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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 Department's role in the protection of the marine estuarine and riverine environments as required by the Government's fisheries policy. The Program develops policy and manages projects which have application to the Department's other Programs of Aquaculture, Pearling and Commercial and Recreational Fisheries Management. Fisheries Officers in the regions contribute to environmental protection in the field and staff from the Research Division also contribute to the Program's work.

The Program routinely contributes to the State's environmental protection processes by providing advice to the Environmental Protection Authority (EPA) and other Government agencies on coastal and marine developments and on marine and environmental policy.

To facilitate these activities on behalf of the wider community, a stakeholder reference group provides input on fish habitat protection, ecologically sustainable development and related activities of the Department of Fisheries. 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 EPA and the Office of the Auditor General.

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

ESD Assessment of Western Australian Fisheries

In 2000/01 the Department of Fisheries began to prepare ESD assessment reports for the major export fisheries in Western Australia. By December 2003, all fisheries that export products must have completed applications to Environment Australia on the sustainability of commercial fisheries to enable continued export of products past 2003. During 2001/02, the Department of Fisheries continued its progress toward that goal by producing final assessment reports for the West Coast Rock Lobster, Shark Bay Prawn, Exmouth Gulf Prawn and Shark Bay Scallop Managed Fisheries. In addition, draft assessment reports have been prepared for the Abalone and Shark Bay Snapper Managed Fisheries and the Pearl Oyster Fishery. These comprehensive ESD reports are used to produce specific applications to EA for export approval.

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.

In 2001/02 the Fisheries Action Program supported 6 continuing and 2 new projects with funding totalling \$300,600, while Fishcare WA provided \$31,068 in funding for 11 community-based projects. This brings the total amount of funding granted under both programs to \$1,544,047 since 1996.

One newly-funded Fishcare WA project provided benefits across more than one bioregion. This was the Coast Law Conference and book coordinated by the Environmental Defender's Office. Other projects were regionally based and are listed in relevant bioregion sections below.



Marine Reserves and Marine Planning

The Department of Fisheries continues to work with CALM to implement the Government's marine reserves program. Both the Minister for Fisheries and the Department of Fisheries have a vital role in these processes. The Department of Fisheries manages all fishing activity including pearling and aquaculture in all marine reserves. It also works with EA 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, Cottesloe Reef and Lancelin Island Lagoon are reserved as FHPAs. During the year, the draft plan of management for the proposed Miaboolya Beach FHPA was released and additional FHPAs are also being considered at Quobba and Kalbarri.

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). RPAs exist at a number of locations around Western Australia including Cowaramup Bay, Esperance Jetty and Yallingup Reef and around wreck sites near Point Samson, Dunsborough and Esperance. An additional protection area is also proposed at a wreck site near Albany.

Marine Environmental Management

Successful collaborations between the Department of Fisheries 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:

- The Department is working with the National Taskforce on Introduced Marine Pests to develop a single national system for the management of marine pest incursions. In addition, Fisheries Officers and Policy Officers have attended training programs on emergency response to introduced marine pests.
- The Department, in collaboration with the Water and Rivers Commission, has maintained a fishkill response capability aimed at responding to fishkill incidents in a timely way in order to identify the cause of kills and to institute appropriate management actions.
- A comprehensive set of guidelines for the establishment of FHPAs has been finalised. The guidelines outline a process which enables community groups to initiate the establishment of FHPAs and other protected areas.
- A draft discussion paper has been developed which identifies possible methods to manage the recreational collection of coral in Western Australian State waters. This is expected to be released to the public by the end of this year and will guide future management of this sensitive issue.
- A 'Shark Incident Response Plan' was prepared for use by staff of the Department of Fisheries in the event of a shark sighting in near-shore metropolitan waters or a shark attack.
- The Department coordinated a whole-of-Government Shark Management Strategy, which included coordinated aerial and boat patrols of the Perth metropolitan area and a 'Shark Hotline' telephone information service.

Geographic Information System

The Department's corporate spatial data is currently stored in a digital form in a Geographic Information System (GIS) administered by the Fish and Fish Habitat Protection Program.

The spatial data stored includes administrative boundaries for managed fisheries, interim managed fisheries, joint authority managed fisheries, declared fishing zones,

closures as prescribed in regulations, orders and notices, FHPAs, RPAs, and aquaculture and pearling leases.

Other administrative boundaries stored include non-departmental data such as Australian maritime zones, CALM parks and reserves boundaries, Department of Land Administration (DOLA) cadastre, native title claims and petroleum and mining leases. Also included are data relating to infrastructure such as road networks, dam locations, boat ramp locations, mooring locations and a range of named feature locations (DOLA Geonoma).

Physical and biological data relating to the Western Australian environment are also stored. These data include, but are not restricted to, fish species distributions and biology, marine benthic habitat information, marine flora and fauna distributions, bathymetry, salinity, water temperature, digital imagery (satellite and aerial photography) and human activity data (e.g. commercial and recreational fishing catch and effort).

