


# marine matters

**NATIONAL**



**COMMERCIAL FISHERIES BY  
BROAD SPECIES CATEGORY**



This section of the Atlas maps and presents information on a selection of five broad taxonomic groupings that make up some of Australia's major fisheries. These are:

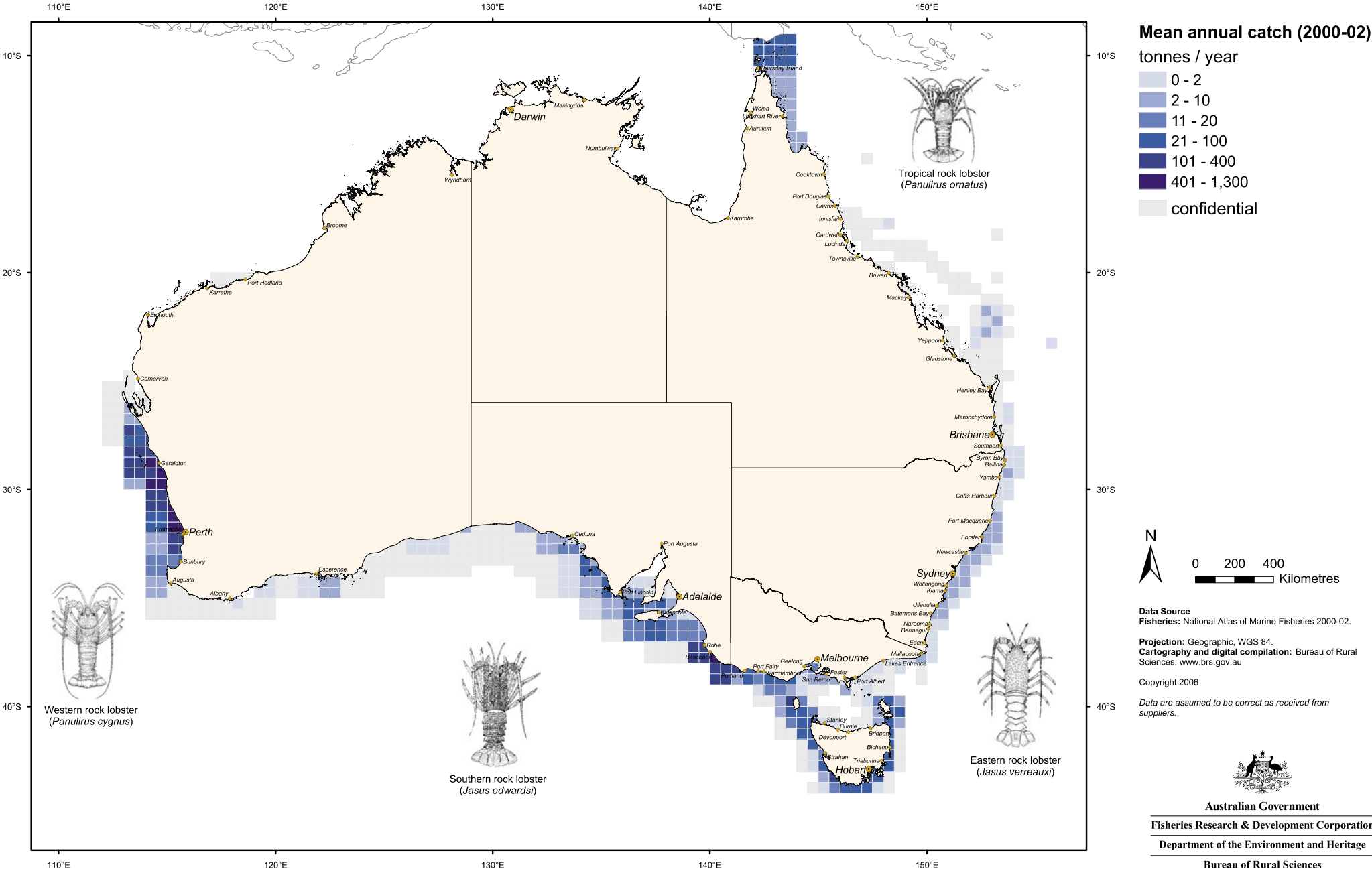
**Map 7** Lobster fisheries – Commercial catch

**Map 8** Prawn fisheries – Commercial catch

**Map 9** Tuna and mackerel fisheries – Commercial catch

**Map 10** Shark fisheries – Commercial catch

**Map 11** Mollusc fisheries – Commercial GVP





## Gear

Primarily lobster pots and traps.

