

An underwater photograph showing a diverse marine ecosystem. In the foreground, a large school of dark-colored fish swims over a rocky seabed covered in coral and other marine life. In the middle ground, several larger, lighter-colored fish are visible. The background shows a sunlit water surface with ripples and light rays filtering down. The overall scene is a rich and detailed representation of a healthy reef environment.

Fish and Fish Habitat Protection

General Overview	176
West Coast Bioregion	177
Gascoyne Coast Bioregion	180
North Coast Bioregion.....	182
South Coast Bioregion	184
Northern Inland Bioregion	185
Southern Inland Bioregion	185

Fish and Fish Habitat Protection

General Overview

The aquatic environment of Western Australia supports a range of outstanding recreational fishing, commercial fishing, pearling and aquaculture industries. These activities all depend upon a healthy environment for their continuing success. The Western Australian Government is committed to the conservation of the aquatic environment so that it may be used and enjoyed for generations to come.

The Fish and Fish Habitat Protection Program coordinates the agency's role in the protection of the marine estuarine and riverine environments as required by the Government's fisheries policy. To facilitate these activities on behalf of the wider community, a reference group of stakeholders was set up in the year 2000. This group incorporates representatives of the commercial fishing industry, recreational fishers, the aquaculture industry, the Aboriginal sector, the Conservation Council of WA, the Department of Conservation and Land Management (CALM), the Environmental Protection Authority (EPA) and the Office of the Auditor General (OAG). The reference group provides input on fish habitat protection, ecologically sustainable development (ESD) and related activities of Fisheries WA.

Activities relevant at a bioregional level are discussed in the appropriate sections which follow. Progress towards statewide initiatives is reported below.

ESD Assessment of WA Fisheries

Fisheries WA staff have taken a lead role in the development of a national framework for reporting on fisheries within the context of ESD. The development of the ESD framework has been prepared at the direction of the Standing Committee on Fisheries and Aquaculture. Fish and Fish Habitat Protection Program staff are liaising with other State fisheries and environmental agencies to develop a framework which can address the issues of concern to all stakeholder groups.

During 2000/2001, a draft ESD policy document was developed to outline how ESD reporting and assessment will be implemented in relation to the *Fish Resources Management Act 1994* and associated legislation. In addition, the ESD framework has been further refined by the incorporation of a formal risk assessment analysis to determine the appropriate level of management response to issues raised by stakeholders. For medium- or high-risk issues that require specific management, a detailed report that specifies explicit objectives and performance measures must now be completed.

These ESD reporting methods are currently being used to complete the applications to Environment Australia on the sustainability of commercial fisheries to enable continued export of products past 2003. Draft assessment reports have been produced which relate to the major export fisheries including western rock lobster, Shark Bay prawn, Shark Bay scallop, Exmouth Gulf prawn, Shark Bay snapper and abalone.

The development of these ESD reports has relied heavily upon the information presented previously in the *State of*

the Fisheries reports and used in the annual Fisheries WA performance assessment.

To ensure that this reporting and assessment process is viewed by stakeholders as transparent, objective and robust, an appropriate third-party audit is needed for all fisheries (not only export fisheries). While the current fisheries assessments are subject to OAG audit, the possible extension of independent auditing to cover these new ESD criteria and their associated assumptions is currently being negotiated between Fisheries WA, the EPA and the OAG.

Fishcare WA

Community groups and organisations are encouraged to play an active role in the management and conservation of the State's fish and fish habitats through the State program Fishcare WA and the national Fisheries Action Program.

A review of the success of the national Fisheries Action Program and the State's Fishcare WA program has been completed. A total of 13 Fishcare projects valued at \$33,000, and five Fisheries Action Program projects valued at \$151,000, were approved for Western Australia in 2000/2001. This brings the total value of all projects funded in Western Australia under both programs to \$1,182,000 since 1996.

Two of the 13 new Fishcare WA projects provide benefits across more than one bioregion. These are:

- Aquaculture and farming (CBC Fremantle).
- Comparisons in habitats, age composition, growth and biology of tarwhine – Shark Bay and Perth waters (Murdoch University).

Other projects were regionally based and are described below in the relevant bioregion section.

Marine Reserves and Marine Planning

Fisheries WA continued working with CALM to implement the Government's marine reserves program. Both the Minister for Fisheries and Fisheries WA have a vital role in these processes. Fisheries WA manages fishing, pearling and aquaculture in all marine reserves. It also works with Environment Australia in the planning of marine protected areas in Commonwealth waters.

