

CHAPTER F JUSTIFICATION FOR THE PROPOSED COMMERCIAL FISHING ACTIVITY

1. The need for the Ocean Trawl Fishery

This section examines the need for undertaking the fishing activity proposed in the draft Fishery Management Strategy (FMS) and the consequences of not undertaking the activity. The OTF exists because it satisfies a number of significant community needs, each of which is discussed separately below.

Should the OTF not continue, some of the resources used by the fishery would become available to other users, or would contribute to ecological processes and diversity. However, many of the primary and key secondary species taken by the OTF can not be taken in significant quantities by other fishing methods, and it is unlikely that increased catches by other resource harvesters would offset the loss of product if the OTF ceased to operate. The employment and economic contributions of the OTF to the coastal economy of NSW are also quite significant, and would not be easily replaced should the fishery cease to operate.

a) Supply of seafood to the community

The OTF provides, on average, about 4,500 t of fresh seafood annually, most of which is consumed locally within NSW, although small quantities of certain species are exported. Demersal trawl nets represent the most efficient fishing method for capturing commercial quantities of many of the important species taken by the fishery (e.g. all prawn and bug species, school whiting, flathead and flounder species, john dory, redfish and bottom dwelling sharks and rays). Without the OTF the availability of these species to NSW consumers would be very significantly reduced, as other fisheries or fishing methods would be unable to land sufficient quantities (or similar quality) of product to meet market demand. In the case of both school and eastern king prawns, the OTF consistently lands larger prawns than are generally available from the Estuary Prawn Trawl or Estuary General fisheries, and the ocean caught product commands a much higher market price (and results in better yield, both biologically and economically, from the stock).

A recent survey (Ruello and Associates, 2000) identified the increasing importance of fresh local seafood to both consumers and businesses, and retailers continue to promote the local product (e.g. recent promotion of silver warehou *Seriolella punctata* by Sydney Fish Market). A viable OTF will continue to satisfy the high community demand for local, fresh seafood.

b) Employment considerations

The OTF provides considerable employment opportunities in many coastal centres in NSW, with around 803 to 1314 people being employed either directly or indirectly by fishing businesses endorsed to operate in the fishery. In many instances these jobs are created in rural areas where unemployment rates are generally high. The presence of ocean trawlers in a port also encourages the development of considerable infrastructure for the supply of fuel, ice, netting materials, electronic aids and vessel maintenance, and for the unloading, handling and marketing of product. Studies of employment flow-on effects indicate that for each job created in the OTF, approximately 0.6 jobs are created in the broader community, so the OTF contributes directly to the employment of a further 482 to 788 people in NSW. Even with the necessary controls proposed to be implemented by the draft FMS, the OTF will still support a significant number of jobs in the broader community.

c) Economic considerations

The OTF generates direct revenue for product of about \$36 million annually, which is around 45% of the total value of commercial fisheries (excluding abalone) in NSW. The economic flow-on effects from seafood caught by ocean trawlers in NSW are estimated to be 1.5 to 1.6 times the base revenue, so the OTF probably contributes about \$50 to \$55 million in economic activity to the coastal economy in NSW annually. A significant proportion of the catch is sold in local and regional outlets, as well as the traditional markets in Sydney, Brisbane, Melbourne and Canberra, so the fishery could be considered to be a significant component of the regional fishing industry economy.

2. Justification of Measures in Terms of ESD Principles

The OTF is primarily a single method fishery managed by input controls, including restricted entry, limits on vessel and trawl gear size, and some closures to trawling. Trawl nets catch a large number of species, and for some species minimum size limits or trip limits apply. There is considerable interaction with adjoining jurisdictions in the management of the OTF, and a number of ocean trawl fishers are also endorsed for operating in these adjoining jurisdictions. The benefits and need to maintain a viable commercial OTF are outlined above.

The impact of the OTF on the marine environment has been assessed in the EIS by an initial analysis of the risks associated with the existing management regime. The risks associated with the fishery are partitioned into components related to the impacts of trawling on retained species, incidental catches, threatened and protected species, habitat damage and other associated activities. These risks have been fully reviewed and discussed in Part II of Chapter B and Chapter E of this EIS.

The draft FMS, as outlined in Chapter D of the EIS, proposes goals, objectives and management responses for the fishery, having regard to the risks identified in the existing management regime (i.e. Part II of Chapter B). The preferred suite of rules (including management responses) in the draft FMS, provides for appropriate access to the resources and incorporates the tools necessary to achieve resource sustainability.

The draft FMS provides a broad framework for managing the OTF that describes a range of programs to be implemented; some of which are immediate actions, others are longer term programs with a development stage and need to undertake further stakeholder consultation built in. For these longer term programs, while the draft FMS outlines the proposals in broad terms, it often omits fine detail and the environmental assessment has consequently concluded only a negligible or minor reduction in risk in some areas. In order to ensure that the fishery operates in an ecologically sustainable manner into the future and that the risks are meaningfully reduced, it will be important to ensure that the strategies and plans that are subsequently developed under the FMS are implemented so as to fulfil the goals and objectives for the fishery. With this qualification, it can be stated that the draft FMS addresses the principles of ESD in the following ways:

a) Precautionary principle

The precautionary principle is defined in the May 1992 Intergovernmental Agreement on the Environment as:

"Where there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation"

The introduction of the precautionary principle has, as described by Deville and Harding (1997), shifted the 'onus of proof' regarding impacts away from regulatory bodies and more towards

those whose actions may cause damage. Those undertaking the activity are required to provide a convincing argument that their actions will not have serious or irreversible impacts on the environment, which exceed the long-term benefits of the actions (Deville and Harding, 1997).

As recognised in the assessment guidelines under which this EIS was prepared, scientific research into the size and characteristics of shellfish and finfish stocks is inherently complex and costly. Shellfish and finfish populations and the aquatic environment inhabited by them are extremely dynamic. This means that the level of scientific uncertainty associated with shellfish and finfish stocks, and aquatic communities in general, is very high. This is especially so for the many species taken in the trawl fishery that are of low commercial value or occur only infrequently in catches. This situation is by no means unique to NSW or indeed Australian fisheries.

Historically, management of the ocean trawl fisheries has been issue-driven, resulting in management that could be described as somewhat fragmented and un-coordinated. Measures proposed in the draft FMS take a more precautionary approach by, on the basis of a risk based assessment, continuing the existing controls on fishing, and by proposing new initiatives to deal at the "whole-of-fishery" level with the uncertainty surrounding the impact of trawling on ocean habitats and the effects of trawling on marine species. Appropriate actions within the draft FMS that are positive precautionary steps aiming to minimise the impacts (known and presumed) of trawling on the ocean environment include:

- a commitment to conduct research into gear selectivity along with interim proposals to improve the selectivity of trawl nets
- encouraging further research into bycatch reduction, and setting research priorities to fill the information gaps identified in this EIS
- increasing the area closed to trawling
- extending the vessel capacity controls across the entire fishery
- setting programs to set long term fishing effort targets
- implementing an onboard observer program
- improving the strength of the compliance regime through a penalty points scheme, involving endorsement suspension and share forfeiture
- improving the collection of social and economic information on the fishery, and
- developing a code of conduct.

The performance monitoring system established by the proposed FMS also provides a necessary safeguard in case there are changes in either the operation of the fishery or stock levels, which could compromise the long-term sustainability of the fishery.

b) Intragenerational equity

Intragenerational equity relates to distributing the costs and benefits of pursuing ESD strategies as evenly as practicable within each generation (i.e. within the OTF but also between the fishery and other parts of the community).

A large number of species caught in ocean trawl nets are taken in other commercial fisheries and also by recreational and Indigenous fishers, sometimes as primary target species. In some cases it is the juvenile or very small fish that are caught by the trawl fishery, of species where the adults or larger fish are taken by other fisheries, however in many cases the trawl fishery takes the same size classes of fish taken by other fishers. In addition to the question of resource allocation, there are

issues relating to habitat degradation and the allocation and management of often conflicting user activities (i.e. commercial fishing, charter boat/recreational fishing, boating, swimming etc.).

The proposed FMS contains proposals to assess the size of the total catch of each species by all sectors, so that the distribution of the resource is known, and performance measures are to be put in place to monitor and manage the distribution of catches of the retained species between sectors. The measures proposed in the draft FMS distribute, as far as practicable, a fair and equitable sharing of the fisheries resource amongst fishers and the community. The operation of the fishery provides fresh local seafood to satisfy an ever-increasing consumer demand for seafood, particularly the relatively high value species, such as eastern king prawns and Balmain bugs. Under the FMS, stock assessments incorporating data from all significant user groups will be developed for each of the primary and key secondary species. For important species groups (e.g. eastern king and school prawns) sharing arrangements can be made between sector groups and the FMS will provide the means to adjust the ocean trawl component of the allocation over time.

The cross jurisdictional liaison, mapping of trawling grounds, and the development of a code of conduct proposed in the proposed FMS all promote equity of access to the physical environment used by ocean trawl fishers and others in the community.

c) Intergenerational equity

Intergenerational equity relates to the present generation ensuring that the health, diversity and productivity of the environment are maintained or enhanced for the benefit of future generations.

Intergenerational equity in the context of the OTF is a fundamental, if complex, concept. It consists of ensuring the fishery operates in a manner that minimises the impact of trawl fishing on habitat, bycatch and threatened species, populations and ecological communities, as well as maintaining primary, key secondary and other secondary stocks at sustainable levels.

