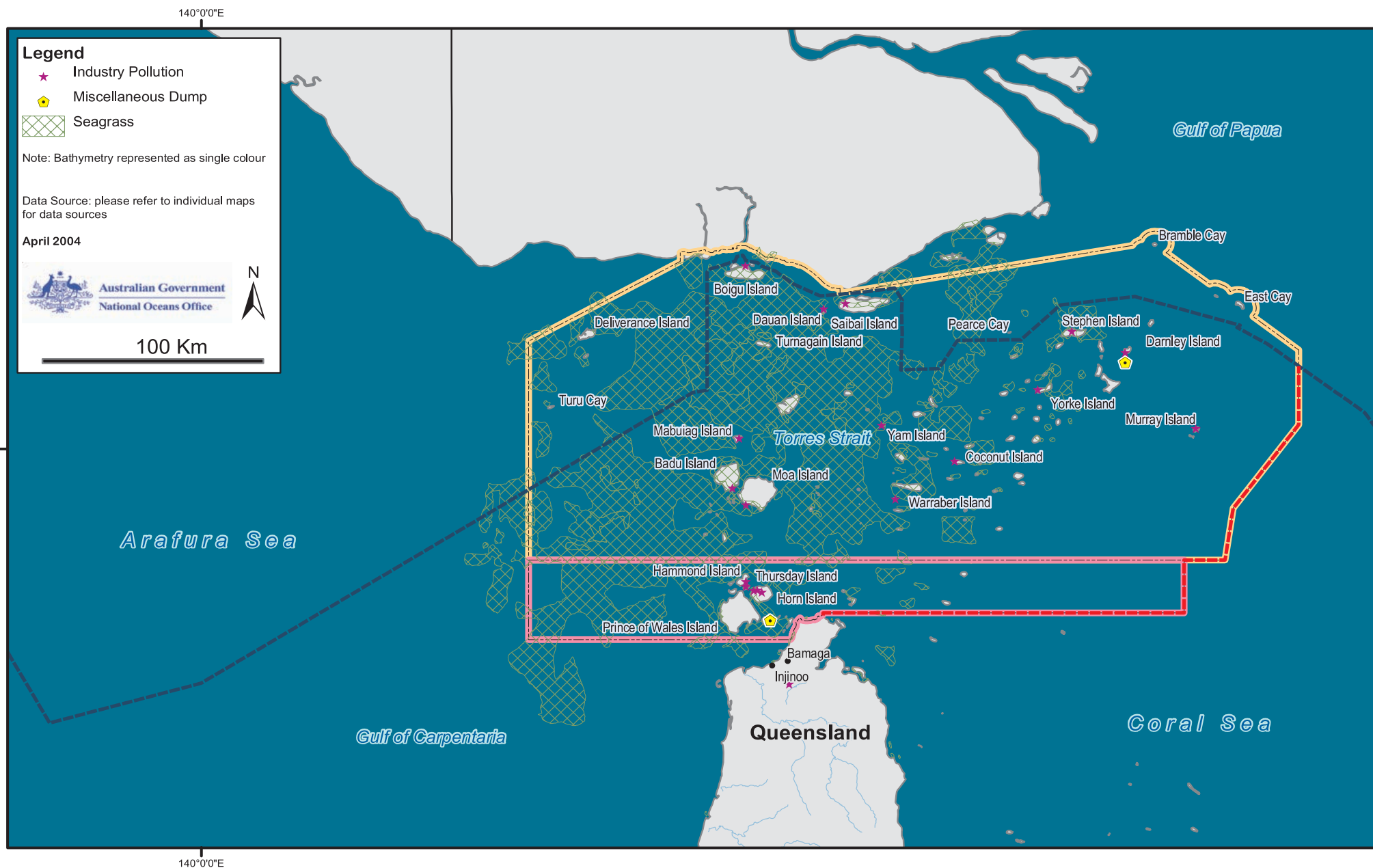


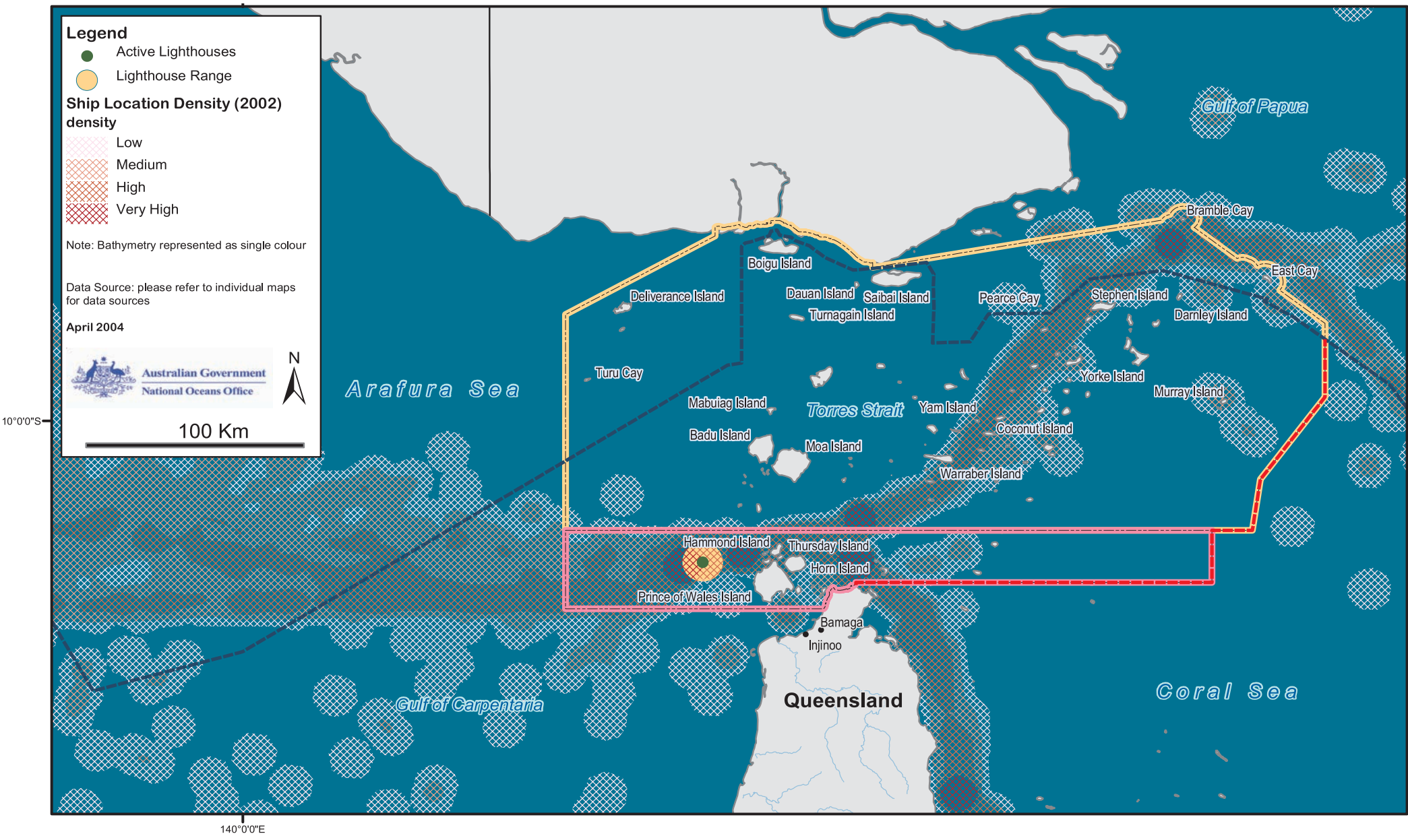


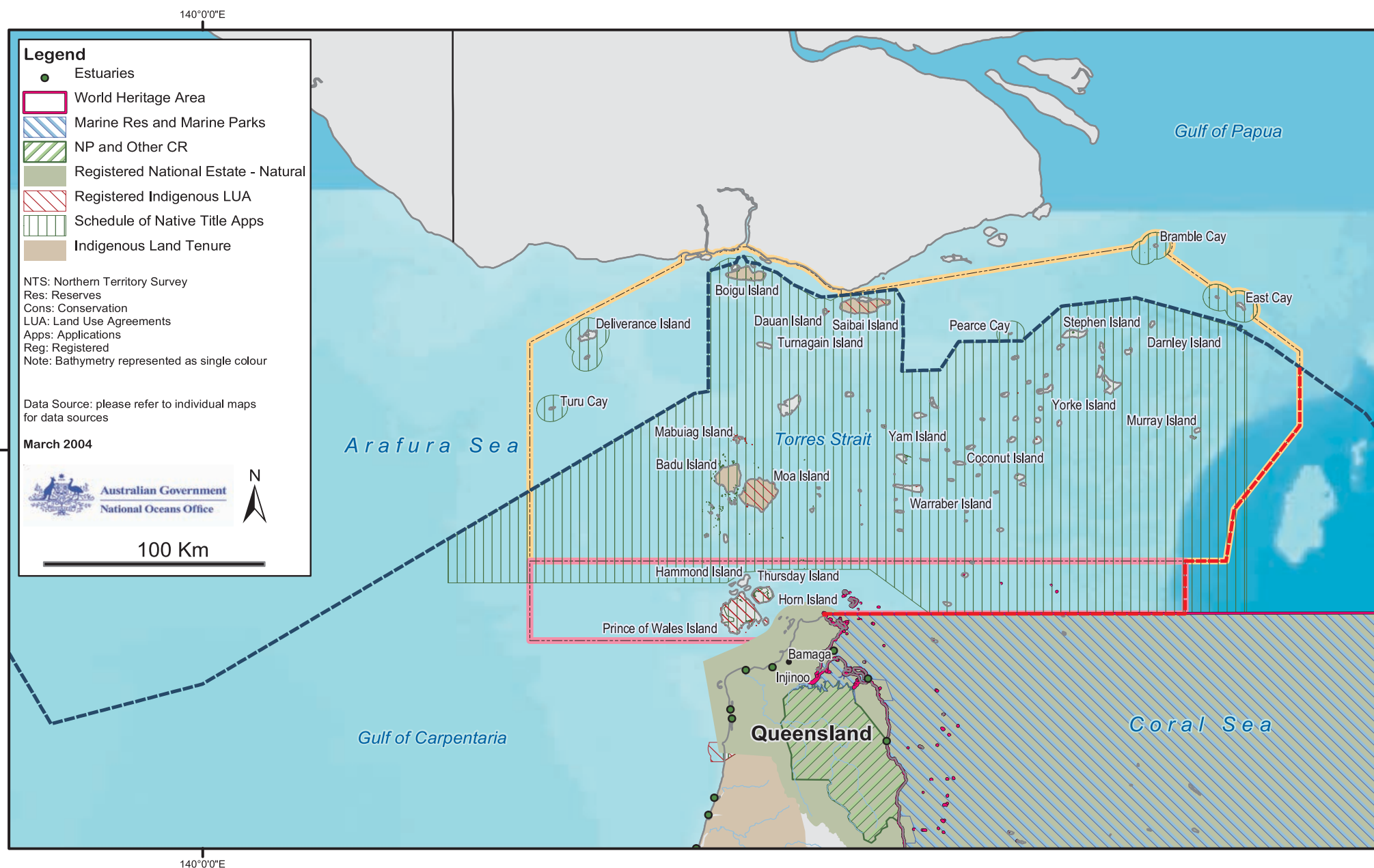


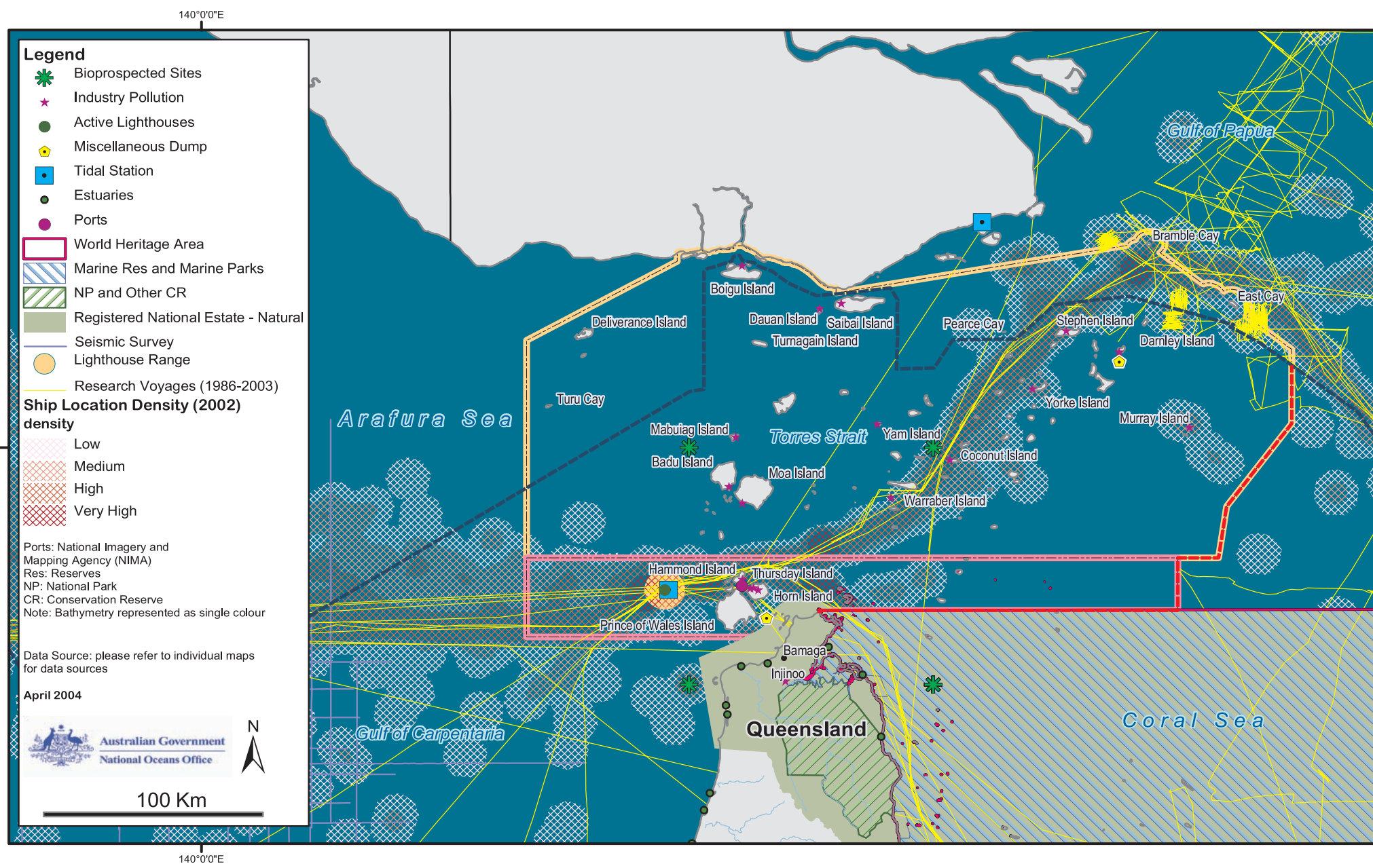


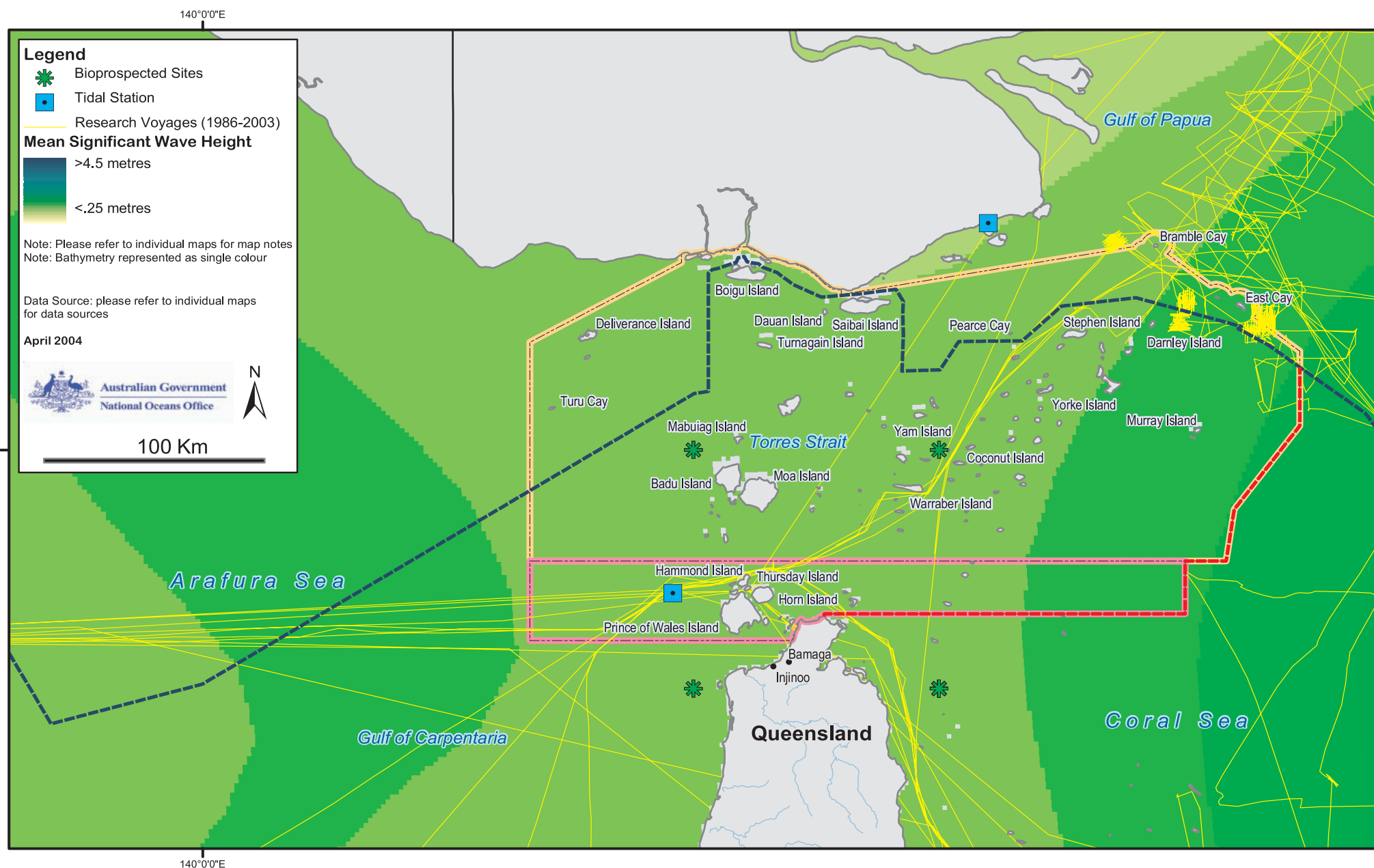


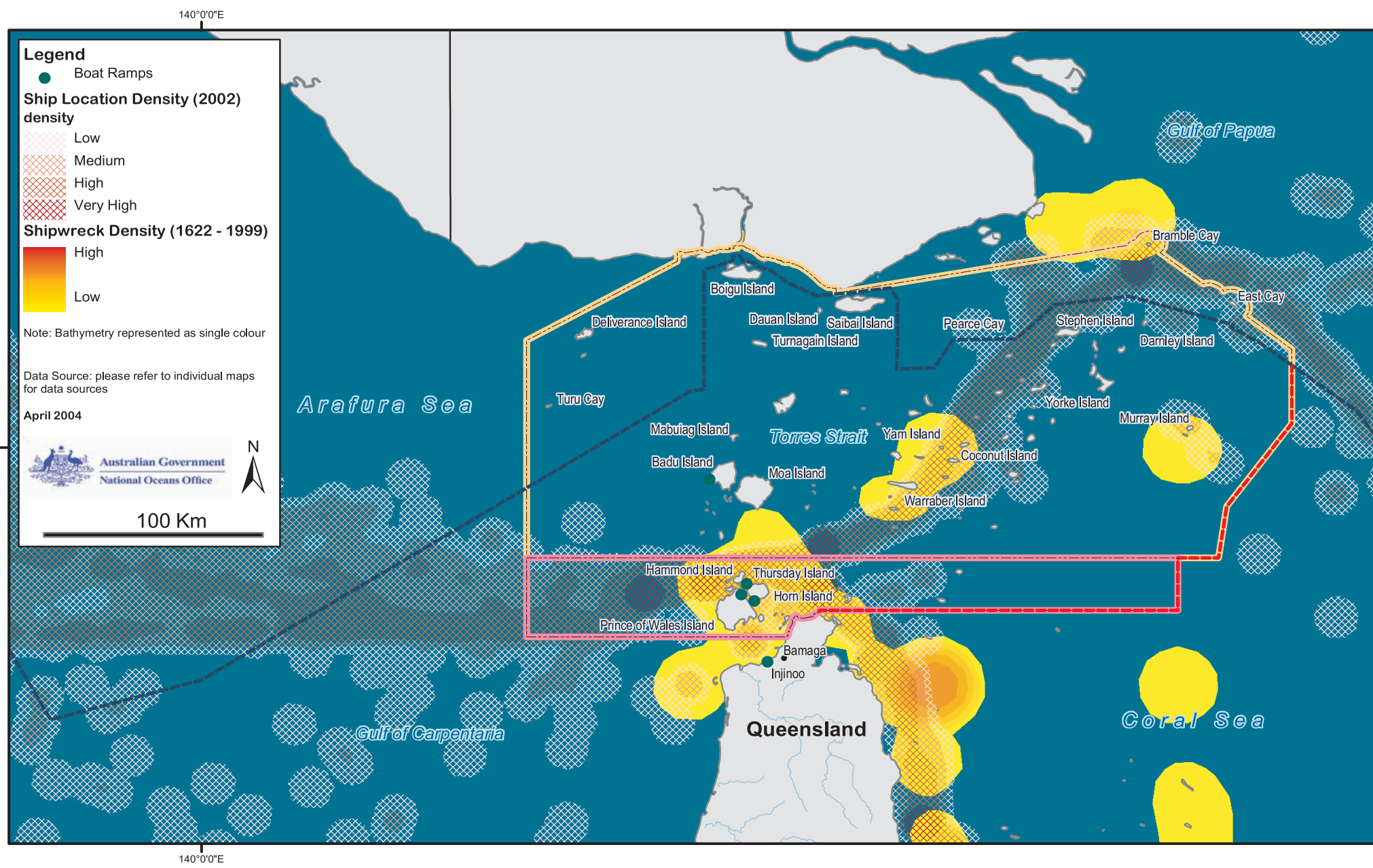