## Primary species

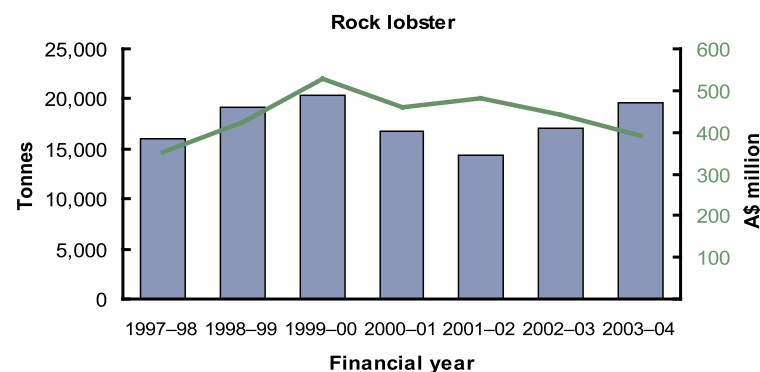
Rock lobsters of the genera *Panulirus* and *Jasus*.

## Description

Map 7 shows mean annual catch of rock lobsters (Panuliridae) in the years 2000–02. The primary commercial species of rock lobster are illustrated on the map.

## Notes

- Fisheries for the temperate species of rock lobster (*Jasus spp.*) are distributed across southern Australia, with southern rock lobster along the coast from Western Australia to Tasmania and eastern rock lobster off the coast of New South Wales. The fishery for the western rock lobster is the largest trap fishery in Australia and is restricted to the west coast of Western Australia. In the tropics there are substantial fisheries for species such as ornate rock lobster and painted rock lobster (*Panulirus spp.*), particularly in Torres Strait and north east Queensland. Rock lobster fishing is restricted to the continental shelf, particularly in shallow near-shore waters, with catches tending to diminish offshore towards the shelf edge.
- Each of the southern states have dedicated rock lobster fisheries that are managed through lobster size-limits, closed areas, limited entry to the fishery, and catch and effort limitations.



- Rock lobster fisheries around Australia have a history dating from around the arrival of Europeans. The fisheries expanded with the development of export markets after the Second World War.
- The bulk of the rock lobster catch is exported live, fresh, cooked or frozen to markets in Asia, USA and, more recently, Europe. There are about 1400 rock lobster licence holders around Australia operating out of numerous small and large ports.
- Rock lobster fisheries account for 27% of the total GVP of all Australian wild-catch fisheries. In 2003–04 this amounted to \$390m and was as high as \$527m in 1999–00. The 2003–04 production was 19,500 t, or 8.5% of the total Australian wild-catch tonnage, serving to illustrate the high value nature of rock lobster fisheries.