Areas of the waters of Western Australia may be reserved as fish habitat protection areas (FHPAs) pursuant to Section 115 of the *Fish Resources Management Act 1994*. These areas are vested in the Minister for Fisheries and may be established for a number of purposes including the protection of the aquatic environment, protection of fish, and education. Before an FHPA can be established a draft plan of management must be prepared and a public consultation process undertaken. Under this process, the Minister has wide powers to control or prohibit fishing activity, and may also make regulations to prohibit other human activities which may harm or alter the environment. The waters of the Abrolhos Islands, which have special significance for the rock lobster fishery and

conservation purposes, are reserved as an FHPA. During the year, the Lancelin Island Lagoon was set aside as an FHPA and the Minister released the draft plan of management for the proposed Cottesloe Reef FHPA. In addition, the draft plan for the proposed Miaboolya Beach FHPA was completed.

Fisheries regulations may also be used to limit or prohibit fishing in specific locations to enable people to observe a part of the marine environment which is not affected by fishing. These areas are often established at the request of local communities and are described as reef protected areas (RPAs). Reef protected areas exist at a number of locations around Western Australia including Cowaramup Bay, Esperance Jetty and Yallingup Reef. In July 2000, the *Kunmunya* and *Samson II* wreck sites near Point Samson were closed to all fishing and set aside as an RPA.

Marine Environments

Successful collaborations between Fisheries WA and industry, community and other stakeholder groups continued throughout the year to ensure the protection of fish and fish habitat. Major achievements were as follows:

- Fisheries WA has been contributing to the implementation of the Report of the National Taskforce on Introduced Marine Pests through membership of the National Introduced Marine Pests Coordinating Council. This work has included the development of an interim protocol for the management of introduced marine pests associated with vessels entering Australian waters illegally. This is a growing issue and Fisheries WA has worked closely with AQIS and other relevant Commonwealth agencies in the development of the policy.
- During the year, Fish and Fish Habitat Protection Program staff consulted with all stakeholders to develop a comprehensive set of guidelines for the establishment of FHPAs. The guidelines outline a process which enables community groups to initiate the establishment of FHPAs and other protected areas.
- A Fisheries Management Paper on fish protection measures was completed (Bunting 2001). This report outlines the breadth of legislative and administrative arrangements that Fisheries WA uses to protect fish and their habitats.
- The Minister introduced an order to protect coral from recreational collectors in Western Australian waters.

West Coast Bioregion

Environmental Management Overview

A number of projects which will give greater protection to fish and their habitats were advanced in the west coast bioregion during 2000/2001. This included further progress on marine protected areas, including planning for the proposed Jurien Bay Marine Park and the management of the Abrolhos system.

In April 2001, the Minister established the Lancelin Lagoon FHPA. Fisheries WA worked with the Marine Conservation Society of WA to set aside this marine protected area. In addition, in June 2001, the Minister released the draft plan of management for the proposed Cottesloe FHPA. Fisheries WA is working with the Cottesloe Reef Protection Society on this project. Both of these areas were identified by community groups who considered them important for educational purposes and expressed a willingness to take a lead role in their stewardship.

Management of the Abrolhos Islands continued to be progressed with the assistance of the Abrolhos Islands Management Advisory Committee in accordance with the approved management plan released in December 1998. Significant progress towards the management plan strategies was made in the following areas:

- Fisheries WA conducted a public workshop to assist in developing a research project to study the health of the Abrolhos reef system and the impacts of human activities on the reef.
- A major reef health baseline data project has been developed to provide a strategic approach to the conduct of reef health science initiatives at the Islands. This project is an important precursor to the sustainable use and development of the Islands and surrounding waters.
- With the assistance of funding provided under the Natural Heritage Trust, environmentally sensitive public moorings were installed at the Abrolhos Islands. These facilities will enable the general public to access dive sites without damaging the environment.
- With the assistance of Fisheries WA, the WA Maritime Museum completed an extensive survey of the historical sites on Beacon Island.
- A plan for sustainable tourism at the Abrolhos Islands was released. The aim of the plan is to improve public access to the islands while protecting the environment.
- A review of the land conservation values of the Abrolhos Islands was completed.
- A full registry of fishing industry moorings was completed.
- Work has commenced on the draft bycatch action plan for the Abrolhos Islands and Mid West Trawl Managed Fishery.



Fish and Fish Habitat Protection

Four new Fishcare WA projects were funded in the west coast bioregion. These were:

- Geographe Bay marine environment (West Busselton Primary School).
- Jurien Bay snorkel trail (Jurien District High School).
- Bunbury Back Beach reef survey (Reef Diving Association).
- Impact of humans on bottlenose dolphins in Cockburn Sound (Murdoch University).