A long-term approach is necessary to ensure the sustainability of the OTF, and the resources on which it depends. Overfished stocks may take a long time to recover when a long-lived species is involved, and benefits of management actions might not accrue for a considerable period after the 'costs' of rehabilitation have been incurred. Conversely, impacts of fishing on newly exploited stocks generally do not become evident until the stock suffers a distinct decline, which is frequently due to the cumulative effects of fishing over a considerable period.

The irreversible effect of the OTF on some ocean habitats is a significant issue in intergenerational equity. The lack of information on the distribution of the different ocean habitat types off NSW, and historical changes to these habitats, makes an assessment of any long-term habitat changes very difficult.

Fishing closures, including marine parks and aquatic reserves, are used to conserve the resources and protect areas of ecological significance. Future generations will benefit from the data collected through the monitoring programs and future research proposed by the draft FMS. There will also be substantial benefits to future generations from the recent and continued declaration of a comprehensive, adequate and representative system of marine protected areas (such as marine parks, aquatic reserves and intertidal protected areas) that includes a full range of marine biodiversity at ecosystem, habitat and species levels (Marine Parks Authority, 2000).

The draft FMS contains seven broad goals that, if realised, will provide future generations with the same or improved opportunities to benefit from the valuable natural resources which the current generation enjoys. Some management measures proposed within the draft FMS to achieve these goals, and hence intergenerational equity, include:

- Improvement in the accuracy of information on activities and catches of the fishery, and development of stock assessments for all primary and key secondary species
- Specification of trawl gears that, over time, reduce the impact on habitats, minimise the catch of incidental species, and have optimal selectivity for the primary species
- Increased use of fishing closures for multiple purposes (biodiversity conservation; protection of nursery areas, juvenile and spawning fish; conflict resolution)
- Continued use and review of the compliance strategic plan including advisory and education programs to deter illegal activity and educate the broader community
- Implementation of an endorsement suspension and share forfeiture scheme to ensure a consistent and complimentary approach to compliance across all fisheries
- Development of a comprehensive performance monitoring and review program, the results of which will be publicly available.

d) Conservation of biodiversity and ecological integrity

This principle incorporates the notion that conservation of biological diversity and ecological integrity should be a fundamental consideration in resource decision making. The draft FMS strongly adopts this principle, with one of the seven major goals being “to manage the OTF in a manner that promotes the conservation of biological diversity in the marine environment”. There are four objectives beneath that goal which specifically aim to address the following issues:

- Reducing the likelihood of the fishery affecting populations of species and ecological communities in a manner that threatens ecosystem integrity
- Mitigating the impact of the fishery on non-retained species
- Mitigating the impact of the fishery on ocean habitats and their associated biota
- Preventing the introduction and translocation of marine pests and diseases by ocean trawl fishing activities.

In order to achieve this goal and its objectives, there are 11 management responses in the draft FMS that directly address biodiversity and ecological integrity issues, including mapping trawl grounds and managing the intensity of fishing on each ground, using fishing closures to protect areas of key habitat (including all reef areas), implementing an observer program to collect information on the quantity and composition of bycatch and other key information, using best practice techniques for handling non-retained animals, introducing a code of conduct for the fishery, and supporting monitoring and research on ecosystem functioning.

The draft FMS also contains proposals which attempt to monitor the impact of the fishery on biodiversity, such as recording interactions with threatened or protected species, monitoring bycatch levels and the performance of Bycatch Reduction Devices, and providing mechanisms for taking action if the performance of the fishery relative to the goals of the strategy changes to a significant degree.

In conclusion, the draft FMS contains a comprehensive and appropriate package of measures for ensuring that the impacts of the OTF on biodiversity are properly managed.

e) Improved valuation, pricing and incentive mechanisms

This principle relates to the use of schemes like user pays and incentive structures to promote efficiency in achieving environmental goals. With the exception of the fish trawl sector south of Barrenjoey Point, the OTF, along with most other marine commercial fisheries in NSW, is moving towards a category 1 share management fishery regime. This management framework provides for the

issue of shares in perpetuity to eligible fishers and provides for the existence of a market-based trading scheme. The share management scheme for the OTF will provide greater incentives for stewardship and long term sustainability of the resource because the value of shares when traded is likely to be linked to investor's views about the health of the fishery and the anticipated returns on investment.

The share management scheme should also provide greater flexibility for shareholders in the fishery to be able to trade shares with each other. This will enable fishers to change the structure of their fishing businesses more efficiently. It will enable fishers to sell shares in those fisheries (or parts of fisheries) that they do not rely on, and to purchase shares in the fisheries (or parts of fisheries) that are important to their fishing businesses.

The share management scheme incorporates the notion of a user pays system as there is an annual rental charge payable by each shareholder additional to the normal licensing and management fees, and the current Government policy is to phase in full cost recovery to the fishery between the years 2005 and 2008.

CHAPTER G REFERENCES

Note: articles that have not been externally peer reviewed and published in a journal or book are denoted with an asterisk (*).

Adams, J. (1995). *Risk*. University College London Press, London; p.228.

*AFFA (2003a) *Australian National Plan of Action for the Conservation and Management of Sharks*. Shark Advisory Group; Lack, M. (ed). Australian Government Department of Agriculture, Fisheries and Forestry, 76pp.

*AFFA (2003b). *Status Reports: South East Fishery – Trawl and Non-Trawl Sectors*. [http://www.affa.gov.au/corporate_docs/publications/pdf/rural_science/fisheries/statusrep03/sef_2003_pdf.pdf]. February, 2003.

*AFMA (1999). *Proposed three year management regime for syngnathids (seahorses, pipefish, pipehorses, seadragons, etc.) taken in the South East Trawl Fishery*. Australian Fisheries Management Authority, Canberra. 12pp.

Agardy, T., Bridgewater, P., Crosby, M.P., Day, J., Dayton, P.K., Kenchington, R., Laffoley, D., McConney, P., Murray, P.A., Parks, J.E. and Peau, L. (2003). Dangerous targets? Unresolved issues and ideological clashes around marine protected areas. *Aquatic Conservation: Marine and Freshwater Ecosystems*, **13**: 353-367.

Airoidi, L. (2000). Effects of disturbance, life histories and overgrowth on coexistence of algal crusts and turfs. *Ecology* **81**: 798-814.

Allen, G.R. (1997). *Marine fishes of tropical Australia and south-east Asia*. West Australian Museum, Perth, Australia. 292 pp.

Allison, G.W., Lubchenco, J. and Carr, M.H. (1998). Marine reserves are necessary but not sufficient for marine conservation. *Ecological Applications* **8 (Supplement)**, S 79-S 92.

Andrew, N. L. and Pepperell, J. G. (1992). The by-catch of shrimp trawl fisheries. *Oceanography and Marine Biology Annual Review*, **30**:527-565.

*Andrew, N.L., Graham, K.J., Hodgson, K.E. and Gordon, G.N. (1997). *Changes after twenty years in relative abundance and size composition of commercial fishes caught during fishery independent surveys on SEF trawl grounds*. FRDC Project 96/139 NSW Fisheries Final Report Series No. 1. December 1997. NSW Fisheries, Cronulla.

Anderson, T.J. (1997). Habitat selection and shelter use by *Octopus tetricus*. *Marine Ecology Progress Series*. **150**: 137-148.

Anderson, T. J. (1999) Morphology and biology of *Octopus maorum* Hutton 1880 in northern New Zealand. *Bulletin of Marine Science*, **65**: 657-676.

*Anonymous (1960). *Report of the Chief Secretary on the fisheries of New South Wales for the year ended 30th June 1960*. NSW Government Printer, Sydney.

*Anonymous (2002). *The Australian National Plan of Action for the Conservation and Management of Sharks (Public Consultation Draft)*. Australian Dept. of Agriculture, Fisheries and Forestry, Canberra.

- Arnould, J.P.Y., Littnan, C.L. and Lento, G.M. (2000). First contemporary record of New Zealand fur seals *Arctocephalus forsteri* breeding in Bass Strait. *Australian Mammalogy*, **22**: 57-62.
- *Ashby, C. (1999). Trial of the minimum specified square mesh panel in the deep-water royal red prawn fishery (*Haliporoides sibogae*), NSW. NSW Fisheries Internal Report, p.16
- Ault, J. S. Diaz G. A. Smith S. G. Luo J. Serafy J. E., (1999). An efficient sampling survey design to estimate pink shrimp population abundance in Biscayne Bay, Florida. *North American Journal of Fisheries Management*, **3**: 696-712.
- Auster, P. J. (2001). Defining thresholds for precautionary habitat management actions in a fisheries context. *North American Journal of Fisheries Management*, **21**:1-9.
- Auster, P. J. and Langton R. W. (1999). *The effects of fishing on fish habitat*. Eds. Benaka, L. Fish habitat: essential fish habitat and rehabilitation. Bethesda American Fisheries Society, p.150-187.
- *Australian Greenhouse Office (AGO), (2003).
www.greenhouse.gov.au/challenge/tools/workbook/index.html, April, 2004
- *Australian State of the Environment Committee, (2001). *Coasts and Oceans*, Australia State of the Environment Report 2001 (Theme Report), CSIRO Publishing on behalf of the Department of the Environment and Heritage, Canberra
- *Avery, R. P. (1999). *Byron Bay Marine Park assessment, Tweed-Moreton Bioregion, Northern NSW: a review of the current marine biodiversity data sets and an introduction to systematic marine protected area planning in NSW*. National Parks and Wildlife Service, Hurstville, NSW, p.137
- Baelde, P. (1991). Assessment of the Australian deep-water royal red prawn stock using commercial catch and effort data. *Fisheries Research*, **12**: 243-258.
- Baelde, P., (1992). Reproductive biology of commercially exploited deep-water royal red prawns (*Haliporoides sibogae*) in south-east Australia. *Marine Biology*, **113**: 447-456.
- *Bannister, J.L., Kemper, C.M. and Warneke, R.M. (1996). *The action plan for Australian cetaceans*. Australian Nature Conservation Agency, Canberra, Australia.
- Barrett, R.T. and Krasnov, Y.V. (1996). Recent responses to changes in stocks of prey species by seabirds breeding in the southern Barents Sea. *ICES Journal of Marine Science*, **53**: 713-722.
- Batley, G. E. Scammell M. S. Brockbank C. I., (1992). The impact of the banning of tributyltin-based antifouling paints on the Sydney rock oyster, *Saccostrea commercialis*. *Science of the Total Environment*, **122**: 301-314.
- *Bax, N. J. and Williams, A. (2000). Habitat and Fisheries Productivity in the South East Fishery Ecosystem, Hobart, Project No. 94/040.
- Bax, N.J. and Williams, A. (2001). Seabed habitat on the south-eastern Australian continental shelf: context, vulnerability and monitoring. *Marine and Freshwater Research*, **52**: 491-512.
- *Bennett, J. and Lawrence, P. (2004). Adaptive management framework for catchment and coastal management and decision making. Proceedings of Coast to Coast Conference, 2002. Cooperative Research Centre for Coastal Zone Estuary and Waterway Management, Australia. [online] **URL**:
http://www.coastal.crc.org.au/coast2coast2002/proceedings/Theme2/Adaptive_management_framework.pdf