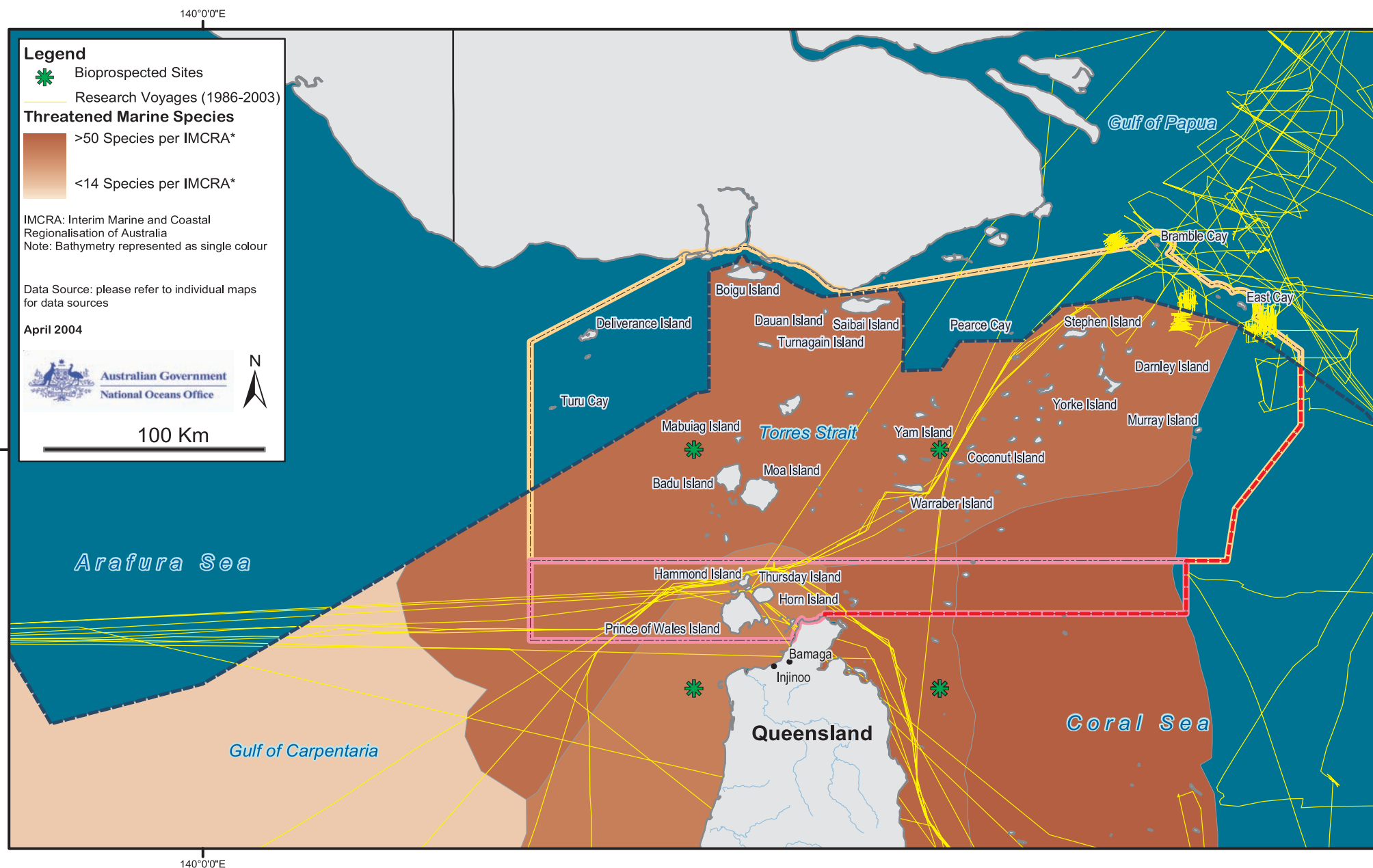


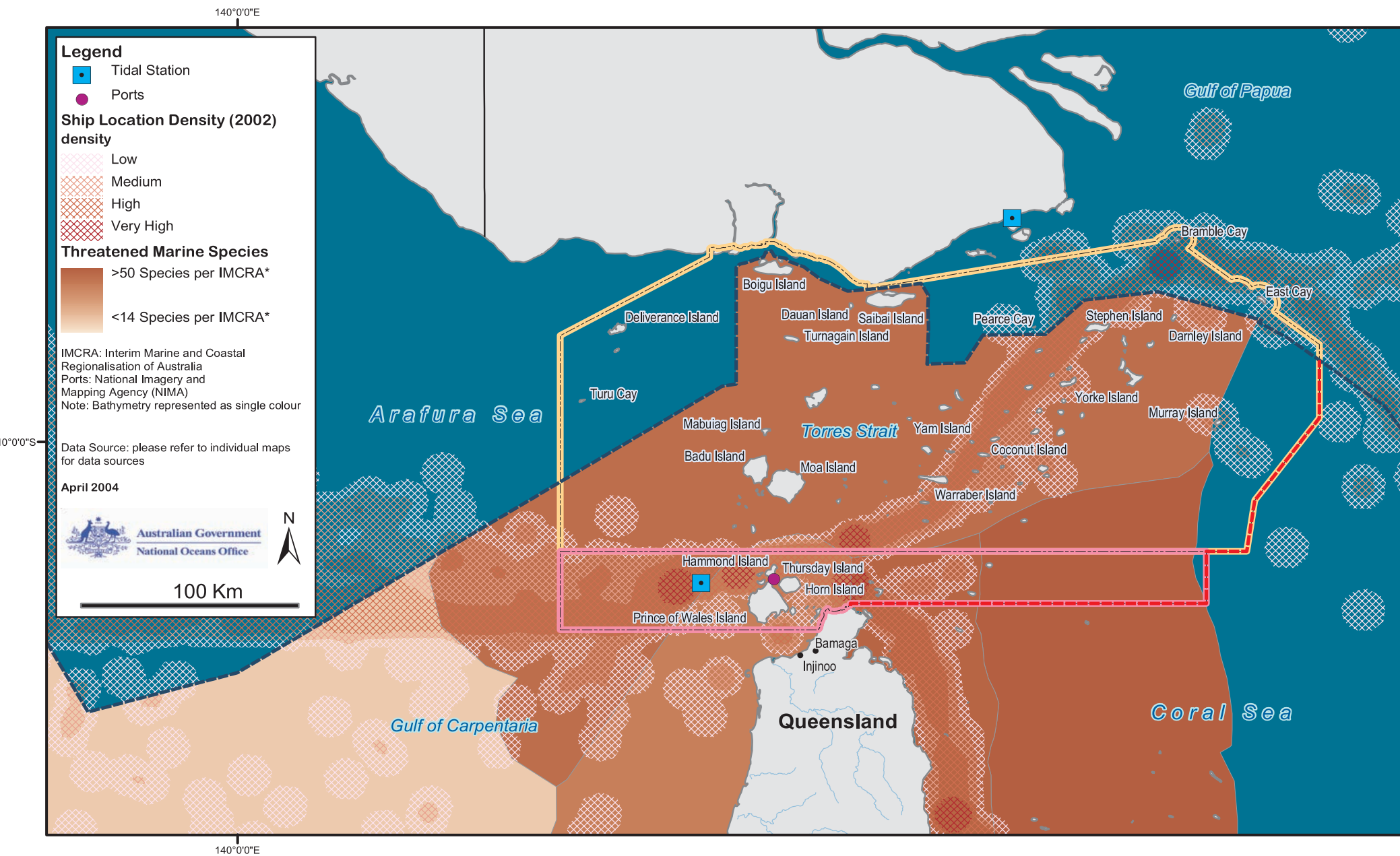












CHAPTER 6

MAP DATA CAVEAT DETAILS

Metadata describing the data used to produce maps contained in this atlas is available from the National Oceans Office metadata database called NEPTUNE (viewable at <http://neptune.oceans.gov.au>.)

Selected organisations requested that details concerning the datasets used be included within this atlas where possible. This information is presented here in the form of map caveats to be read in conjunction with the information displayed.

Australian Maritime Safety Authority

Spatial point data used in the preparation of this publication was provided by the Australian Maritime Safety Authority. All associated rights are reserved.

Relevant Maps

Australian Volunteer Coast Guard Operational Areas (2002)
Multiple Use - Volunteer Coast Guard and Shipping Density

Dugong Data

Dugong information was sourced from three different organisations.

Dugong survey results were obtained from James Cook University (JCU). This information was based on quantitative aerial survey data collected from 1985 to 2001 and has a locational accuracy of within 500m.

Dugong protection area boundaries were obtained from, and reproduced with permission of, the Queensland Fisheries Service. The protection area is as specified in the latest gazette of the Fisheries Regulations 1995. The positional accuracy is equivalent to that of the Australian Land Information Group 1:100,000 coastline data. This is estimated as being accurate to 150m.