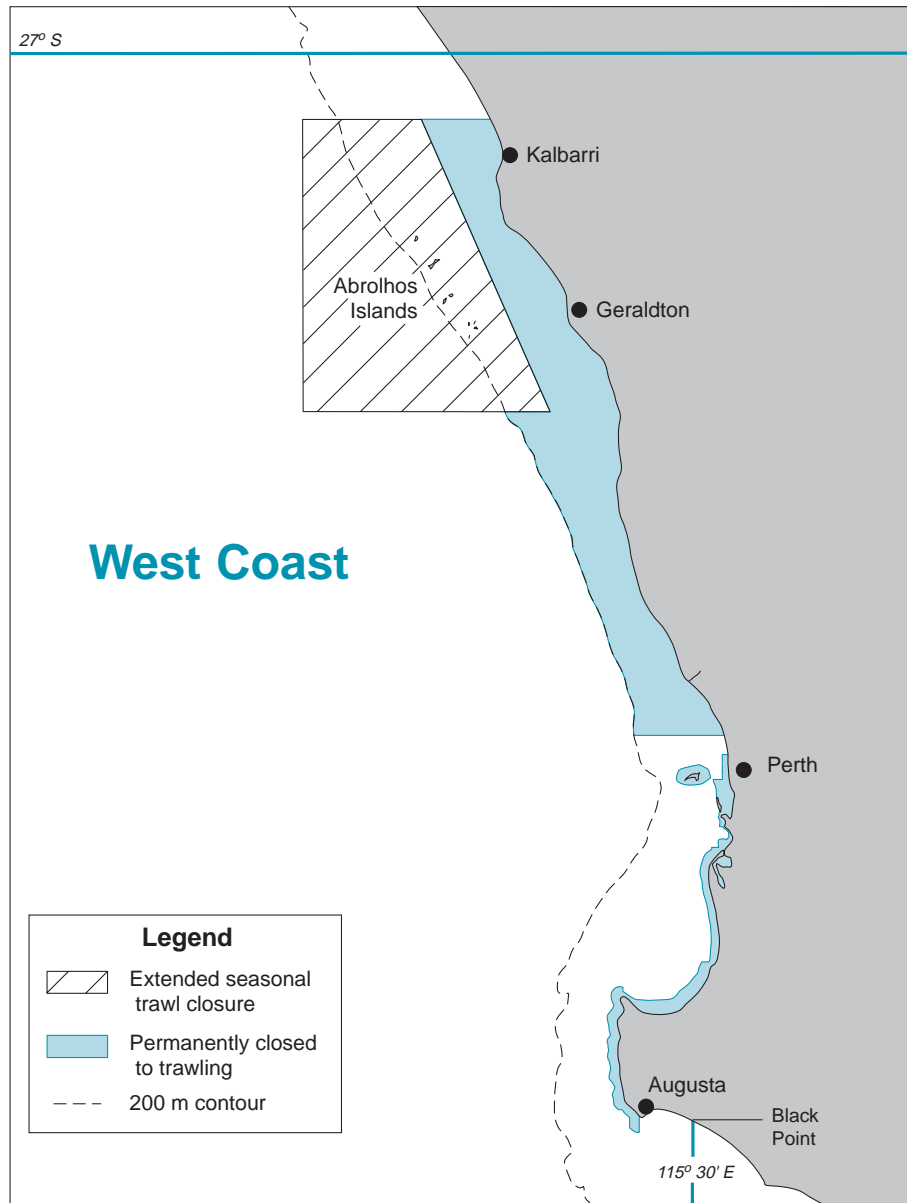
Fish Habitat Protection Overview

On the west coast, marine habitats are largely protected from any physical impact of fishing by extensive closures to trawling, the only permitted fishing method which can

significantly affect the sea floor. Essentially, all seagrass habitats are protected, with trawling limited to sand areas inhabited by target species such as scallops (West Coast Habitat Protection Figure 1).

In addition, habitat protection is provided by specific FHPAs, RPAs and marine parks in sensitive areas (West Coast Habitat Protection Figure 2).

During 2000/2001, the establishment of a dedicated two-man field operations team in the Abrolhos Islands enhanced service delivery and public awareness of important environmental issues in this remote location. Patrols of the RPAs continued with an educative focus, but with some apprehensions for illegal fishing activities. Island schools were visited to present talks to the children, and a newsletter was commenced to provide an update on



WEST COAST HABITAT PROTECTION FIGURE 1

Map showing areas of permanent and extended seasonal closures to trawl fishing in the west coast bioregion.

fisheries issues to Island fishers during the season. Advisory and logistical support was also provided to a major media visit in April 2001 to help showcase the Abrolhos.

Voluntary air service protocols were implemented, and airstrip maintenance carried out, to ensure visitor and passenger safety. Camp, jetty and aquaculture lease inspections were conducted to ensure standards were being maintained. A mooring register was completed, as were interim discussions to remove and identify hazardous moorings. The agency itself installed environmentally sensitive moorings in key anchorage areas to minimise benthic habitat damage while supporting responsible diving by ecotourism operators. Officers also continued to provide a sea rescue support and emergency management role.