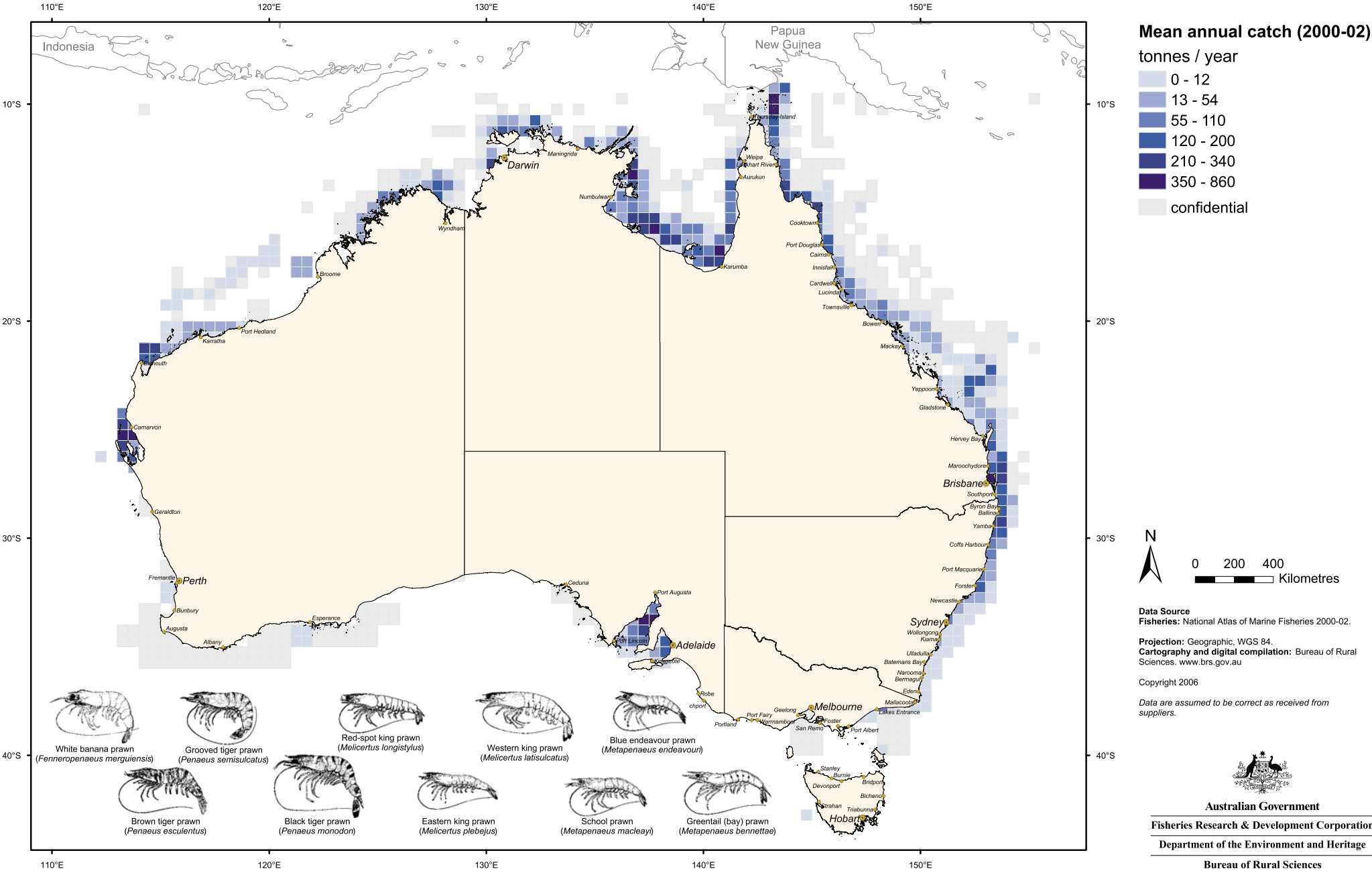
## Sources

ABARE (2005) *Australian Fisheries Statistics 2004*. Australian Bureau of Agricultural and Resource Economics, Canberra. 65pp.

Kailola, P.J., Williams, M.J., Stewart, P.C., Russell, E.R., McNee, A. and Grieve, C. (1993) *Australian Fisheries Resources*. Bureau of Resource Sciences and the Fisheries Research and Development Corporation, Canberra. 422pp.



Setting lobster traps, Western Australia (Department of Fisheries, WA)



## Gear

Prawn otter-trawl.

## Primary species

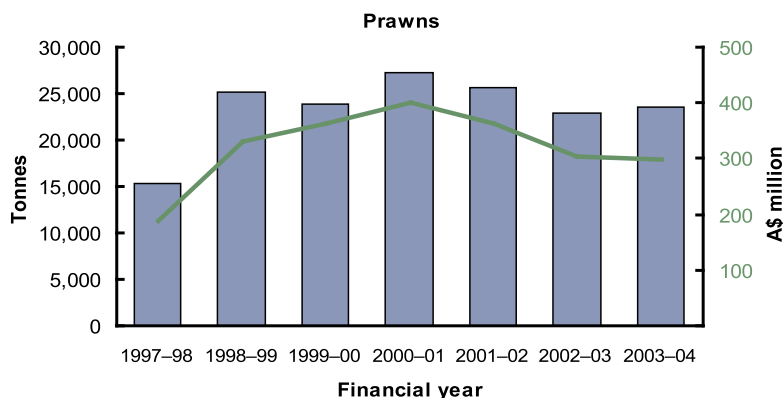
Prawns of the family Penaeidae.

## Description

Map 8 shows mean annual catch of prawns (Penaeidae) in the 2000–02, reported on a half-degree grid. A selection of the primary commercial species of prawn are illustrated on the map.

## Notes

- Penaeid prawn populations are usually quite closely associated with river and estuarine systems, as well as habitats such as mangroves and seagrass, that are important at various stages of the prawn lifecycle. The associated trawl fisheries for penaeid prawns generally occur in shallow, near-shore waters, bays and estuaries. Australia's large-scale prawn fisheries are generally tropical or subtropical, with the exception of the substantial fisheries in Spencer Gulf and the Gulf of St Vincent, Southern Australia. In Western Australia, large fisheries occur in Shark Bay, Exmouth Gulf and along the Kimberly coast. The Northern Prawn Fishery extends across Northern Territory and throughout the Gulf of Carpentaria. Torres Strait also has a substantial prawn trawl fishery. Prawn trawling extends down the entire east coast of Queensland and New South Wales, with catches diminishing south of Sydney.