Departmental data sets are generated or modified within the GIS by Fish and Fish Habitat Protection Program staff, other departmental staff or external contractors as required. Non-departmental data sets are updated when necessary. The GIS is used by all Programs for map production, project planning, spatial analysis and decision support. Non-confidential departmental spatial data is provided to other Government agencies, federal and State, and to consultants and the general public as requested.

The Fish and Fish Habitat Protection Program also provides diver support to other Programs for activities such as benthic habitat surveys, underwater visual census of marine organisms and underwater videography.

Translocation

In response to industry requests, translocation assessments have been undertaken to manage the translocation of non-endemic species into and within the State, in accordance with the Memorandum of Understanding established between the EPA and the Department of Fisheries in 1997. A total of 37 assessments have been undertaken throughout the year, providing for the sustainable development of the aquaculture industry within Western Australia.

During the year, two Fisheries Management Papers have been published which deal specifically with translocation issues. Fisheries Management Paper no. 159 (Thorne 2002) deals with the translocation of barramundi for aquaculture and recreational fishery enhancement. Fisheries Management Paper no. 156 (Department of Fisheries 2002), a discussion paper released for public comment in June 2002, identifies the issues surrounding the translocation of brown and rainbow trout, and will be used in the development of a policy to guide the translocation decision-making process for these species.

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 2001/02. This included further progress on marine protected areas, including finalisation of the Jurien Bay Marine Park Plan which is being prepared by CALM, and the management of the Abrolhos system.

In April 2001, the Minister established the Lancelin Island Lagoon FHPA. The Department of Fisheries worked with the Marine Conservation Society of WA to set aside this marine protected area. In September 2001, the Minister established the Cottesloe FHPA and the final plan for the management of the area was released. The Department continues to work with the Cottesloe Management Protection Group on this project. Both of these areas were identified by community groups who considered them important for educational purposes. These groups expressed a willingness to take a lead role in the stewardship of the areas and have established working groups to progress implementation of the management strategies. This includes the installation of land-based information and interpretation signs and the installation of a number of environmentally sensitive boat moorings with financial assistance from Environment Australia's National Moorings Program.

An additional FHPA is now being considered at Kalbarri (the Blue Holes) to assist in the long-term protection of this area in conjunction with local community groups.

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:

- Work commenced on the upgrading of the Department's operational base at the Abrolhos Islands with the construction of a new jetty.
- A series of signs were erected to inform visitors about the Abrolhos and assist in protecting the environment.
- The Department published two volumes of a major research report on natural and human use impacts on the marine environment of the Abrolhos Islands (Webster et al. 2002; Chubb et al. 2002). This report provides a very useful basis for the development of strategies to minimise the effects of human activities on the Abrolhos marine environment.
- With the assistance of funding provided under the Natural Heritage Trust, nine additional environmentally sensitive public moorings were installed at the Abrolhos. These facilities will enable the general public to access dive sites without damaging the environment.
- Work continued on the draft bycatch action plan for the Abrolhos Islands and Mid West Trawl Managed Fishery.