Officers completed on-site training with the WA Maritime Museum in the duties of a Historic Shipwreck Inspector. Visits from WA Museum staff were also facilitated, and field assistance provided to research projects including studies on seabird diet and nesting patterns, finfish research, RPA habitat studies and sea-lion and seal study.

An outbreak of noxious daisies at East Wallabi airstrip was quickly destroyed to preserve the environmental integrity of this important island.

A high level of community consultation continues, with input from the various user groups and specialist committees.



WEST COAST HABITAT PROTECTION FIGURE 2

Map showing current and proposed areas of protected fish habitat in the west coast bioregion.



Fish and Fish Habitat Protection

Gascoyne Coast Bioregion

Environmental Management Overview

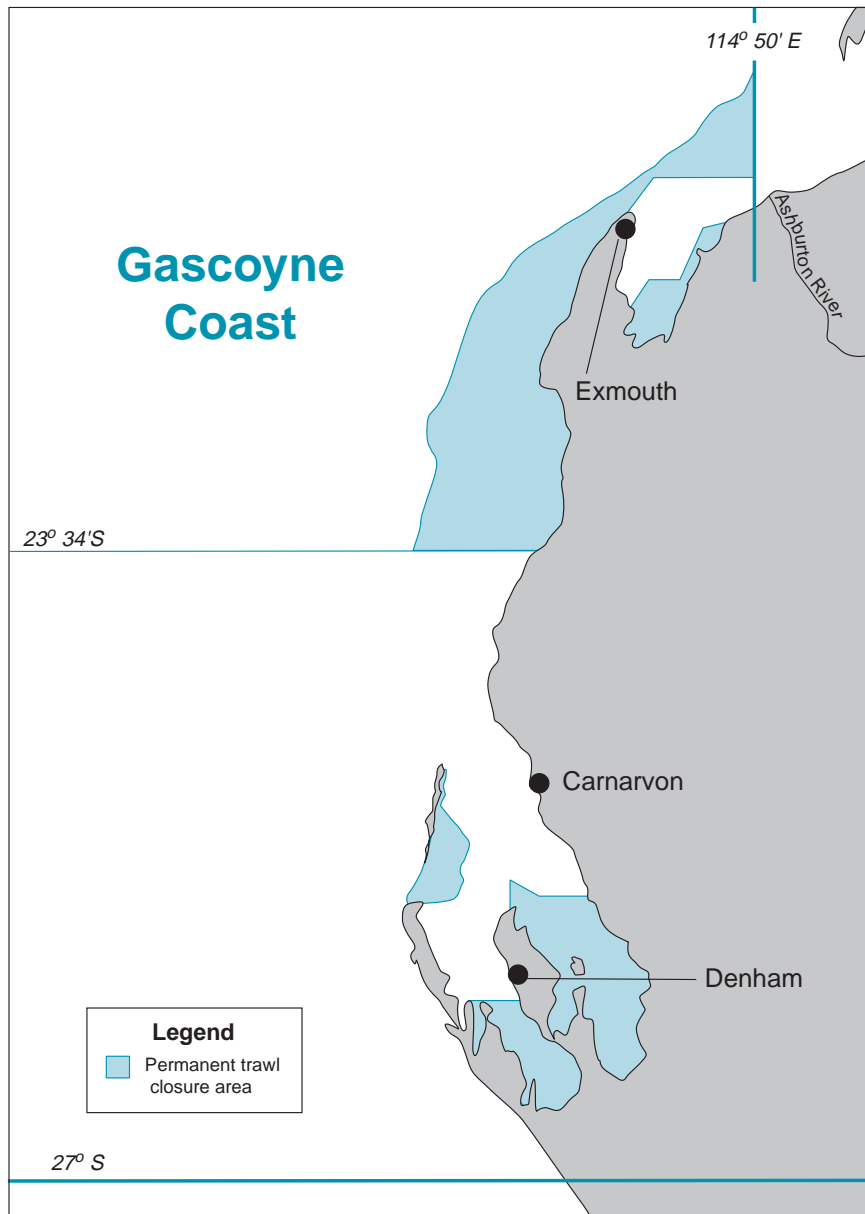
Significant achievements toward environmental management of fishing in the Gascoyne coast bioregion during 2000/2001 included Fisheries WA's input to the plans for the Ningaloo Marine Park.

A draft bycatch action plan for the Shark Bay Prawn Managed Fishery was completed. The plan contains a variety of management strategies to limit and report upon the impacts of trawling in Shark Bay. The program introduced bycatch reduction devices to eliminate large

animals like sharks and rays from the catch. In addition, work is progressing on the development of fish escape devices in the trawl nets. Work is continuing on bycatch action plans for the Shark Bay Scallop and Exmouth Gulf Prawn Managed Fisheries.