- There have been small estuarine fisheries for prawns since the 19<sup>th</sup> century, and an otter-trawl fishery for prawns has existed in New South Wales since the late 1920s. However, for the most part, today's large-scale industrial prawn fisheries began in the 1960s and underwent their major growth in the 1970s.
- Product may be frozen and packed at sea or chilled for processing on shore. Most of the catch is exported to Asian and US markets, with an emphasis on high quality and larger prawns. There are about 1550 prawn trawl licence holders around Australia.
- Prawn fisheries account for 20% of the total GVP of all Australian wild-catch fisheries. In 2003–04 this amounted to \$298m and was as high as \$401m in 2000–01. The 2003–04 production was 23,500 t or 10% of all Australian wild-catch tonnage.

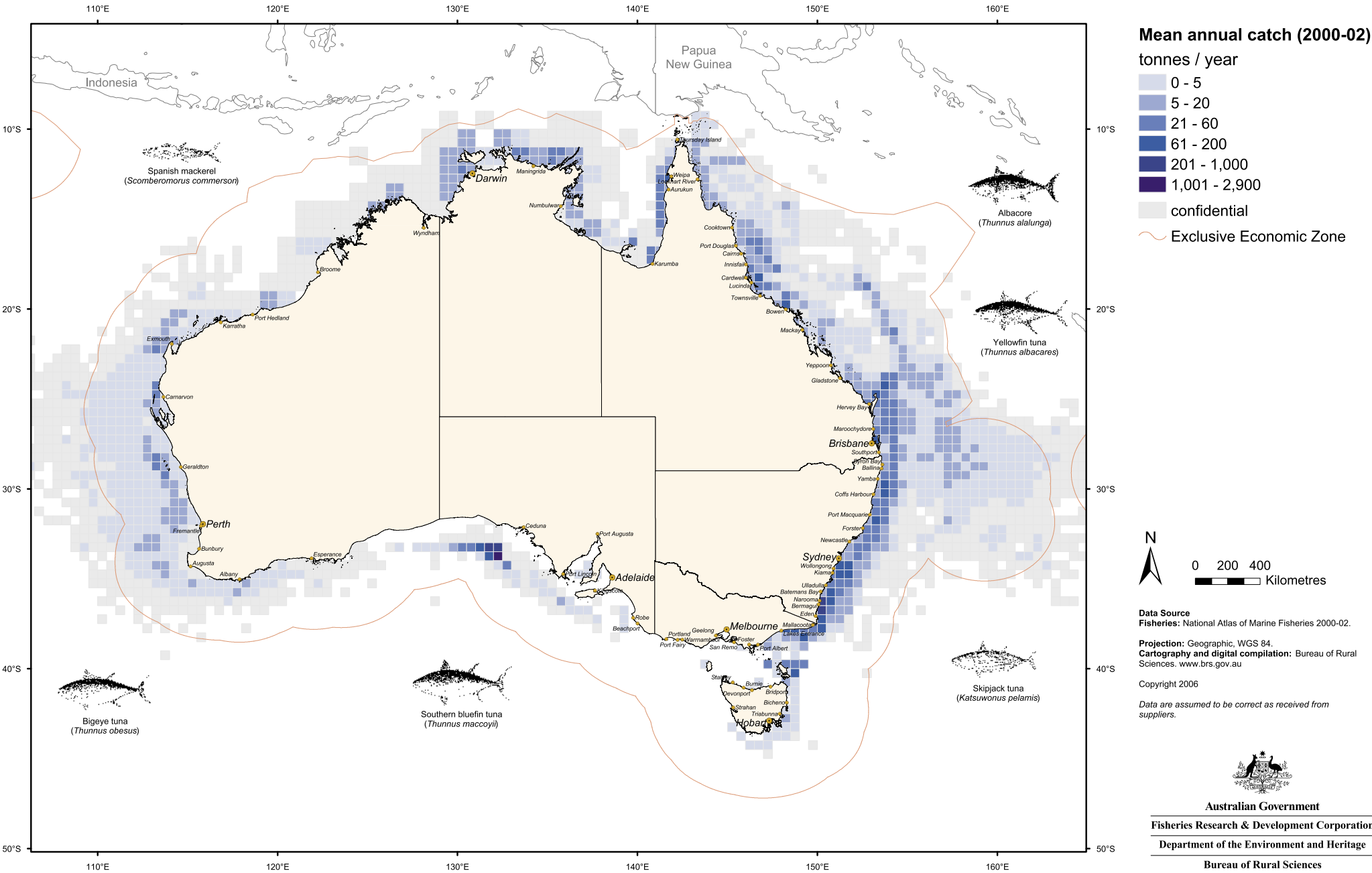
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Northern Prawn Fishery fleet, Darwin (J. Larcombe, 2005)





## Gear

Mainly line gear such as troll and pelagic longline, and purse seine.