- Bergmann, M., Wieczorek, S.K, Moore, P.G. and Atkinson, R.J.A. (2002). Utilisation of invertebrates discarded from the *Nephrops* fishery by variously selective benthic scavengers in the west of Scotland. *Marine Ecology Progress Series*, **233**:185-198
- Best P. B. (1990). Trends in the inshore right whale population off South Africa, 1969-1987. *Marine Mammal Science*, **6**(2): 93-108.
- Blaber, S. J. M. and Wassenberg, T. J. (1989). Feeding ecology of the piscivorous birds *Phalacrocorax varius*, *P. melanoleucos* and *Sterna bergii* in Moreton Bay, Australia: diets and dependence on trawler discards. *Marine Biology*, **101**: 1-10.
- Blaber, S. J. M., Milton, D. A., Smith, G. C. and Farmer, M. J. (1995). Trawl discards in the diets of tropical seabirds of the northern Great Barrier Reef, Australia. *Marine Ecology Progress Series*, **127**: 1-13.
- *Blackburn, M. (1978). *Changes in size composition, indicative of stock conditions in the New South Wales trawl fishery, from 1945/46 to 1966/67*. CSIRO Division of Fisheries and Oceanography Report No. 97. 76pp CSIRO, Cronulla.
- *Blackburn, M. (1979). *The gemfish Rexea solandri (Cuvier and Valenciennes): distribution and length data from Australian east coast shelf waters*. CSIRO Division of Fisheries and Oceanography Report No. 103. 11pp CSIRO, Cronulla.
- Bonfil, R. (1997). Status of shark resources in the Southern Gulf of Mexico and Caribbean: implications for management. *Fisheries Research*, **29**: 101-117.
- Botsford, L.W., Micheli, F. and Hastings, A. (2003). Principles for the design of marine reserves. *Ecological Applications (Supplement)*, **13**: S25-S31.
- *Boyd, R., Ruming, K. and Roberts, J. (in press). Geomorphology and surficial sediments on the South East Australian continental margin.
- Britton, J. C. and Morton, B. (1994). Marine carrion and scavengers. *Oceanography and Marine Biology: An Annual Review*. **32**: 369-434
- Broadhurst, M.K. (1998). Bottlenose dolphins, *Tursiops truncatus*, removing by-catch from prawn-trawl codends during fishing in New South Wales, Australia. *Marine Fisheries Review*, **60**(3): 9-14.
- Broadhurst, M.K. and Kennelly, S.J. (1995). Effects of an increase in mesh size on the catches of fish trawls off New South Wales, Australia. *Marine and Freshwater Research* **46**: 745-750
- Broadhurst, M. K. and Kennelly, S. J., (1996). Rigid and flexible separator panels in trawls that reduce the by-catch of small fish in the Clarence River prawn-trawl fishery, Australia. *Marine and Freshwater Research*, **47**: 991-998.
- Broadhurst, M.K. and Kennelly, S.J. (1997). The composite square-mesh panel: a modification to codends for reducing unwanted bycatch and increasing catches of prawns throughout the New South Wales oceanic prawn-trawl fishery. *Fishery Bulletin* **95**: 653-664
- Broadhurst, M.K., Kennelly, S.J. and Barker, D.T. (1997a). Simulated escape of juvenile sand whiting (*Sillago ciliata*, Cuvier) through square-meshes: effects on scale-loss and survival. *Fisheries Research*, **32**: 51-30.
- Broadhurst, M.K., Kennelly, S.J., Watson, J.W. and Workman, I.K. (1997b). Evaluations of the Nordmore grid and secondary bycatch-reducing devices (BRD's) in the Hunter River Prawn-trawl fishery, Australia. *Fishery Bulletin* **95**: 209-218.

- Broadhurst, M. K. Kennell S. J. Gray C. A., (2002). Optimal positioning and design of behavioural-type by-catch reduction devices involving square-mesh panels in penaeid prawn-trawl codends. *Marine and Freshwater Research*, **53**: 813-823.
- Brodziak, J. and Link, J. (2002). Ecosystem-based fishery management: what is it and how can we do it? *Bulletin of Marine Science* **70**: 589-611.
- Brothers, N.P. (1991). Approaches to reducing the albatross mortality and associated bait loss in the Japanese longline fishery. *Biological Conservation* **55**: 255-268.
- Bryden, M. M. (1985). Studies of humpback whales (*Megaptera novaeangliae*), Area V. In: *Studies of Sea Mammals in South Latitudes*. Ling, J. K. and Bryden, M. M. (eds). South Australian Museum. Pp. 115-123.
- Bulman, C., Althaus, F., He, X., Bax, N.J. and Williams, A. (2001). Diets and trophic guilds of demersal fishes of the south-eastern Australian shelf. *Marine and Freshwater Research* **52**: 537-548.
- *Bureau of Rural Sciences (BRS) (2003). *Fishery Status Reports 2002-03*. Bureau of Rural Sciences, Department of Agriculture, Fisheries and Forestry, Canberra
- Burger, J. (1981). The effect of human activity on birds at a coastal bay. *Biological Conservation* **21**: 231-241.
- *Burnell, S.R., and McCulloch, R.E. (2001). *Draft recovery plan for southern right whales in Australian waters*. Environment Australia, Canberra, Australia. 47pp.
- *Butterworth, D.S., Borchers, D.L., Chalis, S. and De Decker, J.B. (1995). *Estimates of abundance for southern hemisphere blue, fin, sei, humpback, sperm, killer and pilot whales from the 1978/79 to 1990/91 IWC/IDCR sighting survey cruises, with extrapolations to the area south of 30°S for the first five species based on Japanese scouting vessel data*. International Whaling Commission Scientific Committee, Report number SC/46/SH24, Cambridge.
- Caddy, J. F. (2002). Limit reference points, traffic lights, and holistic approaches to fisheries management with minimal stock assessment input. *Fisheries Research*, **56**:133-137.
- Caddy, J. F. and Mahon, R. (1995). Reference points for fisheries management. *FAO Fisheries Technical Paper* **347**, p.83.
- Callaghan B and Associates Pty Ltd, for NSW Indigenous Fisheries Advisory Committee (2003). *Developing the Participation of Indigenous People in commercial Fishing*. A Draft discussion Document and Action Plan. Report of a workshop in June 2003.
- Callaway, R., Alsvag, J., de Boois, I., Cotter, J., Ford, A., Hinz, H., Jennings, S., Kroncke, I., Lancaster, J., Piet, G., Prince, P. and Ehrich, S. (2002). Diversity and community structure of the epibenthic invertebrates and fish in the North Sea. *ICES Journal of Marine Science*, **59**: 1199-1214.
- *Cappo, M., Alongi, D. M., Williams, D. M. and Duke, N. (1998). *A review and synthesis of Australian Fisheries Habitat Research*. FRDC Project No. FRDC 95/055. Australian Institute of Marine Science, Townsville, Queensland,. 3 Vol.
- Carbonell, A. Alemany F. Merella P. Quetglas A. Roman E., (2003). The by-catch of sharks in the western Mediterranean (Balearic Islands) trawl fishery. *Fisheries Research*, **61**: 7-18.
- Carr, M. H. and Reed, D. C. (1993). Conceptual issues relevant to marine harvest refuges: examples from temperate reef fishes. *Canadian Journal of Fisheries and Aquatic Sciences*, **50**: 2019-2028.