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

FISH AND FISH HABITAT PROTECTION WEST COAST BIOREGION

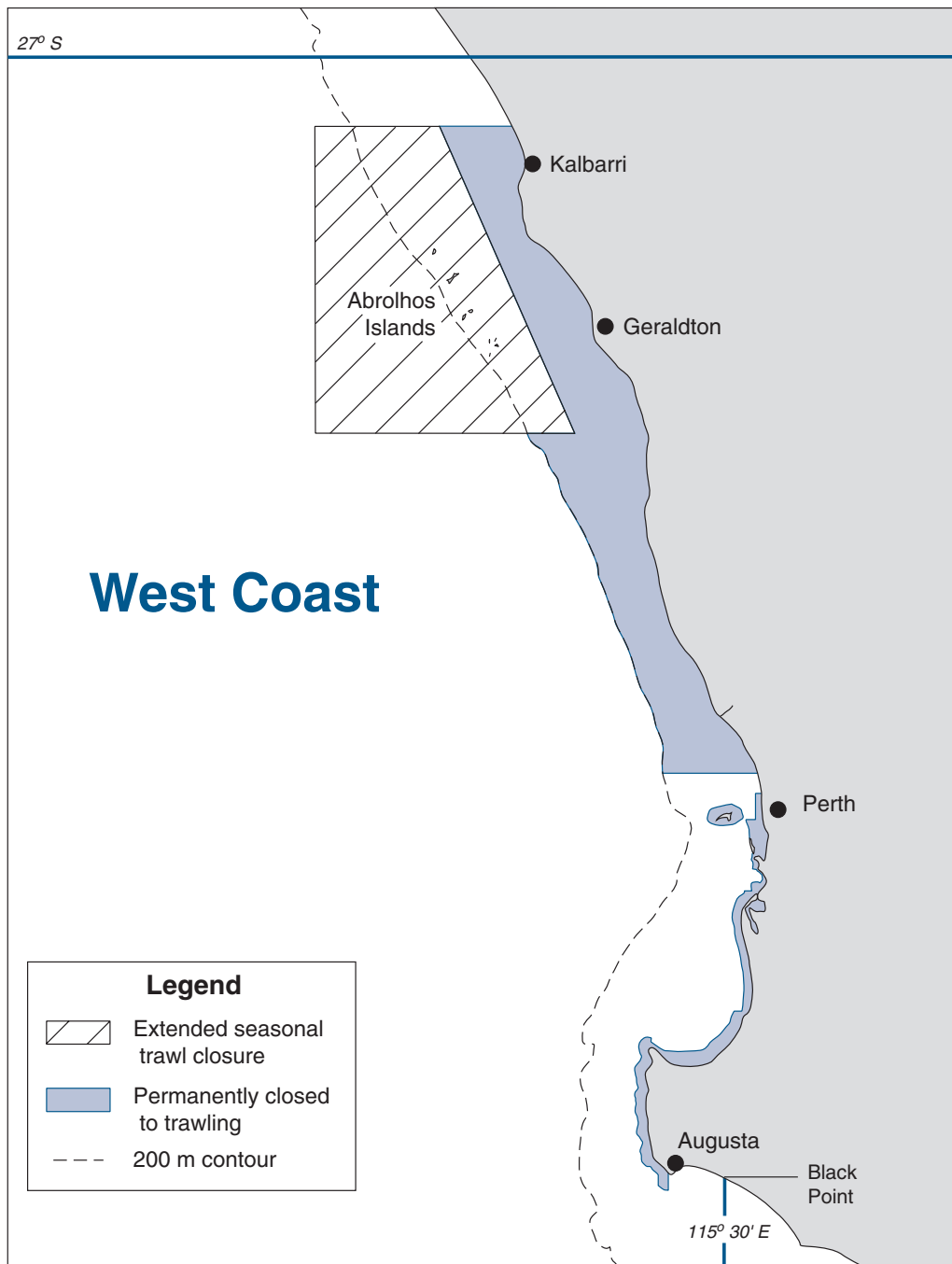
- Field establishment and monitoring of the Lancelin Island Lagoon Fish Habitat Protection Area (Lancelin Island Lagoon FHPA Management Group).
- Save the Blue Holes (Friends of the Blue Holes).

FISH HABITAT PROTECTION OVERVIEW

In February 2002, an article in *Science* magazine (Roberts et al. 2002) identified the 18 world hotspots in terms of tropical reef endemism and the threats facing them. The article ranks

the west coast of Western Australia as the second most diverse marine environment in the world in terms of tropical reef species, and indicates that it is subject to the second lowest level of environmental threat of the 18 areas which were investigated.

On the west coast, marine habitats are largely protected from any physical impact of commercial fishing by extensive closures to trawling, the only permitted fishing method which can significantly affect the sea floor. Essentially, all coral and seagrass habitats are protected, with trawling