## Primary species

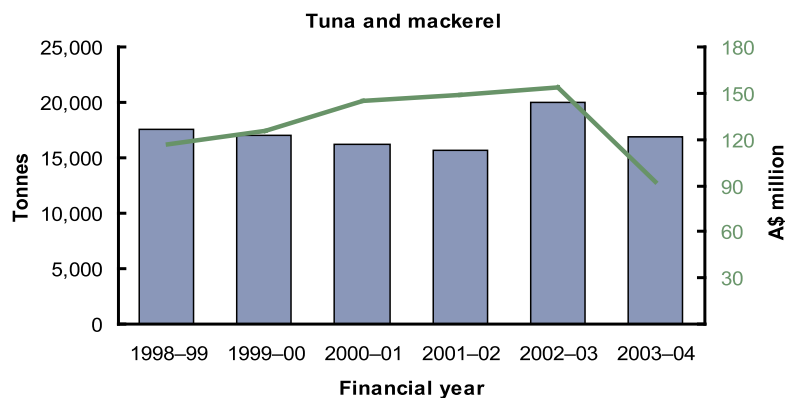
Fishes of the family Scombridae (mackerels, tunas and bonitos).

## Description

Map 9 shows mean annual catch of scombrids in 2000–02, reported on a half-degree grid. A selection of the primary commercial species of scombrid are illustrated on the map. Note that blue mackerel and jack mackerel (Carangidae) are not included in this presentation.

## Notes

- A number of distinct fisheries are encompassed in this presentation. Trolling for mackerel (*Scomberomorus spp.*) occurs close to the surface in coastal areas around reefs, shoals and headlands in tropical and subtropical waters off Western Australia, Northern Territory and Queensland. Pelagic longlining for tuna (*Thunnus spp.*) occurs from the edge of the continental shelf out to deep oceanic waters, off the eastern and western coasts of Australia. Pelagic longlining by Australian vessels also extends outside the Australian Fishing Zone onto the high seas. Purse seining for southern bluefin tuna occurs in the Great Australian Bight, and purse seining for skipjack tuna (*Katsuwonus pelamis*) occurs from the Great Australian Bight to New South Wales.
- Mackerel fisheries are usually managed by the States/Territories whereas tuna fisheries are managed by the Australian Government.



- Mackerel are consumed domestically but a significant proportion is exported (to Taiwan in particular). Longline caught tuna are largely for the Asian export market (particularly Japan). Purse seine caught southern bluefin tuna are destined for grow-out cages near Port Lincoln and fattened for up to six months before harvest and export to Japan.
- The GVP for tuna and mackerel fisheries was \$93m with a catch of 17,000 t in 2003–04. This was down from a high of \$150m and a catch of 20,000 t in 2002–03. Note that in relation to southern bluefin tuna, the GVP figures are estimates at entry to the tuna farms and exclude value adding by the farms.