- Carr, M. H., Neigel, J. E., Estes, J. A., Andelman, S., Warner, R. R. and Largier, J. L. (2003). Comparing marine and terrestrial ecosystems: implications for the design of coastal marine reserves. *Ecological Applications* **13** (Supplement):S90-S107.
- Cavanagh, R. D., Kyne, P. M., Fowler, S. L., Musick, J. A. and Bennett, M. B. (eds) (2003). *The conservation status of Australasian Chondrichthyans: Report of the IUCN Shark Specialist Group Australia and Oceania Regional Red List Workshop*, Queensland, Australia, University of Queensland, Brisbane, 170 p.
- Chapdelaine, G. and Rail, J. (1997). Relationships between cod fishery activities and the population of herring gulls on the North Shore of the Gulf of St Lawrence, Québec, Canada. *ICES Journal of Marine Science*, **54**: 708-713.
- Charles, A. (1998). Living with uncertainty in fisheries: analytical methods, management priorities and the Canadian groundfishery experience. *Fisheries Research* **37**:37-50.
- *Charles, A. (2001). *Sustainable Fishery Systems*, Blackwell Science, Oxford; p. 370
- Cherel, Y. and Duhamel, G. (2004). Antarctic jaws: cephalopod prey of sharks in Kerguelen waters. *Deep Sea Research Part I: Oceanographic Research Papers*. **51**: 17-31.
- Chittleborough, R.G. (1965). Dynamics of two populations of the humpback whale, *Megaptera novaeangliae* (Borowski). *Australian Journal of Marine and Freshwater Research*, **16**: 33-128.
- Chopin, F. S. and Arimoto, T., (1995). The condition of fish escaping from fishing gears - a review. *Fisheries Research*, **21**: 315-327.
- *Chopin, F. Alverson D. L. Inoue T. He P. Suuronen P. Sangster G. I. (1996). Sources of unaccounted mortality in fish capture technologies. **In**: *Developing and sustaining world fisheries resources - The state of science and management in Australia*. Hancock, D. A. Smith D. C. Grant A. Beumer J. P. (eds). CSIRO, p.149-156
- Christensen, V. (1996). Managing fisheries involving predator and prey species. *Reviews in Fish Biology and Fisheries*, **6**: 417-442.
- Christensen, V., Guenette, S., Heymans, J., Walters, C., Watson, R., Zeller, D. and Pauly, D. (2003). Hundred year decline of north Atlantic predatory fishes. *Fish and Fisheries* **4**:1-24.
- Churchill, J. H. (1989). The effect of commercial trawling on sediments re-suspension and transport over the Middle Atlantic Bight continental shelf. *Continental Shelf Research*, **9**:841-865.
- Clapham, P. J., Young, S.B., and Brownell, R.L.J. (1999). Baleen whales: conservation issues and the status of the most endangered populations. *Mammal Review*, **29**: 35-60.
- Clark, C. W. (1999). On the subject of the potential impact of human-made noise on whales. *Journal of Cetacean Research and Management* **1**: 207-209
- *Cogger, H. G. (2000). The status of marine reptiles in New South Wales. A report prepared for the NSW National Parks and Wildlife Service. 65 pp.
- Cohen, J. (1988). *Statistical power analysis for the behavioural sciences*. Hillsdale, N.J. and L. Erlbaum Associates, 567 p.
- Collie, J. S., Escanero, G. A. and Valentine, PC (2000). Photographic evaluation of the impacts of bottom fishing on benthic epifauna. *ICES Journal of Marine Science*, **57**: 987-1001.

- Compagno, L. J. V. (1984). FAO species catalogue, Vol. 4., Sharks of the World. An annotated and illustrated catalogue of sharks known to date. Part 2 - Carcharhiniformes. *FAO Fisheries Synopsis*, 125 **4**: 251-655.
- Compagno, L. J. V., Marks, M. A. and Ferguson, I. K. (1997). Threatened fishes of the world: *Carcharodon carcharias* (Linnaeus, 1758) (Lamnidae). *Environmental Biology of Fishes*, **50**: 61-62.
- Connell, S. D. and Lincoln-Smith, M. P. (1999). Depth and the structures of assemblages of demersal fish: experimental trawling along a temperate coast. *Estuarine, Coastal and Shelf Science*, **48**:483-495.
- *Connolly, R. M., Cronin, E. R. and Thomas, B. E. (2001). *Trawl bycatch of syngnathids in Queensland: catch rates, distribution and population biology of Solegnathus pipehorses (seadragons)*. Project No. 1999/124 to the Fisheries Research and Development Corporation. Griffith University, Gold Coast, Queensland, 57pp.
- *Cook, R. (2001). The magnitude and impacts of by-catch mortality by fishing gear. **In:** *Responsible Fisheries in the Marine Ecosystem*, Sinclair, M. and Valdimarsson, G. (Eds), CAB International, Wallingford.
- *Courtney, A. J. (1997). Spawning stock dynamics of penaeid prawns in south-east Queensland and considerations for preventing recruitment overfishing. Unpublished PhD Thesis, May 1997, University of Queensland. 168pp.
- Cresswell, G. (1994). Nutrient enrichment of the Sydney Continental Shelf. *Australian Journal of Marine and Freshwater Research*, **45**, 677-691.
- Croll, D. A., Clark, C. W., Calambokidis, J., Ellison, W. T. and Tershy, B. R. (2001). Effect of anthropogenic low-frequency noise on the foraging ecology of Balaenoptera whales. *Animal Conservation* **4**: 13-27
- *Croxall, J. P. and Gales, R. P. (1998). An assessment of the conservation status of albatrosses. **In:** *Albatross: Biology and Conservation*. Robertson, G. and Gales, R. (eds). Surrey, Beatty and Sons, Chipping Norton, Australia. pp. 46-65.
- Cunningham, D. J. and Wilson, S. P. (2003). Marine debris on beaches of the greater Sydney region. *Journal of Coastal Research* **19**: 421-430.
- Dayton, P. K., Thrush, S. F., Agardy, M. T., and Hofman, R. J. (1995). Environmental effects of marine fishing. *Aquatic Conservation: Marine and Freshwater Ecosystems*, **5**: 205-532.
- DeAlteries, J. T. and Reifsteck, D. M. (1993). Escapement and survival of fish from the codend of a demersal trawl. *Fish behaviour in relation to fishing operations. ICES Marine Science Symposia*. **196**: 128-131.
- *Department of Agriculture, Fisheries and Forestry - Australia (AFFA), Department of Primary Industries, Water and the Environment – Tasmania (DPIWE), the Australian Fisheries Management Authority (AFMA), and Environment Australia (EA) (2002). *Seabird interactions with fisheries in the Australian fishing zone. National Plan of Action for reducing the incidental catch of seabirds in longline fisheries – Assessment report*. 145 pp.
- Dethier, M. N. Steneck R. S., (2001). Growth and persistence of diverse intertidal crusts: survival of the slow in a fast-paced world. *Marine Ecology Progress Series*, **223**: 89-100.
- *Deville, A. and Harding, R. (1997). *Applying the precautionary principle*. The Federation Press, Sydney, 79.

- Duarte, C. M., (2000). Marine biodiversity and ecosystem services: an elusive link. *Journal of Experimental Marine Biology and Ecology*, **250**: 117-131.
- Duffus, J. H. (2001). Risk assessment terminology. *Chemistry International* **23**(2).
- Dunn, M. R. (2001). The biology and exploitation of John dory, *Zeus faber* (Linnaeus, 1758) in the waters of England and Wales. *ICES Journal of Marine Science*. **58**: 96-105.
- Ecological Applications, **13** (1) Supplement (2003). *The Science of Marine Reserves*.
- *Edgar, G. J. (1997). *Australian Marine Life*. Reed Books, Melbourne, Australia. pp. 544.
- Engel, J. and Kvitek, R. (1998). Effects of otter trawling on a benthic community in Monterey Bay National marine Sanctuary. *Conservation Biology* **12**:1204-1214.
- *Environment Australia (1998a). *Threat abatement plan for the incidental catch (or by-catch) of seabirds during oceanic longline fishing operations*. Environment Australia – Biodiversity Group, Canberra, Australia.
- *Environment Australia (1998b). *Draft recovery plan for marine turtles in Australia*. Environment Australia – Biodiversity Group, Canberra, Australia. 108 pp.
- *Environment Australia (1999). *Threat abatement plan for competition and land degradation by feral rabbits*. Environment Australia – Biodiversity Group, Canberra, Australia.
- *Environment Australia (2001a). *Recovery plan for albatrosses and giant-petrels*. Environment Australia - Natural Heritage Division, Canberra, Australia. 156 pp.
- *Environment Australia (2001b). *Draft guidelines on the application of the Environment Protection and Biodiversity Conservation Act to interactions between offshore seismic operations and whales (large cetaceans)*. Environment Australia, Canberra, Australia.
- *Environment Australia (2002a). *Recovery plan for the grey nurse shark (Carcharius taurus) in Australia*. Environment Australia, Canberra
- *Environment Australia (2002b). *White shark (Carcharodon carcharias) recovery plan*. Canberra, 43 pp.
- *Environment Australia (2003). *Recovery plan for marine turtles in Australia*. Environment Australia – Approvals and Wildlife Division, Canberra, Australia. 43 pp.
- *EPA, (2000). <http://www.epa.nsw.gov.au/soe/soe2000>.
- Evans, D. and Grainger, R. (2002). Gathering data for resource monitoring and fisheries management. **In: Handbook of fish biology and Fisheries: Volume 2**, Hart, P. J. B. and Reynolds J. D. (eds). Fisheries New York Blackwell Publishing, p. 84-102.
- Fairbridge, W.S. (1952). The New South Wales tiger flathead (*Neoplatycephalus macrodon*). II. The age composition of the commercial catch, overfishing of the stocks, and suggested conservation. *Australian Journal of Marine and Freshwater Research* **3**: 1-31.
- Fairweather, P. G., (1989). Environmental Impact Assessment: Where is the science in EIA. *Search*, **20**: 141-145.
- Fairweather, P. G., (1991). Statistical power and design requirements for environmental monitoring. *Australian Journal of Marine and Freshwater Research*, **42**: 555-567.
- *FAO website: www.fao.org/fi/glossary.