The draft plan of management for a proposed FHPA for Miaboolya Beach at Carnarvon was completed.

The Gascoyne Region Fisheries Environmental Management Review (FEMR) was released. The review describes the fish resources of the region and the pressures which may affect them. It also describes how Fisheries WA will work to protect these resources from undesirable change resulting from human activities. This



GASCOYNE COAST HABITAT PROTECTION FIGURE 1

Map showing areas permanently closed to trawl fishing in the Gascoyne coast bioregion.

strategy is the first of five regional FEMRs which will be prepared by the agency.

Two new Fishcare WA projects were funded in the Gascoyne coast bioregion. These were:

- Ningaloo Reef environmental sustainability program (Scout Association of WA).
- Preliminary investigation of the biology of sharks in intertidal mangroves at Shark Bay (Murdoch University).

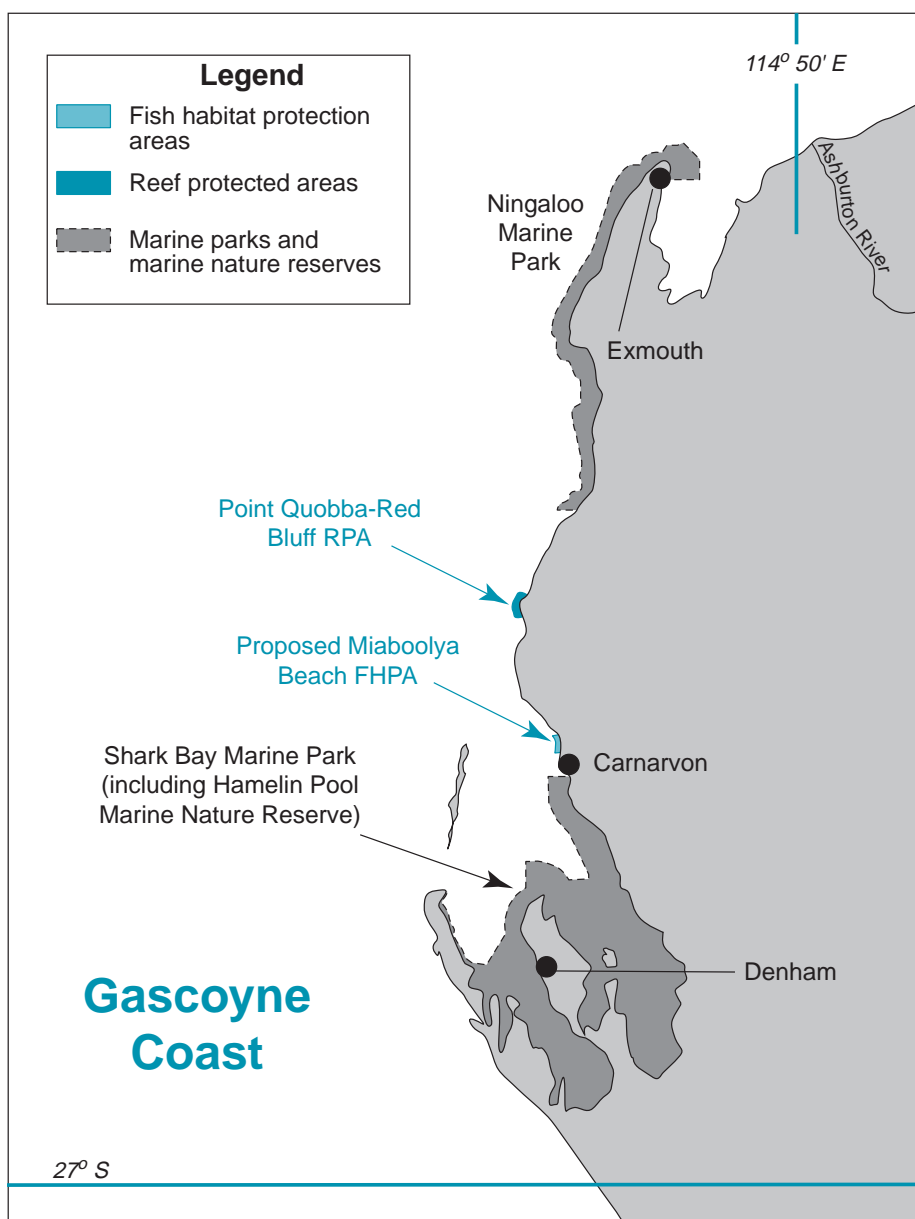
One new Fisheries Action Program project was funded in the Gascoyne coast bioregion. This was:

- Whale shark conservation through public education (Australian Marine Conservation Society).