## Sources

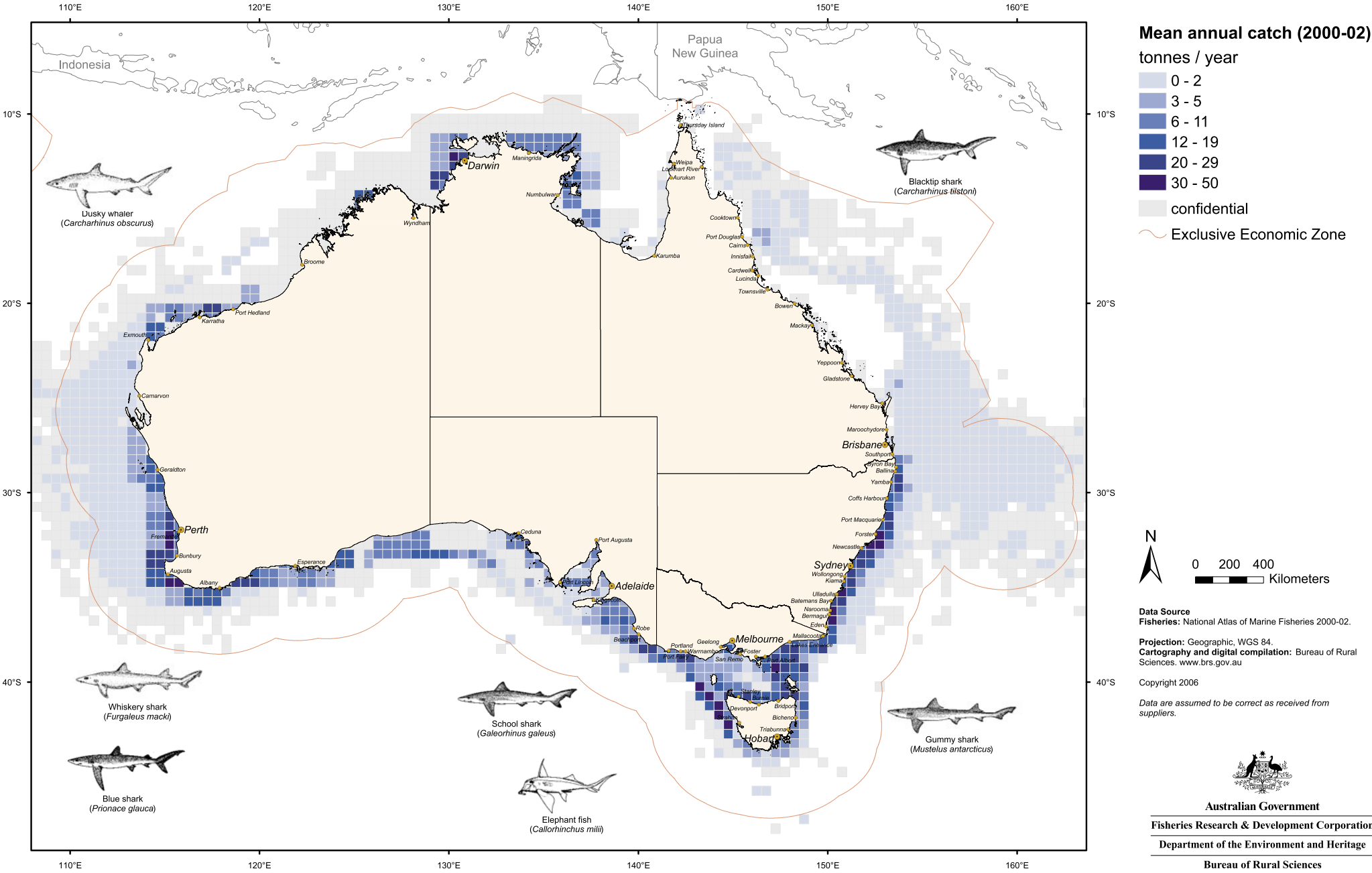
ABARE (2005) *Australian Fisheries Statistics 2004*. Australian Bureau of Agricultural and Resource Economics, Canberra. 65pp.

Kailola, P.J., Williams, M.J., Stewart, P.C., Russell, E.R., McNee, A. and Grieve, C. (1993) *Australian Fisheries Resources*. Bureau of Resource Sciences and the Fisheries Research and Development Corporation, Canberra. 422pp.



Yellowfin tuna, Mooloolaba, Queensland (J. Kalish, 2003)





## Gear

Mainly net gear, such as gillnet, and line gear such as bottom-set and pelagic longline.

## Primary species

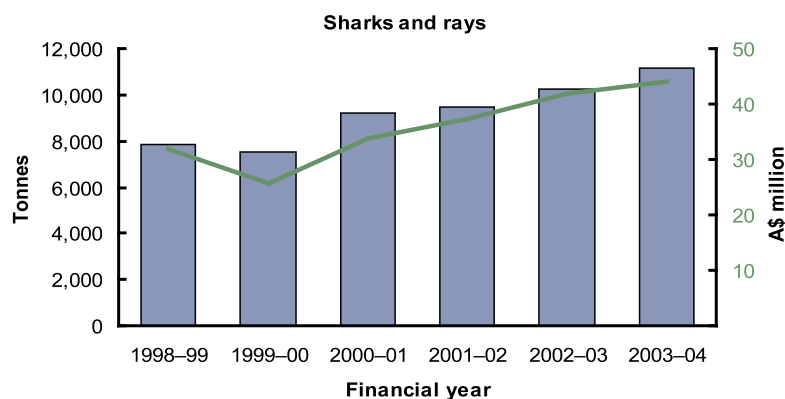
Sharks, rays and other cartilaginous fish (Chondrichthyes).