WEST COAST HABITAT PROTECTION FIGURE 1

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

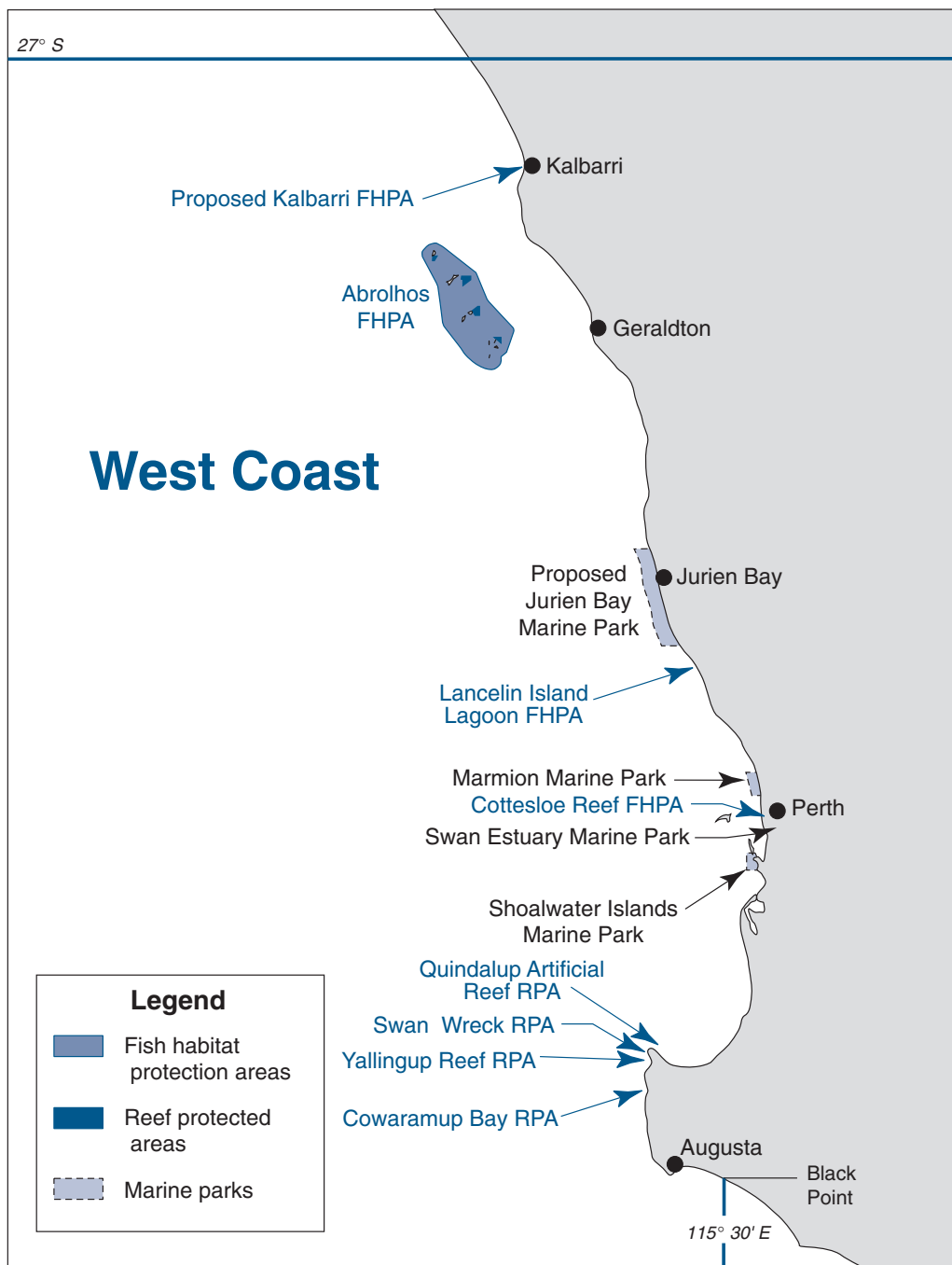
FISH AND FISH HABITAT PROTECTION WEST COAST BIOREGION

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).

The dedicated two-man field operations team established in

the Abrolhos Islands during 2000/01 continued to enhance 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.



WEST COAST HABITAT PROTECTION FIGURE 2

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

Gascoyne Coast Bioregion

ENVIRONMENTAL MANAGEMENT OVERVIEW

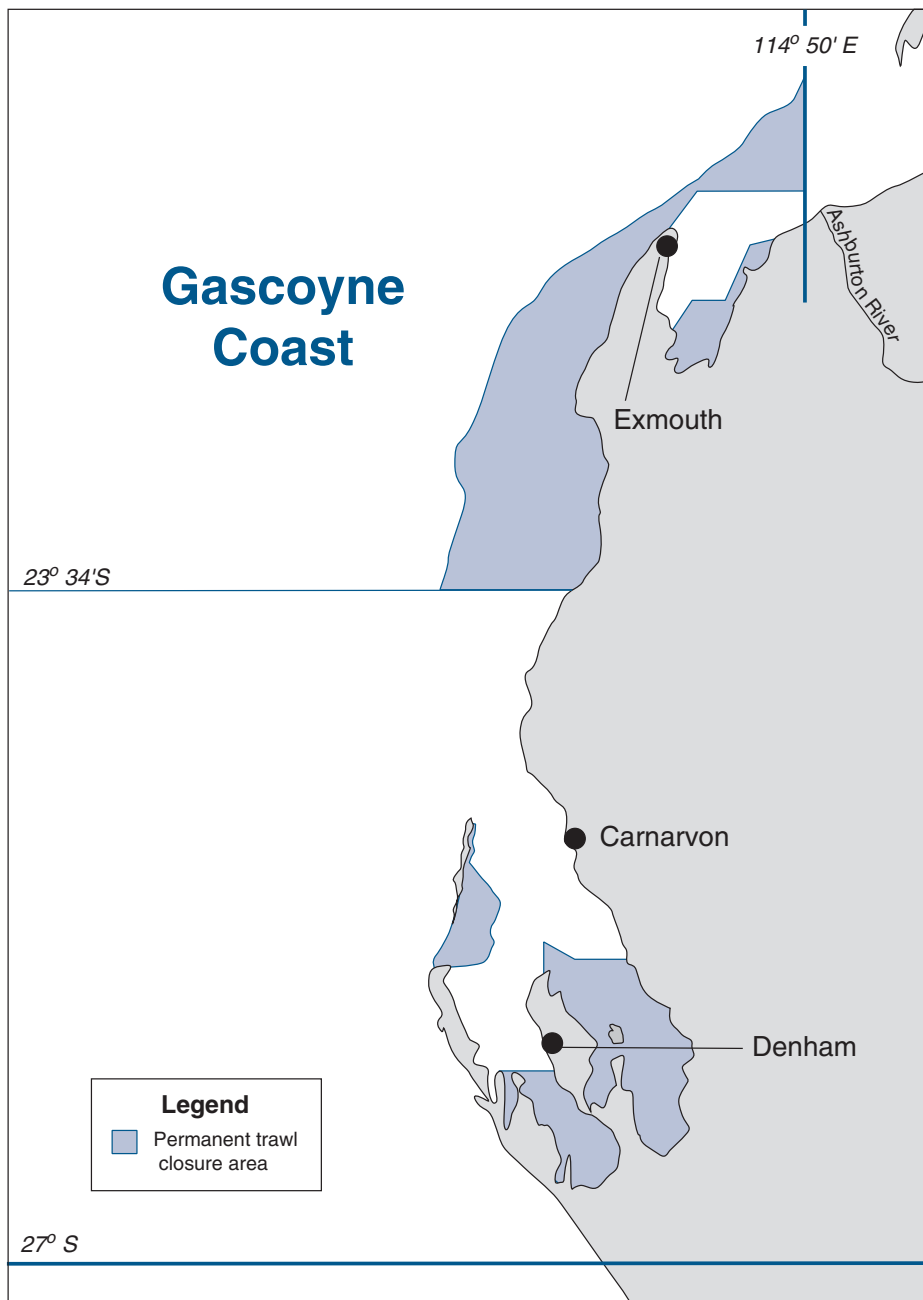
The management of the environmental effects of fishing continues to be a major focus of the Department's operations in the Gascoyne bioregion.