Fish Habitat Protection Overview

In the Gascoyne bioregion, most sensitive habitats in the main embayments are closed to trawling to protect prawn nursery areas. Similarly, the whole sector offshore from Ningaloo Reef has been closed following an evaluation of fish trawling in the area (Gascoyne Coast Habitat Protection Figure 1).

The bioregion also has significant marine parks (Ningaloo and Shark Bay) in environmentally significant areas (Gascoyne Coast Habitat Protection Figure 2).



GASCOYNE COAST HABITAT PROTECTION FIGURE 2

Map showing current and proposed areas of protected fish habitat in the Gascoyne coast bioregion.



Fish and Fish Habitat Protection

North Coast Bioregion

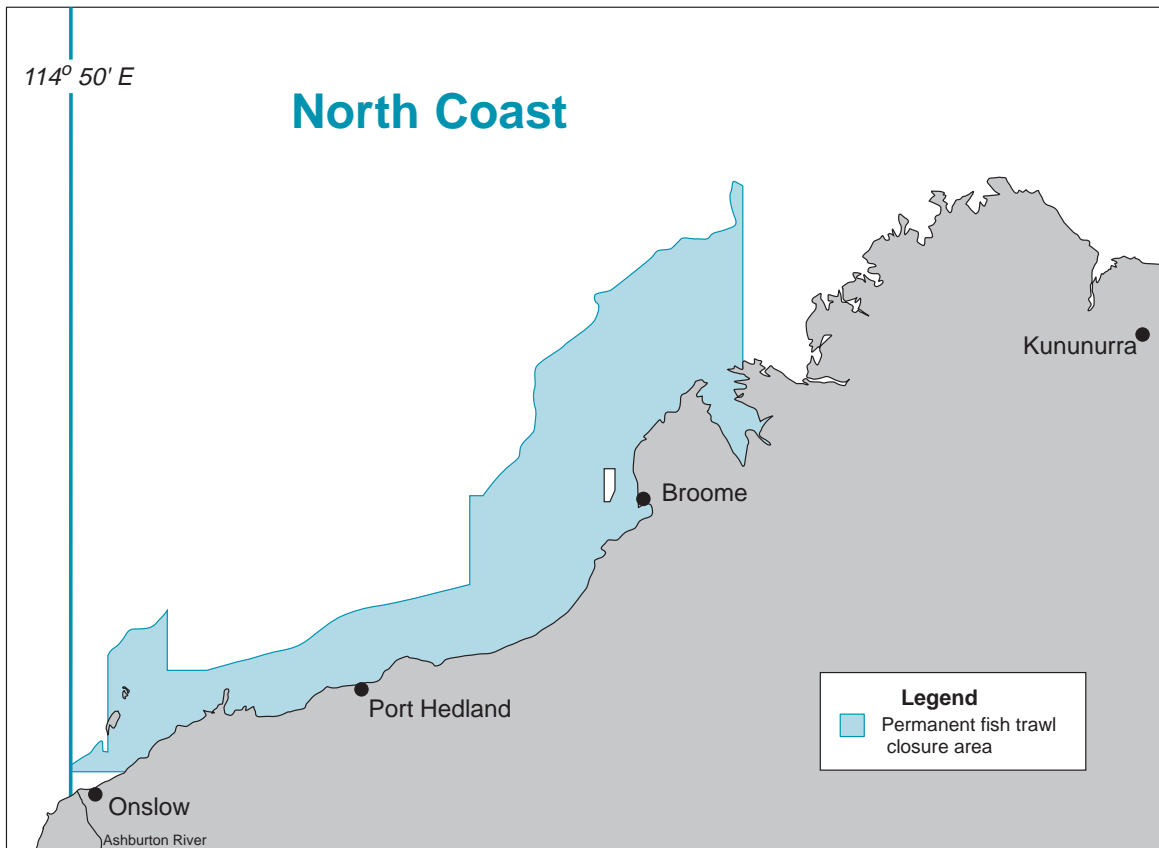
Environmental Management Overview

During 2000/2001, Fisheries WA has worked with CALM in the further development of the management plan for the Rowley Shoals Marine Park. In addition, advice has been provided as part of the planning process for the Dampier Archipelago and Montebello marine park proposals. The agency has also been working with the Commonwealth in the preparation of a draft plan for the proposed Cartier Island Marine Park.

During the year, Fisheries WA staff worked with the Port Walcott Dive Club to establish a protected area around the *Kunmunya* and *Samson II* wreck sites (north of Point Samson). The protected area is expected to be declared in July 2001.

Work has commenced on a draft bycatch action plan for the Pilbara Fish Trawl Interim Managed Fishery.

The agency also participated in the preparation of a major environmental study of the North West Shelf which is being coordinated by the Department of Environmental Protection.