## Description

Map 10 shows mean annual recorded catch of sharks and rays over the years 2000–02 inclusive, reported on a half-degree grid. A selection of the primary commercial species of shark and ray are illustrated on the map.

## Notes

- There are a number of dedicated shark fisheries in Australia, including two Western Australian fisheries using demersal gillnet in the south west, the Western Australian northern shark fisheries and the Northern Territory Shark Fishery (in the north west), and the Australian Government managed Southern and Eastern Scalefish and Shark Fishery (in the south east). In addition, sharks and rays are a retained bycatch of a large variety of other fisheries, including pelagic longlining for tuna and billfish, trolling for mackerel, prawn and finfish trawling, and various forms of gillnet and baited hook fishing. The map clearly illustrates catches from the dedicated shark fisheries on the continental shelf, as well as extensive areas of shark bycatch from pelagic longlining in oceanic waters off the eastern and western seaboard.



- Fisheries for shark have been operating in south eastern Australia since the 1920s, while other fisheries around Australia have developed more recently. In northern Australia, the domestic fisheries succeeded a large Taiwanese gillnet fleet that operated until the 1980s.
- Most shark is marketed filleted in Australia as flake, and is a staple of fish and chip shops in southern states. Shark fin is exported dried, primarily to Asian markets.
- The GVP of fisheries for sharks and rays was \$44m with a catch of 11,000 t in 2003–04. The total recorded catch has shown an increasing trend since 1999–00. Quantities of shark are commonly discarded in some fisheries. The results in this presentation are for the recorded retained catch only.