- FAO (2003). The ecosystem approach to fisheries. *FAO Technical Guidelines for Responsible Fisheries*. **No. 4, Suppl. 2**. Rome, FAO, 112p.
- Fergusson, I. K., Graham, K. J. and Compagno, L. J. V. (2003). Distribution, abundance and biology of the smalltooth sandtiger shark *Odontaspis ferox* (Risso, 1810) (Chondrichthyes: Lamniformes, Odontaspidae). *Environmental Biology of Fishes* **Submitted**.
- Fertl, D. and Leatherwood, S. (1997). Cetacean interactions with trawls: A preliminary review. *Journal of Northwest Atlantic Fisheries Science*, **22**: 219-248.
- *Fletcher, W.J., Chesson, J., Fisher, M., Sainsbury, K.J., Hundloe, T., Smith, A.D.M. and Whitworth, B. (2002). *National ESD reporting framework for Australian Fisheries: the 'How to' guide for wild capture fisheries*. Fisheries Research and Development Corporation Final Report, Project No. 2000/145, Canberra, Australia.
- Fogarty, M. J. and Murawski, S. A. (1998). Large-scale disturbance and the structure of marine systems: fishery impacts on Georges Bank. *Ecological Applications* **8** Supplement: S6-S22.
- *Fonseca, M. S., Thayer, G. W. and Kenworthy, W. (1985). The use of ecological data in the implementation and management of seagrass restorations. In: *Proceedings of the symposium on subtropical – tropical seagrasses of the south-eastern United States*. p.175-188.
- Fowler-Walker, M. J. Connell S. D., (2002). Opposing state of subtidal habitat across temperate Australia: consistency and predictability in kelp canopy-benthic associations. *Marine Ecology Progress Series*, **240**: 49-56.
- Fox, D. S. and Starr R. M., (1996). Comparison of commercial fishery and research catch data. *Canadian Journal of Fisheries and Aquatic Sciences*, **53**: 2681-2694.
- Francis, R. C. (1992). Use of risk analysis to fishery management strategies: A case study using orange roughy (*Hoplostethus atlanticus*) on the Chatham Rise, New Zealand. *Canadian Journal of Fisheries and Aquatic Sciences* **49**: 922-930.
- Francis, R. C. and Shotton, R. (1997). "Risk" in fisheries management: a review. *Canadian Journal of Fisheries and Aquatic Sciences* **54**: 1699-1715.
- Freese, L., Auster, P. J., Heifetz, J. and Wing, B. L. (1999). Effects of trawling on seafloor habitat and associated invertebrate taxa in the Gulf of Alaska. *Marine Ecology Progress Series*, **182**:119-126.
- Frost, A. and Cullen M. (1997). Marine debris on northern New South Wales beaches (Australia): sources and the role of beach usage. *Marine Pollution Bulletin*, **34**: 348-352.
- Fu, C., Mohn, R. and Fanning L. P. (2001). Why the Atlantic cod (*Gadus morhua*) stock off eastern Nova Scotia has not recovered. *Canadian Journal of Fisheries and Aquatic Sciences* **58**: 1613-1623.
- Gaines, S. D., Gaylord, B. and Largier, J. L. (2003). Avoiding current oversights in marine reserve design. *Ecological Applications* **13** (Supplement): S32-S46.
- *Gales, R. (1998). Albatross populations: status and threats. In: *Albatross: Biology and Conservation*. Robertson, G. and Gales, R. (eds). Surrey, Beatty and Sons, Chipping Norton, Australia. pp. 20-45.
- Garcia, S. M. (2000). The FAO definition of sustainable development and the Code of Conduct for Responsible Fisheries: an analysis of the related principles, criteria and indicators. *Marine and Freshwater Research*, **51**: 535-541.

- *Garnett, S. T. and Crowley, G. M. (2000). *The action plan for Australian birds*. Environment Australia, Canberra, Australia. 673 pp.
- Gerrodette, T., Dayton, P. K., Macinko, S. and Fogarty M. J. (2002). Precautionary management of marine fisheries: moving beyond burden of proof. *Bulletin of Marine Science*, **70**: 657-668.
- Gillanders, B. M. (1995a). Feeding ecology of the temperate marine fish *Achoerodus viridis* (Labridae): size, seasonal and site-specific differences. *Marine and Freshwater Research* **46**, 1009-1020.
- Gillanders, B. M. (1995b). Reproductive biology of the protogynous hermaphrodite *Achoerodus viridis* (Labridae) from south-eastern Australia. *Marine and Freshwater Research* **46**, 999-1008.
- Gillis, D. M., Peterman, R. M. and Pikitch, E. K. (1995). Implications of trip regulations for high-grading: A model of the behavior of fishermen. *Canadian Journal of Fisheries and Aquatic Sciences*. **52**: 402-415.
- Gislason, H. (2002). The effects of fishing on non-target species and ecosystem structure and function. **In: Reykjavik Conference on Responsible Fisheries in the Marine Ecosystem**. Food and Agriculture Organisation of the United Nations, Reykjavik, p.21-21
- Glaister, J. P. (1978). Impact of river discharge on distribution and production of the school prawn *Metapenaeus macleayi* (Haswell) (Crustacea: Penaeidae) in the Clarence River region, northern New South Wales. *Australian Journal of Marine and Freshwater Research* **29**:311-323.
- Glaister, J. P. and McDonall, V. C. (1983). Trends in the northern NSW king prawn fleet. *Australian Fisheries* **42**(1):10-13.
- Glaister, J. P., Lau, T. and McDonall, V. C. (1987). Growth and migration of tagged eastern Australian king prawns *Penaeus plebejus* Hess. *Australian Journal of Marine and Freshwater Research* **38**:225-241.
- Glaister, J. P., Montgomery, S. S. and McDonall, V. C. (1990). Yield-per-recruit analysis of eastern king prawns *Penaeus plebejus* Hess, in eastern Australia. *Australian Journal of Marine and Freshwater Research* **41**:175-197.
- Glasby, T. M. (1998). Estimating spatial variability in developing assemblages of epibiota on subtidal hard substrata. *Marine and Freshwater Research*, **49**: 429-437.
- Glasby, T. M. and Underwood, A. J. (1996). Sampling to differentiate between pulse and press perturbations. *Environmental Monitoring and Assessment*, **42**: 241-252.
- Godo, O. R. and Sunnana, K. (1992). Size selection during trawl sampling of cod and haddock and its effect on abundance indices at age. *Fisheries Research* **13**: 293-310.
- Godfrey, J. S., Cresswell, G. R., Golding, T.J., Pearce, A.F. and Boyd, R. (1980) The separation of the East Australian Current. *Journal of Physical Oceanography*, **10**: 430-440.
- *Gordon, A. D. and Hoffman, J. G. (1989). *Seabed Information Maps, Broken Bay to Bate Bay, NSW*. Based on surveys and interpretation for Sydney Coastal Study 1979-1985.
- Gordon, G. N. G., Andrew, N. L. and Montgomery, S. S. (1995). Deterministic compartmental model for the eastern king prawn (*Penaeus plebejus*) fishery in New South Wales. *Marine and Freshwater Research* **46**:793-807.

- *Goulstone, A. (1996). *Fisheries Management Techniques*. Fishnote DF 61, March 1996. NSW Fisheries, Cronulla.
- *Graham, K. J. and Gorman, T. B. (1985). New South Wales deepwater prawn fishery research and development. **In:** *Second Australian National Prawn Seminar*, NPS2, Cleveland, Australia. P. C Rothlisberg, B. J. Hill and D. J. Staples (eds). p 231-243.
- *Graham, K. J. and Wood, B. R. (1997). *The 1995-96 Survey of Newcastle and Clarence River Prawn Grounds*. *Kapala Cruise Report No. 116*. ISSN 0727-4335. NSW Fisheries, Cronulla.
- Graham, K. J., Andrew, N. L. and Hodgson, K. E. (2001). Changes in relative abundance of sharks and rays on Australian South East Fishery trawl grounds after twenty years of fishing. *Marine and Freshwater Research* **52**:549-561.
- *Graham, K. J., Liggins, G. W., Wildforster, J. and Kennelly, S. J. (1993a). *Kapala Cruise Report No. 110*. NSW Fisheries, Cronulla.
- *Graham, K. J., Liggins, G. W., Wildforster, J. and Kennelly, S. J. (1993b). *Kapala Cruise Report No. 112*. NSW Fisheries, Cronulla.
- *Graham, K. J., Liggins, G. W., Wildforster, J. and Wood, B. (1995). *New South Wales continental shelf trawl survey. Results for year 1: 1993*. *Kapala Cruise Report No. 114*. NSW Fisheries, Cronulla.
- *Graham, K. J., Liggins, G. W., and Wildforster, J. (1996). *New South Wales continental shelf trawl survey. Results for year 2: 1994*. *Kapala Cruise Report No. 115*. NSW Fisheries, Cronulla.
- *Graham, K. J., Winstanley, R. H. and Wilson, M. A. (1982). *Trawl and Danish Seine Fishery*. SEFC Fishery Situation Report No. 9. CSIRO, Cronulla. 31pp
- *Graham, K. J., Wood, B. R., and Andrew, N. L. (1997). *The 1996-97 survey of upper slope trawling grounds between Sydney and Gabo Island (and comparisons with the 1976-77 survey)*. *Kapala Cruise Report No. 117*. NSW Fisheries, Cronulla.
- Gray, J. S., (1997). Marine biodiversity: patterns, threats and conservation needs. *Biodiversity and Conservation*, **6**: 153-175.
- Gray, J. S., (2000). The measurement of marine species diversity, with an application to the benthic fauna of the Norwegian continental shelf. *Journal of Experimental Marine Biology and Ecology*, **250**: 23-49.
- Gray, J. S. and Jensen, K. (1993). Feedback monitoring: a new way of protecting the environment. *Trends in Ecology and Evolution*, **8**:267-268.
- Gray, C. A. and Otway, N. M. (1994). Spatial and temporal differences in assemblages of demersal fishes on the inner continental shelf off Sydney, South-eastern Australia. *Australian Journal of Marine and Freshwater Research*, **45**:665-676.
- *Greboval, D. and Munro, G. (1999). Overcapitalisation and excess fishing capacity in world fisheries: underlying economics and methods of control. **In:** *Managing fishing capacity: selected papers on underlying concepts and issues*. D. Greboval (ed). *FAO Fisheries Technical Paper No. 386*. FAO, Rome.
- Hall, D. L., Hilborn, R., Stocker, M. and Walters, C. J. (1988). Alternative harvest strategies for Pacific herring (*Clupea harengus pallasii*). *Canadian Journal of Fisheries and Aquatic Sciences* **45**: 888-897.