The draft bycatch action plan for the Shark Bay Prawn Managed Fishery was completed and released in April 2002. The public submissions are being analysed and will be

incorporated into the final plan. Research on bycatch reduction devices is continuing and BRDs (grids) were used on all prawn trawl fishing boats this season. Work is continuing on the development of fish escape devices. Work also continues on the bycatch action plans for the Shark Bay Scallop and Exmouth Gulf Prawn Managed Fisheries.

The draft Gascoyne Region Fisheries Environmental Management Plan was completed and will be available for public comment until October 2002.

The draft plan of management for the proposed Miaboolya Beach FHPA at Carnarvon was released for public review in



GASCOYNE COAST HABITAT PROTECTION FIGURE 1

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

FISH AND FISH HABITAT PROTECTION GASCOYNE COAST BIOREGION

March 2002 and has been well received by the local community. The final plan is nearing completion and is expected to be released by the end of the year.

An additional FHPA is now being considered at Point Quobba, in conjunction with local community groups, to assist in the long-term protection of this area.

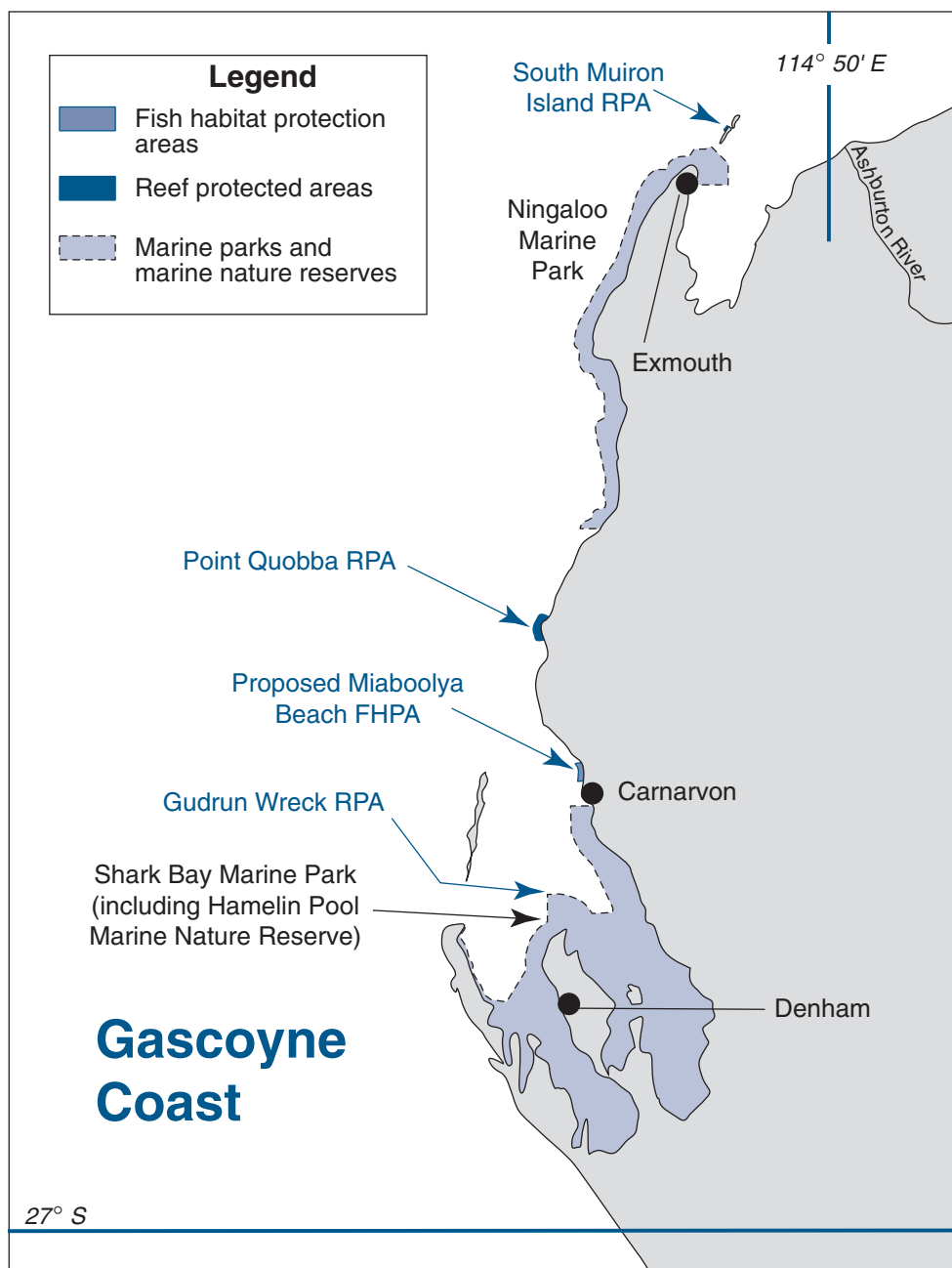
Two new Fishcare WA projects were funded in the Gascoyne region. These were:

- Ningaloo Reef Youth Education Program (Melville District Venturers).
- Public education on reef shark breeding area north of Coral Bay (Ecocean).

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.

North Coast Bioregion

ENVIRONMENTAL MANAGEMENT OVERVIEW

During 2001/02, the Department of Fisheries has worked with CALM as part of the planning process for the Dampier Archipelago and Montebello Islands marine reserve proposals. The Department has also liaised with Environment Australia, which released the final plan for the Ashmore Reef and Cartier Island reserves.

Work has also commenced on the preparation of the Fisheries Environmental Management Review for the northern bioregion. This will include the Pilbara and Kimberley marine areas out to 200 m.

Bycatch reduction devices or grids have been trialled in all of the prawn trawl fisheries in the bioregion. It is anticipated that full implementation of BRDs will occur in the coming fishing season. The bycatch action plan process for these fisheries will be undertaken in conjunction with the ESD reporting process. This is due to be completed by December 2005 for all fisheries exporting product.

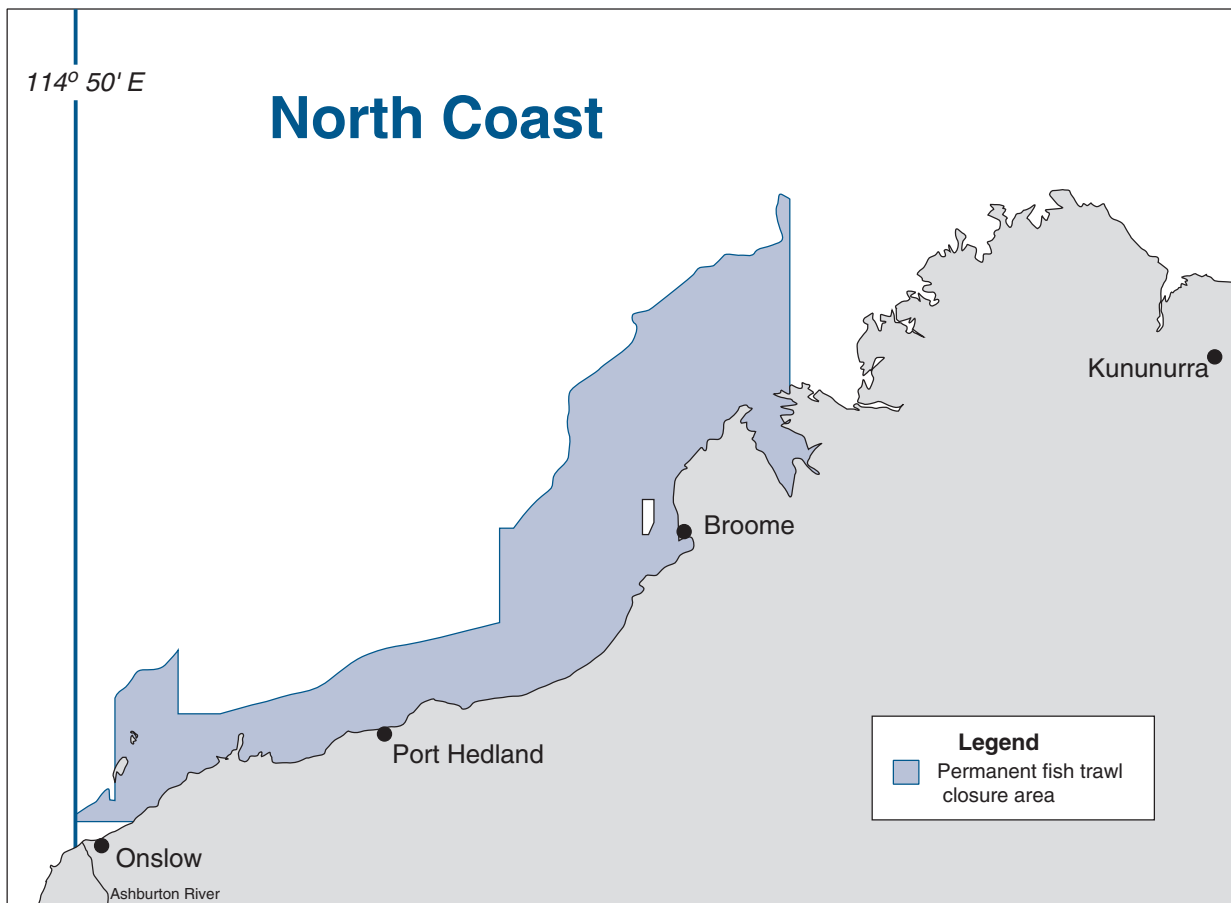
One Fishcare WA project and one new Fisheries Action Program project were funded in the north coast bioregion. These were:

- Brochures and signage to protect the marine area surrounding wrecks *Kunmunya* and *Samson II* (Port Walcott Dive Club, Point Samson).
- Bycatch survey in the Pilbara Fish Trawl Fishery (Department of Fisheries).

FISH HABITAT PROTECTION OVERVIEW

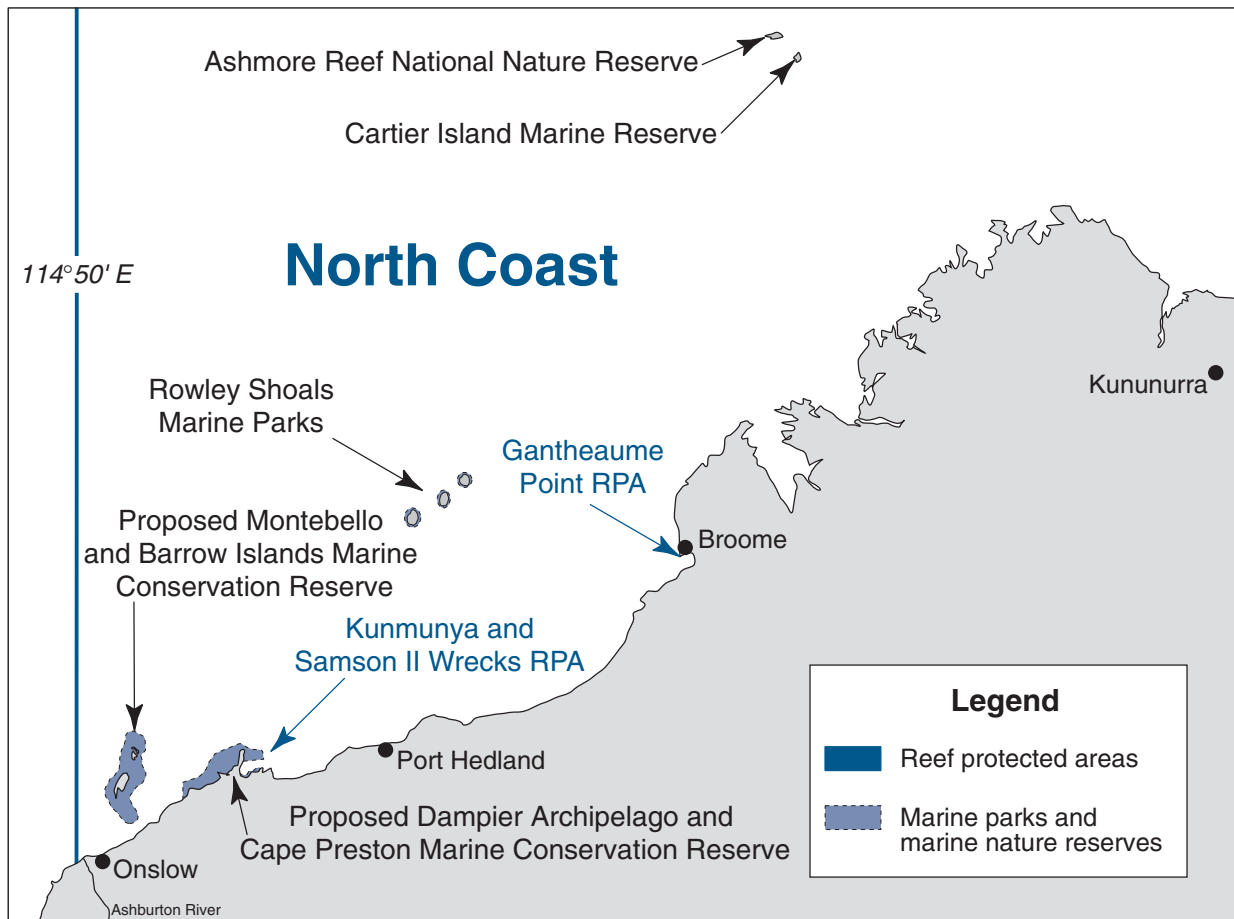
The north coast bioregion has extensive closures to fish trawling in all coastal waters west of longitude 120° E to protect inshore fish nurseries. Similarly, the coastal area off Eighty Mile Beach and north to King Sound, apart from a suitable prawn trawling habitat area, has been permanently closed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

The region also has a range of RPAs and marine parks and reserves at sensitive coastal and offshore locations. The Department of Fisheries continues to provide input to the planning process for the proposed marine reserves at the Dampier Archipelago and the Montebello Islands.