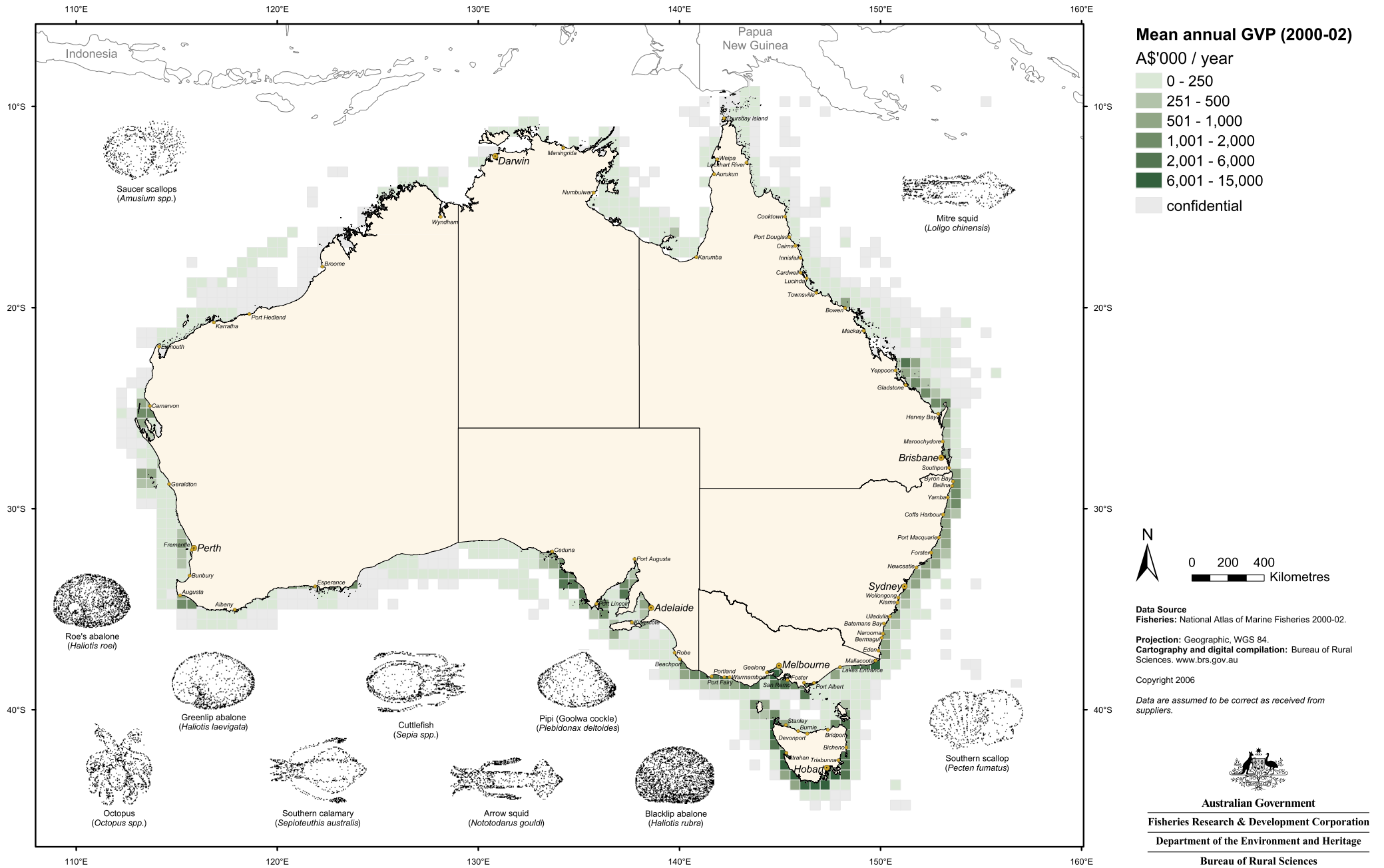
## Sources

ABARE (2005) *Australian Fisheries Statistics 2004*. Australian Bureau of Agricultural and Resource Economics, Canberra. 65pp.

Kailola, P.J., Williams, M.J., Stewart, P.C., Russell, E.R., McNee, A. and Grieve, C. (1993) *Australian Fisheries Resources*. Bureau of Resource Sciences and the Fisheries Research and Development Corporation, Canberra. 422pp.



Shark research and monitoring, Western Australia (Department of Fisheries, WA)



### Gear (species)

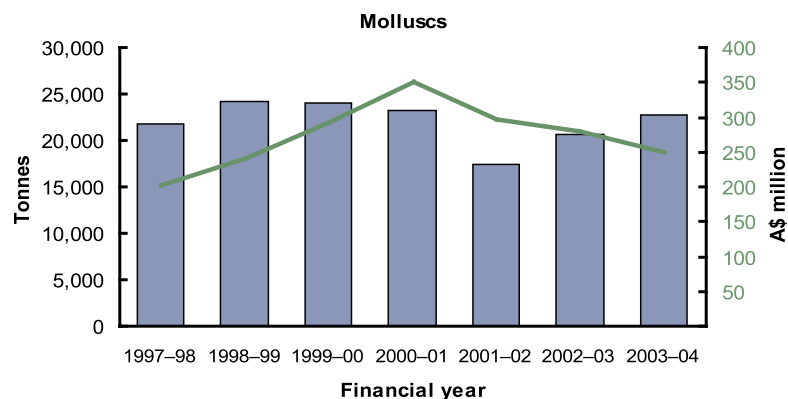
Hand collection (abalone, oysters, pipis), dredge and trawl (scallop), jig and trawl (squid), pots (octopus) and haul nets (calamari).

### Description

Map 11 shows mean annual GVP of mollusc catch in 2000–02, reported on a half-degree grid. A selection of the primary commercial mollusc species are illustrated on the map.

### Notes

- Abalone fisheries are restricted to shallow (usually less than 20 m) rocky reef areas of southern Australia that are accessible to divers. Highly valuable abalone fisheries can be observed around Tasmania, Victoria, South Australia and southern Western Australia. Pipis are harvested from high energy surf beaches in South Australia and New South Wales. Dedicated fisheries for scallop are located in Bass Strait; Shark Bay and Abrolhos Islands (Western Australia); inshore waters of Northern Territory; and along the central Queensland coast. Dedicated haulnet and jig fisheries for squid and calamary are located in the South Australia Gulfs and in shelf waters of eastern Bass Strait.
- Significant quantities of squid and calamari are taken as bycatch in trawl and net fisheries around Australia.
- Intensive commercial fishing for abalone across southern Australia began in the 1960s.



- Most abalone and scallop product is destined for export to the Asian market. The remaining mollusc catches are largely for the domestic market.
- The GVP for mollusc fisheries in Australia was \$249m (17% of the Australia's total fisheries GVP) with a catch of 22,000 t in 2003–04. Abalone accounted for \$189m and 5,500 t of this 2003–04 total. The total recorded catch has shown an increasing trend since 2001–02, but a downward trend in GVP over the same period.

### Sources

ABARE (2005) *Australian Fisheries Statistics 2004*. Australian Bureau of Agricultural and Resource Economics, Canberra. 65pp.

Kailola, P.J., Williams, M.J., Stewart, P.C., Russell, E.R., McNee, A. and Grieve, C. (1993) *Australian Fisheries Resources*. Bureau of Resource Sciences and the Fisheries Research and Development Corporation, Canberra. 422pp.



Scallop catch, Mooloolaba, Queensland (J. Kailish, 2003)