- Hall, S. J. (1999). *The Effects of Fishing on Marine Ecosystems and Communities*. Fish Biology and Aquatic Resources Series, Volume 1. Blackwell Science, Oxford. 274 pp.
- Hall, M. A. Alverson D. L. Metuzals K. I., (2000). By-catch: problems and solutions. *Marine Pollution Bulletin*, **41**: 204-219.
- Harper, P. C. (1987). Feeding behaviour and other notes on 20 species of Procellariiformes at sea. *Notornis* **34**: 169-192.
- Harriott, V. J., Banks, S. A., Mau, R. L., Richardson, D. and Roberts, L. G. (1999). Ecological and conservation significance of the subtidal rocky reef communities of northern New South Wales, Australia. *Marine and Freshwater Research* **50**: 299-306.
- Harris, A. N. Poiner I. R., (1990). By-catch of the prawn fishery of Torres Strait; composition and partitioning of the discards into components that float or sink. *Australian Journal of Marine and Freshwater Research*, **41**: 37-52.
- Hastings, A. and Botsford L. W., (2003). Comparing designs of marine reserves for fisheries and for biodiversity. *Ecological Applications* **13** (Supplement): S65-S70.
- *Hayes, K. R. (1997). *A review of ecological risk assessment methodologies*. Technical report No.13, Centre for Research on Introduced marine Pests (Australia), CSIRO, Hobart, 117 pp.
- Haynes, D. (1997). Marine debris on continental islands and sand cays in the far northern section of the Great Barrier Reef Marine Park, Australia. *Marine Pollution Bulletin* **34**,276-279.
- Heino, M. and Godo, O. R. (2002). Fisheries-induced selection pressures in the context of sustainable fisheries. *Bulletin of Marine Science* **70**: 639-356.
- *Henry, G. W. and Lyle, J. M. (2003). *The National Recreational and Indigenous Fishing Survey*. FRDC Project No. 99/158. Final Report Series No. 48 ISSN 1440-3544. NSW Fisheries, Cronulla, 188pp.
- *Herfort, A. (1997). *Marine debris on beaches in New South Wales*. Ocean Watch Australia Ltd., Sydney.
- *Hickman, L. J. (1999). *Effects of fur seals on fishing operations along the New South Wales south coast*. BA (honours) thesis. The University of NSW – Australian Defence Force Academy. 109 pp.
- Higgins, P. J. and Davies, S. J. J. F. (1996). *Handbook of Australian, New Zealand and Antarctic Birds – Volume 3 Snipe to Pigeons*. Oxford University Press, Melbourne, Australia. 1028 pp.
- Hilborn, R. and Walters, C. J. (1992). *Quantitative fisheries stock assessment – choice, dynamics and uncertainty*. Chapman and Hall, London, p. 570.
- Hilborn, R., Pikitch, E. K. and Francis, R. C. (1993). Current trends in including risk and uncertainty in stock assessment and harvest decisions. *Canadian Journal of Fisheries and Aquatic Sciences*, **50**: 874-880.
- Hilborn, R., Maguire, J., Parma, A. M. and Rosenberg, A. A. (2001). The precautionary approach and risk management: can they increase the probability of successes in fishery management? *Canadian Journal of Fisheries and Aquatic Sciences* **58**: 99-107.
- Hilborn, R., Stokes, K., Maguire, J., Smith, A., Botsford, L., Mangel, M., Orensanz, J., Parama, A., Rice, R., Bell, J., Cochrane, K. L., Garcia, S., Hall, S. J., Kirkwood, G. P., Sainsbury, K., Stefansson, G. and Walters, C. (2004). When can marine reserves improve fisheries management? *Ocean and Coastal Management* **47**: 197-205.

- Hill, B. J. and Wassenberg, T. J. (1990). Fate of discards from prawn trawlers in Torres Strait. *Australian Journal of Marine and Freshwater Research*, **41**:53-64.
- Hill, B. J. and Wassenberg, T. J. (2000). The probable fate of discards from prawn trawlers fishing near coral reefs. A study in the northern Great Barrier Reef, Australia. *Fisheries Research* **48**: 277-286.
- Hoel, A. H. (1998). Political uncertainty in international fisheries management. *Fisheries Research*. **37**:239-250.
- Holland, D. S. (2003). Integrating spatial management measures into traditional fishery management systems: the case of the Georges Bank multispecies groundfish fishery. *ICES Journal of Marine Science*, **60**: 915-929.
- *Honneland, G. (2000). *Coercive and discursive compliance mechanisms in the management of natural resources – A case study from the Barents Sea fisheries*. Kluwer Academic Publishers, Dordrecht.
- Hooker, S. K. and Gerber, L. R. (2004). Marine reserves as a tool for ecosystem-based management: the potential importance of megafauna. *BioScience* **54**: 27-39.
- Hooper, J. N. A. Kennedy J. A. and Quinn R. J., (2002). Biodiversity 'hotspots', patterns of richness and endemism and taxonomic affinities of tropical Australian sponges (Porifera). *Biodiversity and Conservation*, **11**: 851-885.
- Houston, T. W. (1955). The New South Wales trawl fishery : Review of past course and examination of present condition. *Australian Journal of Marine and Freshwater Research* **6**: 165-208
- Hutchings, J. A. (1990). Review of the effects of trawling on macrobenthic communities. *Australian Journal of Marine and Freshwater Research* **41**: 111-120.
- Hutchings, J. A. (1999). Influence of growth and survival costs of reproduction on Atlantic cod, *Gadus morhua*, population growth rate. *Canadian Journal of Fisheries and Aquatic Sciences* **56**: 1612-1623.
- Hutchings, J. A. and Myers, R. A. (1994). What can be learned from the collapse of a renewable resources? Atlantic cod, *Gadus morhua*, of Newfoundland and Labrador. *Canadian Journal of Fisheries and Aquatic Sciences* **51**: 2126-2146.
- *Hutchins, B. and Swainston, R. (1986). *Sea fishes of southern Australia*. Swainston Publishing, Perth, Australia. 180 pp.
- Hyrenbach, K. D., Forney K. A. and Dayton P. K. (2000). Marine protected areas and ocean basin management. *Aquatic Conservation: Marine and Freshwater Ecosystems*, **10**: 437-458.
- Ibsen, T. (1999). Sustainable fisheries: the linkage with trade and the environment. *Linkages Journal* **4**(2): 2-4.
- *IPART (1998). *Pricing Principles for Management Charges in NSW Commercial fisheries*. Independent Pricing and Regulatory Tribunal of NSW, April.
- *IUCN (2002). *The threatened status of sharks and related species*. Shark Specialist Group. [<http://www.flmnh.ufl.edu/fish/organizationa.ssg/threatenedsharks.pdf>]. September, 2003.
- Jennings, S., (2001). Patterns and predictions of population recovery in marine reserves. *Reviews in Fish Biology and Fisheries*, **10**: 209-231.