NORTH COAST HABITAT PROTECTION FIGURE 1

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



NORTH COAST HABITAT PROTECTION FIGURE 2

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

South Coast Bioregion

ENVIRONMENTAL MANAGEMENT OVERVIEW

The University of WA has undertaken an extensive survey of the fish habitats of the Recherche Archipelago. The Department serves on the coordinating committee guiding this work.

In November 2001 the HMAS *Perth* was scuttled in King George Sound as an artificial reef and dive wreck. To ensure effective management of the site, the City of Albany has requested that a protection area be declared around the wreck. The Department of Fisheries has supported this move and a prohibition of fishing order is being prepared under Section 43 of the *Fish Resources Management Act 1994*.

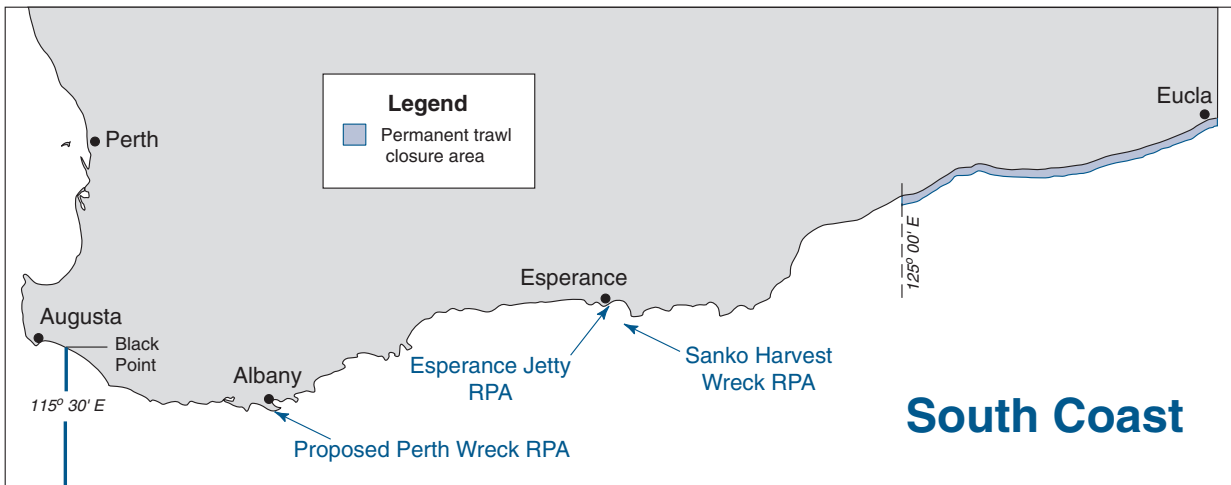
One new Fishcare WA project was funded in the south coast bioregion. This was:

- Dragonsearch Project – encouraging the recording of seadragon sightings online (Australian Marine Conservation Society WA).

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, there are RPAs which cover the *Sanko Harvest* wreck site and the end of the old Esperance Jetty.



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

Work continues on a survey of northern inland streams to help develop our understanding of the freshwater native fish in the region. The project, 'Biology and distribution of fish in inland waters of the North West/Pilbara', is being undertaken by staff and students from Murdoch University, and is supported by funds from the Fisheries Action Program and the Department of Fisheries.

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 the Department of Fisheries. Some of these species are endemic to Western Australia, and therefore their survival depends on proper environmental management. Most of these fish are under pressure because of deteriorating environmental conditions. Therefore the Department of Fisheries 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. Further, the Department 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 May 2002, the Department released for public comment a paper on the translocation of brown trout (*Salmo trutta*) and rainbow trout (*Oncorhynchus mykiss*) into and within Western Australia. When the comments have been considered, a management plan will be prepared to minimise the effects of these species on native freshwater fish.

Also in May, the Department hosted a workshop to consider issues and management options surrounding the declining Margaret River marron strain. Proceedings from the workshop are currently being prepared and will be circulated by the end of the year.

Engineering design work has commenced for a vertical slot fishway to be constructed at the gauging weir on the Goodga River. Construction is planned for completion by March 2003. The fishway is being built to enable the rare trout minnow, *Galaxias truttaceus*, and other native fish species to access the upper reaches of the Goodga River system, which will more than double the available habitat and provide access to valuable spawning areas.

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

- Rehabilitation of fish habitat at Boyagarra Pool (Friends of Boyagarra Pool/Brookton LCDC).
- The recent evolutionary history of fish populations in Lake Jasper and nearby marine sites (Murdoch University).
- Biology of *Galaxias maculatus* in south-east rivers of WA (Murdoch University).
- Revegetation of fish migratory pathway (Bennett Brook Catchment Group).

One new Fisheries Action Program project was funded in the Southern Inland region. This was:

- Save the trout minnow (*Galaxias truttaceus*) – construction of a fishway at Goodga River Weir (Department of Fisheries).