NORTH COAST HABITAT PROTECTION FIGURE 1

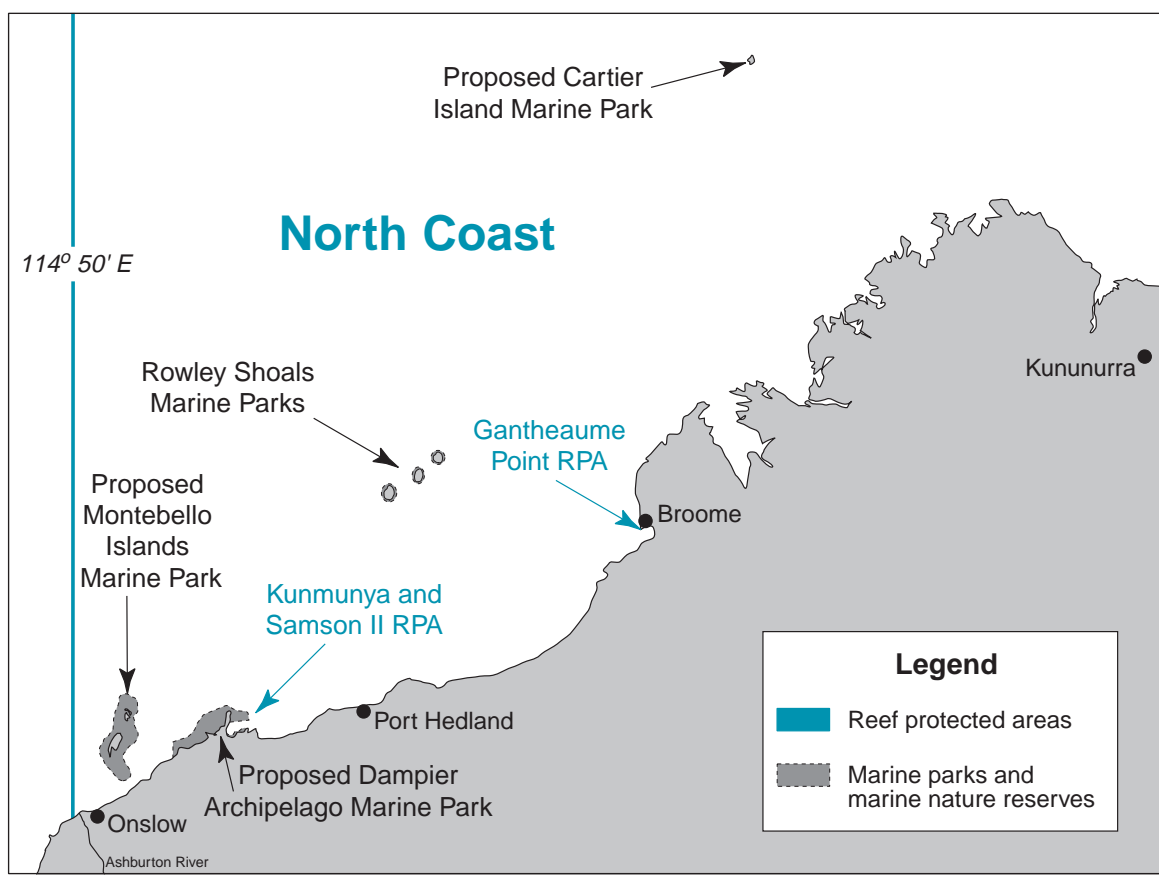
Map showing areas permanently closed to trawling for finfish in the north coast bioregion.

In 1999 there was an infestation of black-striped mussels in Darwin Harbour and there was concern that they may have translocated to the Kimberley region. Fisheries WA has been working with the WA Museum to monitor the ports of Broome, Derby and Wyndham in an attempt to identify possible infestations of this pest at an early stage. In December 2000, a seized illegal entry vessel was brought in to Broome, and on inspection was found to be infested with black-striped mussels. Fisheries WA worked with AQIS and other Commonwealth agencies to move the vessel out of Australian waters and have it destroyed.

Fish Habitat Protection Overview

The north coast bioregion has extensive closures to fish trawling in all coastal waters west of longitude 120° E to protect inshore fish nurseries. Similarly, the coastal area off Eighty Mile Beach and north to King Sound, apart from a suitable prawn trawling habitat area, has been permanently closed to trawling to protect important pearl oyster habitats from exploratory trawling (North Coast Habitat Protection Figure 1).

The region also has RPAs at sensitive coastal locations, marine parks at the Rowley Shoals and proposed marine parks in the Dampier Archipelago, Montebello Islands and Cartier Island (North Coast Habitat Protection Figure 2).



NORTH COAST HABITAT PROTECTION FIGURE 2

Map showing current and proposed areas of protected fish habitat in the north coast bioregion.