- Jennings, S. and Kaiser, M.J. (1998). Effects of fishing on marine ecosystems. *Advances in Marine Biology* **34**:201-352.
- Jennings, S., Greenstreet S. P. R. and Reynolds J. D., (1999). Structural change in an exploited fish community: a consequence of differential fishing effects on species with contrasting life histories. *Journal of Animal Ecology*, **68**: 617-627.
- Jennings, S., Pinnegar J. K., Polunin N. V. C. and Warr K. J., (2001a). Impacts of trawling disturbance on the trophic structure of benthic invertebrate communities. *Marine Ecology Progress Series*, **213**: 127-142.
- Jennings, S., Dinmore, T.A., Duplisea, D.E., Warr, K.J. and Lancaster, J.E., (2001b). Trawling disturbance can modify benthic production. *Journal of Animal Ecology*, **70**: 459-475.
- *Jones, M.M. (1994). Fishing debris in the Australian marine environment, Canberra, Bureau of Resource Sciences, p.39.
- Jones, M.M. (1995). Fishing debris in the Australian marine environment. *Marine Pollution Bulletin*, **30**: 25-33.
- Jordan, A. R. (2001a). Reproductive biology, early life-history and settlement distribution of sand flathead (*Platycephalus bassensis*) in Tasmania. *Marine & Freshwater Research*. **52**: 589-601.
- Jordan, A. R. (2001b). Age, growth and spatial and interannual trends in age composition of jackass morwong, (*Nemadactylus macropterus*), in Tasmania. *Marine & Freshwater Research*. **52**: 651-660.
- Jordan, A. R. (2001c). Spatial and temporal variations in abundance and distribution of juvenile and adult jackass morwong, (*Nemadactylus macropterus*), in south-eastern Tasmania. *Marine & Freshwater Research*. **52**: 661-670.
- Joung, S., Chen, C., Clarke, C., Uchida, S. and Huang, W. Y. P. (1996). The whale shark, *Rhincodon typus*, is a live bearer: 300 embryos found in one "megamamma" supreme. *Environmental Biology of Fishes* **46**,219-223.
- Kailola, P. J., Williams, M.J., Stewart, P. C., Reichelt, R. E., McNee, A. and Grieve, C. (1993). *Australian Fisheries Resources*. Bureau of Resource Sciences and the Fisheries Research and Development Corporation. Commonwealth of Australia, 422 pp.
- Kaiser, M.J. and Spencer, B.E. (1994) Fish scavenging behaviour in recently trawled areas. *Marine Ecology Progress Series*, **112**:41-49.
- Kaiser, M. J. and de Groot, S. (eds) (2000). *Effects of Fishing on Non-target Species and Habitats: Biological, Conservation and Socio-Economic Issues*. Blackwell Science, Oxford.
- Kaiser, M. J. Edwards D. B. Armstrong P. J. Radford K. Lough N. E. L. Flatt R. P. and Jones H. D. (1998). Changes in megafaunal benthic communities in different habitats after trawling disturbance. *ICES Journal of Marine Science*, **55**: 353-361.
- Kaiser, M. J., Spence, F. E. and Hart, P. J. (2000). Fishing-gear restrictions and conservation of benthic habitat complexity. *Conservation Biology*, **14**: 1512-1525.
- Kaiser, M. J., Collie, J. S., Hall, S. H., Jennings, S. and Poiner, I. R. (2002). Modification of marine habitats by trawling activities: prognosis and solutions. *Fish and Fisheries* **3**: 114-136.
- Kennelly, S. J. (1987a). Physical disturbances in an Australian kelp community: I. Temporal effects. *Marine Ecology Progress Series* **40**:145-153.

- Kennelly, S. J. (1987b). Inhibition of kelp recruitment by turfing algae and consequences for Australian kelp community. *Journal of Experimental Marine Biology and Ecology* **112**:49-60.
- Kennelly, S. J. (1987c). Physical disturbances in an Australian kelp community: II. Effects on understory species due to differences in kelp cover. *Marine Ecology Progress Series* **40**:155-165.
- *Kennelly, S. J. (1993). *Study of the by-catch of the NSW east coast trawl fishery*. Final Report, Fisheries Research and Development Corporation Project No. 88/108. NSW Fisheries Research Institute, Cronulla.
- Kennelly, S. J., (1995). The issue of bycatch in Australia's demersal trawl fisheries. *Reviews in Fish Biology and Fisheries*, **5**: 213-234.
- *Kennelly, S.J. (1997). A framework for solving bycatch problems: examples from New South Wales, Australia, the eastern Pacific and the northwest Atlantic. **In:** *Developing and sustaining world fisheries resources: the state of science and management*. 2nd World Fisheries Congress proceedings. Hancock, D.A., Smith, D.C. Grant, A. and Beumer, J.P. (eds). CSIRO press, pp. 544-550.
- Kennelly, S. J. and Underwood, A. J. (1992). Fluctuations in the distributions and abundances of species in sublittoral kelp forests in New South Wales. *Australian Journal of Ecology*, **17**:367-382.
- *Kennelly, S.J. and McVea, T. (Eds) (2001). *Status of Fisheries Resources, 2000/2001*. NSW Fisheries, Cronulla.
- Kennelly, S. J., Liggins, G. W. and Broadhurst, M. K. (1998). Retained and discarded by-catch from oceanic prawn trawling in New South Wales, Australia. *Fisheries Research* **36**:217-236.
- *Kiessling, I. (2003). Finding Solutions: derelict fishing gear and other marine debris in Northern Australia. National Oceans Office, Darwin.
- *Kirkwood, G. P., Beddington, J. R. and Rossouw, A. (1994). Harvesting species of different life spans. **In:** *Large-scale Ecology and Conservation Biology*. Edwards, P. J., May, R. M. and Webb, N. R. (eds). Oxford, Blackwell Science.
- *Knuckey, I. A. and Liggins, G. W. (1999). Focussing on bycatch issues in Australia's South East Trawl Fishery. **In:** *Establishing Meaningful Targets for Bycatch Reduction in Australian Fisheries*. Australian Society for Fish Biology Workshop Proceedings, September 1998. Hobart. Buxton, C.D., and Eayrs, S.E. (eds). pp. 46-55.
- *Knuckey, I. A., Berrie, S. E. and Gason, A. S. (2001). *South East Fishery Integrated Monitoring Program - 2000*. Report to the South East Fishery Assessment Group. Marine & Freshwater Resources Institute, Victorian Department of Natural Resources and Environment.
- *Knuckey, I. A., Ashby, C. J., Graham, K. J., Piasente, M., He, X. and Wayte. S. (in prep). *Effects of trawling subprogram – maximising yields and reducing discards in the South East Trawl Fishery through gear development and evaluation*. Final Report, FRDC Project 1998/204 Marine and Freshwater Resources Institute, Queenscliff.
- Korsbrekke, K., Mehl S., Nakken O. and Pennington M., (2001). A survey-based assessment of the Northeast Arctic cod stock. *ICES Journal of Marine Science*, **58**: 763-769.
- *Kuitert, R. H. (1993). *Coastal fishes of south-eastern Australia*. Crawford House, Bathurst, Australia. 437 pp.

- *Kuitert, R. H. (1996). *Guide to sea fishes of Australia*. New Holland, Frenchs Forest, Australia. 433 pp.
- Kuitert, R. H. (2001). Revision of the Australian seahorses of the genus *Hippocampus* (Syngnathiformes: Syngnathidae) with descriptions of nine new species. *Records of the Australian Museum* **53**: 293-340.
- Kuitert, R. H. (2003a). *Seahorses, pipefishes and their relatives. A comprehensive guide to Syngnathiformes*. TMC Publishing, Chorleywood, UK. 240pp.
- Kuitert, R. H. (2003b). A new pygmy seahorse (Pisces: Syngnathiformes: *Hippocampus*) from Lord Howe Island. *Records of the Australian Museum* **55**: 113-116.
- Lake, P. S. (2000). Disturbance, patchiness and diversity in streams. *Journal of the North American Benthological Society* **19**: 573-592.
- Lane, D. E. and Stephenson, R. L. (1998). A framework for risk analysis in fisheries decision-making. *ICES Journal of Marine Science* **55**:1-13.
- Last, P. R. and Stevens, J. D. (1994). *Sharks and rays of Australia*. CSIRO, Melbourne, Australia. 513 pp.
- *Leadbitter, D., Gordon, I. and McKechnie, M. (1988). Circle of dependence: handling protected species manual. Oceanwatch, Pyrmont, NSW. 29 pp.
- *Leatherwood, S. and Reeves, R. R. (1983). *The Sierra Club Handbook of Whales and Dolphins*. Sierra Club Books, San Francisco.
- Leys, S. P. and Lauzon, N. R. J. (1998). Hexactinellid sponge ecology: growth rates and seasonality in deep water sponges. *Journal of Experimental Marine Biology and Ecology* **230**: 111-129.
- *Liggins, G. W. (1996). The interaction between fish trawling (in NSW) and other commercial and recreational fisheries. *Final Report to Fisheries Research and Development Corporation Project No. 92/79*.
- Linder, E., Patil, G. P. and Vaughan, D. S. (1987). Application of event tree risk analysis to fisheries management. *Ecological Modelling* **36**:15-28.
- Lindegrath, M., Valestinsson, D., Hansson, M. and Ulmestrand, M. (2000). Interpreting large-scale experiments on effects of trawling on benthic fauna: an empirical test of the potential effects of spatial confounding in experiments without replicated control and trawled areas. *Journal of Experimental Marine Biology and Ecology*, **245**: 155-169.
- Link, J. S., Brodziak, J. K. T., Edwards, S. F., Overholtz, W. J., Mountain, D., Jossi, J. W., Smith, T. D. and Fogarty, M. J. (2002) Marine ecosystem assessment in a fisheries management context. *Canadian Journal of Fisheries and Aquatic Sciences* **59**:1429-1440.
- Love, M. S., Carr, M. H. and Haldorson, L. J. (1991). The ecology of substrate-associated juveniles of the genus *Sebastes*. *Environmental Biology of Fishes*, **30**:225-243.
- Lubchenco, J. Palumbi S. R. Gaines S. D. Andelman S., (2003). Plugging a hole in the ocean: the emerging science of marine reserves. *Ecological Applications* (Supplement), **13**: S3-S7.
- Mapstone, B. D., (1995). Scalable decision rules for environmental impact studies: effect size, Type I, and Type II errors. *Ecological Applications*, **5**: 401-410.
- Marchant, S. and Higgins, P.J. (1990). *Handbook of Australian, New Zealand and Antarctic Birds - Volume 1 Ratites to Ducks*. Oxford University Press, Melbourne, Australia. 1400 pp.