The dugong density data was digitised from the Management Program for Dugong in the Northern Territory draft report produced by the Department of Infrastructure, Planning and Environment in 2003. The density survey on which the report is based was conducted from November 1994 to December 1995. The density survey was based on the number of dugong per km² within each 25km² grid size.

Relevant Maps

Distribution of Selected Species
Multiple Use - Selected Species and Petroleum Activities

Indigenous Language Group Data

The Indigenous Language Group data indicates the extent of Aboriginal tribal/language groups in Australia. The data was compiled by Sinclair Knight Merz (SKM) from information provided by the Institute of Aboriginal and Torres Strait Islander Studies (AIATSIS). SKM does not guarantee or make any representations regarding the outcome of the data translated into any format other than that in which it was originally supplied.

Relevant Maps

Indigenous Language Groups and Registered National Estate.

Land Tenure Information (Queensland)

Base data/data reproduced with permission of the Environmental Protection Authority, Queensland.

Relevant Map

Conservation Status of Coastal and Marine Areas
Multiple Use - Native Title and Conservation Status

Native Title

Queensland: Native Title claims information from Queensland has been sourced from the Department of Natural Resources and Mines, Queensland.

While every care is taken to ensure the accuracy of this data, the Department of Natural Resources and Mines makes no representations or warranties about the accuracy, reliability, completeness or suitability for any particular purpose and disclaims all responsibility and all liability (including without limitation, liability in negligence) for all expenses, losses, damages (including indirect or consequential damage) and costs which might be incurred as a result of the data being inaccurate or incomplete in any way and for any reason.

Northern Territory: The Registrar, the National Native Title Tribunal (NNTT) and its staff and officers and the Commonwealth, accept no liability and/or give no undertakings, guarantees or warranties concerning the accuracy, completeness or fitness for purpose of the native title information portrayed.

Relevant Maps

Status of Native Title Claims and Indigenous Land Tenure
Multiple Use - Native Title and Conservation Status

Sites of Historic Significance and Shipwrecks

Shipwreck data has been provided by the Department of the Environment and Heritage.
<http://www.deh.gov.au/heritage/awh/shipwrecks/index.html>

Map users should note: Positional accuracy for each record is indicative only, data is not to be used for commercial purposes, and data has been provided for each state by each state.

Further information, including guidelines on the management of Australia's shipwrecks and other publications, is available from Australian Government and State Government agencies.

Relevant Map

Sites of Historical Significance and Shipwrecks (1622-1999)



CHAPTER 8

GLOSSARY

Argo Float

A broad-scale global array of temperature/salinity profiling floats which form a major component of the ocean observation system.

Bathymetry

Representation of sea floor topography usually depicted as depth below mean sea level, either as isohyet lines or as a continuous surface where each cell has a depth value.

Bioprospected Sites

Bioprospecting is the search for new chemicals in living things that will have some medical or commercial use.

Boat Dump

Dumping sites in Australian marine waters, declared under the *Beaches, Fishing Grounds and Sea Routes Protection Act 1932*.

Chemical Dump Track

The route taken by a vessel to dump chemicals in Australian marine waters, declared under the *Beaches, Fishing Grounds and Sea Routes Protection Act 1932*.

Compulsory Pilotage

The presence of a pilot on board a vessel of a certain capacity (depends on the maritime jurisdiction) is compulsory.

Dirty Ballast

Ballast water that is either biologically or chemically contaminated.

Indigenous Land Use Agreements

A voluntary agreement about the use and management of an area of land or waters, made between one or more native title groups and others (such as miners, pastoralists, governments).

Indigenous Land Tenure

The rights and interests of Indigenous Australians to use a particular area of land or waters arising from Native Title.

Mean Significant Wave Height

Surface plot of mean wave height anomalies relative to a reference period.

Native Title

The rights and interests of Aboriginal and Torres Strait Islander people in land and waters according to their traditional laws and customs, that are recognised under Australian law.

Native Title Applications

An application for the legal recognition of the rights and interests held by Indigenous Australians over a particular area of land or waters, according to traditional laws and customs.

Native Title Determination Applications

An application for the court to determine if a Native Title does or does not exist in a particular area of land or waters.

Roadstead

A partly sheltered anchorage point.

Seaframe Locations

Locations of baseline gauge stations around Australia. Each station records values of sea level, wind speed, direction and gust, air and water temperature and atmospheric pressure.

Wave Rider Buoy

A system of buoys that is deployed around the coast of Australia by the Coastal and Marine Resources Information System (CAMRIS) in collaboration with several divisions of Australia's Commonwealth Scientific and Industrial Research Organisation (CSIRO) as part of the Coastal Zone Program.



CHAPTER 9

KEY WORD INDEX

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