Fish and Fish Habitat Protection

South Coast Bioregion

Environmental Management Overview

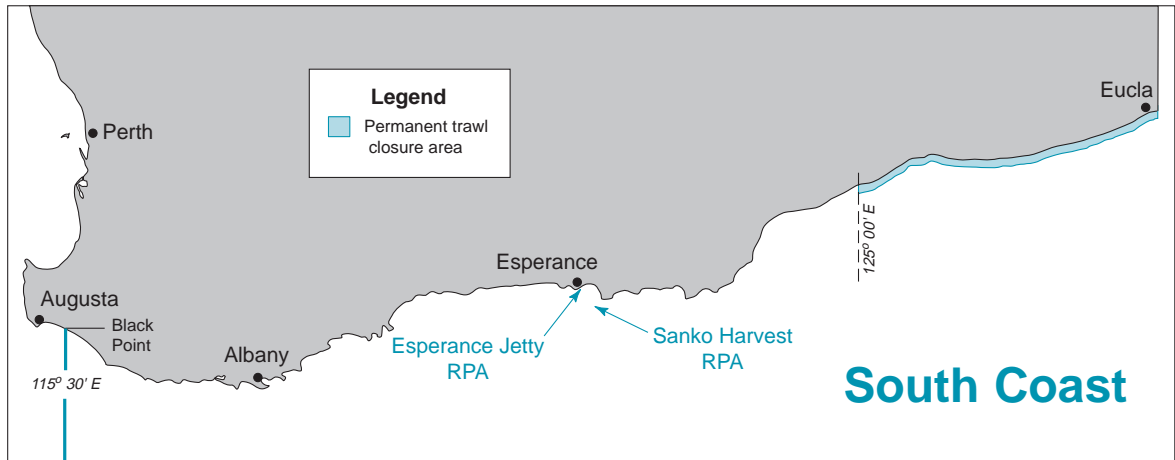
One new Fisheries Action Program project was funded in this region. This was:

- Community evaluation of fish stock health in coastal habitats of Albany (Edith Cowan University).

Fish Habitat Protection Overview

Along the south coast, fishing activities which can impact on marine habitats are limited to a small amount of scallop trawling off Esperance. There is a coastal trawling closure of State waters along the western Great Australian Bight sector, enacted under Commonwealth fisheries legislation, to ensure deep-sea trawlers do not venture into sensitive coastal areas (South Coast Habitat Protection Figure 1).

In addition, RPAs are in place to protect specific marine habitats of interest to the community (South Coast Habitat Protection Figure 1).



SOUTH COAST HABITAT PROTECTION FIGURE 1

Map showing areas permanently closed to trawl fishing and areas of protected fish habitat in the south coast bioregion.

Northern Inland Bioregion

Environmental Management Overview

During 2000/2001, work commenced on a survey of northern inland streams to help develop our understanding of the freshwater native fish in the region. This work is being undertaken by staff and students from Murdoch University, and supported by funds from the Fisheries Action Program.

Two new Fisheries Action Program projects were funded in the northern inland bioregion. These were:

- Freshwater native fish surveys of the Fitzroy River (Kimberley Land Council).
- Biology and distribution of fish in the inland waters of the North West Pilbara (Murdoch University).

Southern Inland Bioregion

Environmental Management Overview

The conservation of the 13 species of freshwater native fish which exist in Western Australia is a growing issue for Fisheries WA. Some of these species are endemic to Western Australia, and therefore their survival depends on us. Most of these fish are under pressure because of deteriorating environmental conditions. Therefore Fisheries WA is working with other agencies and institutions to undertake research on the distribution and life history of these animals to obtain the information required to protect them.

In addition, a number of public education projects are under way to inform people about native fish and their protection. The agency has provided funds to assist Murdoch University to prepare a series of posters about native fish. Further, the agency has an approval process in place for assessing proposals to translocate fish into and within Western Australia, to minimise the risks associated with movement of fish which may impact on endemic species.

In recognition of the threat from environmental changes to the long-term survival of the Margaret River marron strain, the agency has collected a stock of these animals. These marron are now breeding successfully in captivity at the SWFRAC, and will be available for restocking should the need arise in the future.

Five new Fishcare WA projects were funded in the southern inland bioregion. These were:

- The tilapia – its impact on the Greenough and Chapman Rivers ecosystems (Geraldton Secondary College).
- Habitat rehabilitation and freshwater native fish research (Busselton Senior High School).
- Investigation and revegetation of fish ladders (Bennett Brook Catchment Group).
- Publishing of brochure/posters on freshwater fishes of south-western Australia (Murdoch University).
- Riverwatch – riverbank care (Kelmscott Primary School).

One new Fisheries Action Program project was funded in the bioregion. This was:

- Artificial habitats for marron enhancement and biodiversity protection in south-western Australia (Fisheries WA).



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