- Marchant, S. and Higgins, P.J. (1993). *Handbook of Australian, New Zealand and Antarctic Birds – Volume 2 Raptors to Lapwings*. Oxford University Press, Melbourne, Australia. 984 pp.
- Marsh, H., Heinsohn, G.E. and Marsh, L.M. (1984). Life history, breeding cycle and population dynamics of the dugong, *Dugong dugon*. *Australian Journal of Zoology*, **32**: 767-788.
- Martínez-Abraín, A., Maestre, R. and Oro, D. (2002). Demersal trawling waste as a food source for Western Mediterranean seabirds during the summer. *ICES Journal of Marine Science*, **59**: 529-537.
- McAllister, M. K. and Peterman, R. M., (1992). Experimental design in the management of fisheries: a review. *North American Journal of Fisheries Management*, **12**: 1-18.
- McAllister, M. K., Starr, P. J., Restrepo, V. R. and Kirkwood, G. P. (1999). Formulating quantitative methods to evaluate fishery-management systems: what processed should be modeled and what trade-offs should be made? *ICES Journal of Marine Science*, **56**: 900-916.
- *McIlgorm, A. (1998). *Ocean Prawn Trawl Fishery Adjustment Study. Modelling of effort and latent effort in the Ocean Prawn Trawl Fishery*. November 1998. Report to NSW Fisheries. Dominion Consulting, Hurstville.
- *Miller, M. (2000). Survey of prawn trawl bycatch in the Richmond River oceanic fishing closure (April - July 2001). p 295-322 **In: Scientific reports on the recovery of the Richmond and Macleay Rivers following fish kills in February and March, 2001**. Kennelly, S. J. and McVea, T. A. (eds) NSW Fisheries Final Report Series **No. 39**. NSW Fisheries, Cronulla.
- Mitchell, C. L. (1997). Fisheries management in the Grand Banks, 1980-1992 and the straddling stock issue. *Marine Policy*, **21**: 97-109.
- Mitson, R. B. and Knudsen, H. P. (2002). Causes and effects of underwater noise on fish abundance estimation. *Aquatic Living Resources* **16**: 255-263.
- Montgomery, S. S. (1990). Movements of juvenile eastern king prawns *Penaeus plebejus*, and identification of stock along the east coast of Australia. *Fisheries Research (Amsterdam)* **9**:189-208.
- *Montgomery, S. S. (1999). *Review of the Ocean Prawn Trawl Fishery*. NSW Fisheries Internal Report.
- *Montgomery, S. S. (2000) Status of eastern king and school prawn stocks. Proceedings, Juvenile Prawn Summit, Cronulla 26-27 June 2000. NSW Fisheries, Cronulla.
- Montgomery, S. S., Brett, P. A., Blount, C., Stewart, J., Gordon, G. N. G., and Kennelly, S. J. (1995). Loss of tags, double tagging and release methods for eastern king prawns *Penaeus plebejus* (Hess): laboratory and field experiments. *Journal of Experimental Marine Biology and Ecology* **188**:115-131.
- Morison, A. K. and Rowling, K. R. (2001) Age , growth and mortality of redfish *Centroberyx affinis*. *Marine and Freshwater Research* **52**:637-649.
- Murawski, S. A., (1996). Factors influencing by-catch and discard rates: analyses from multispecies/multifishery sea sampling. *Journal of Northwest Atlantic Fisheries Science*, **19**: 31-39.
- Murawski, S. A. (2000). Definitions of overfishing from an ecosystem perspective. *ICES Journal of Marine Science* **57**: 649-658.

- Murawski, S. A., Brown, R., Lai, H-L., Rago, P. J. and Hendrickson, L. (2000). Large-scale closed areas as a fishery-management tool in temperate marine systems: The Georges Bank experience. *Bulletin of Marine Science* **3**:775-798.
- *Murphy, P. (1999). Licensing. **In:** *Proceedings of the Commercial Fishing Industry Summit*, 4-5 November 1999, pp 53-58. NSW Fisheries, Cronulla.
- Myers R.A. and Cadigan, N.G. (1995). Was an increase in natural mortality responsible for the collapse of northern cod? *Canadian Journal of Fisheries and Aquatic Sciences* **52**: 1274-1285.
- Myers, R. A. and Mertz, G., (1998). The limits of exploitation: a precautionary approach. *Ecological Applications* **8** (Supplement): S165-S169.
- Myers, R.A. and Worm, B. (2003). Rapid worldwide depletion of predatory fish communities. *Nature* **423**:280-283.
- Myers, R.A., Hutchings, J. A. and Barrowman, N. J. (1997). Why do fish stocks collapse? The example of Atlantic cod in Canada. *Ecological Applications* **7**: 91-106.
- Naeem, S. (2002). Ecosystem consequences of biodiversity loss: the evolution of a paradigm. *Ecology*, **83**: 1537-1552.
- *National Oceans Office (2002). *The South-East Regional Marine Plan – Impacts, Identifying disturbances*. National Oceans Office.
- Neilson, J. D; Waiwood, K. G; and Smith, S. J. (1989). Survival of Atlantic halibut (*Hippoglossus hippoglossus*) caught by longline and otter trawl gear. *Canadian Journal of Fisheries and Aquatic Sciences*, **46**: 887-897.
- *Neira, F. J. Miskiewicz A. G. Trnski T. (1998). *Larvae of temperate Australian fishes - Laboratory guide for larval fish identification*. Perth Universtiy of Western Australia Press.
- *Newcastle Marine Brokers (2000). *New South Wales Fishing Businesses Capital Investment Information*. Unpublished information received from Mr Don Moore, Newcastle Marine Brokers (NMB).
- *Newcastle Marine Brokers (2003). *New South Wales Fishing Businesses Capital Investment Information*. Unpublished information received from Mr Don Moore, Newcastle Marine Brokers (NMB).
- *NSW Fisheries (2001a). *Status of Fisheries Resources 2000*. Internal report, Cronulla Fisheries Centre, Sydney, pp 306.
- NSW Fisheries (2001b). *Estuary Prawn Trawl Fishery Environmental Impact Statement – Public consultation document, Volumes 1 and 2*, Cronulla Fisheries Centre, Sydney.
- NSW Fisheries (2001c). *Estuary General Fishery Environmental Impact Statement – Public consultation document, Volumes 1 and 2*, Cronulla Fisheries Centre, Sydney.
- *NSW Fisheries (2002). *Status of Fisheries Resources 2001/2002*. Internal report, Cronulla Fisheries Centre, Sydney, pp 313.
- *NSW Fisheries Indigenous Fisheries Strategy and Implementation Plan (2002). 6 pp.
- *NSW National Parks and Wildlife Service (NSW NPWS) (1999a). *Threatened species information for the black-browed albatross*. NSW National Parks and Wildlife Service, Hurstville, Australia. 3 pp.

- *NSW National Parks and Wildlife Service (NSW NPWS) (1999b). *Threatened species information for the black-winged petrel*. NWS National Parks and Wildlife Service, Hurstville, Australia. 4 pp.
- *NSW National Parks and Wildlife Service (NSW NPWS) (1999c). *Threatened species information for the little shearwater*. NWS National Parks and Wildlife Service, Hurstville, Australia. 3 pp.
- *NSW National Parks and Wildlife Service (NSW NPWS) (1999d). *Threatened species information for the shy albatross*. NWS National Parks and Wildlife Service, Hurstville, Australia. 4 pp.
- *NSW National Parks and Wildlife Service (NSW NPWS) (1999e). *Threatened species information for the sooty albatross*. NWS National Parks and Wildlife Service, Hurstville, Australia. 3 pp.
- *NSW National Parks and Wildlife Service (NSW NPWS) (1999f). *Threatened species information for the sooty tern*. NWS National Parks and Wildlife Service, Hurstville, Australia. 4 pp.
- *NSW National Parks and Wildlife Service (NSW NPWS) (1999g). *Threatened species information for the white-bellied storm petrel*. NWS National Parks and Wildlife Service, Hurstville, Australia. 4 pp.
- *NSW National Parks and Wildlife Service (NSW NPWS) (2000a). *Gould's petrel draft recovery plan*. NSW National Parks and Wildlife Service, Hurstville, Australia.
- *NSW National Parks and Wildlife Service (NSW NPWS) (2000b). *Recovery plan for the Endangered population of little penguins (Eudyptula minor) at Manly*. NSW National Parks and Wildlife Service, Hurstville, Australia.
- *NSW National Parks and Wildlife Service (NSW NPWS) (2002a). *Declaration of critical habitat for the Endangered population of little penguins at Manly*. NSW National Parks and Wildlife Service, Hurstville, Australia. 20 pp.
- *NSW National Parks and Wildlife Service (NSW NPWS) (2002b). *Guidelines and conditions for marine reptile strandings, rehabilitation and release in New South Wales*. NSW National Parks and Wildlife Service – Biodiversity and Research Management Division, Hurstville, Australia. 32 pp plus appendices.
- *NSW Scientific Committee (1996). *Wandering albatross - vulnerable species listing*. NSW Scientific Committee - final determination. 2 pp.
- *NSW Scientific Committee (2001a). *Southern giant-petrel - endangered species listing*. NSW Scientific Committee - final determination. 4 pp.
- *NSW Scientific Committee (2001b). *Antipodean albatross - vulnerable species listing*. NSW Scientific Committee - final determination. 3 pp.
- *NSW Scientific Committee (2001c). *Gibson's albatross - vulnerable species listing*. NSW Scientific Committee - final determination. 3 pp.
- *NSW Scientific Committee (2002a). *Blue whale - endangered species listing*. NSW Scientific Committee - final determination. 3 pp.
- *NSW Scientific Committee (2002b). *Dugong - endangered species listing*. NSW Scientific Committee - final determination. 2 pp.
- *NSW Scientific Committee (2002c). *Australian fur-seal - vulnerable species listing*. NSW Scientific Committee - final determination. 3 pp.

- *NSW Scientific Committee (2002d). *New Zealand fur-seal - vulnerable species listing*. NSW Scientific Committee - final determination. 3 pp.
- *NSW Threatened Species Recovery Planning Program (2002). *Grey nurse shark (Carcharias taurus) draft recovery plan*. NSW Fisheries, Port Stephens. 102 pp.
- *Okey, T. A and Harrington, G. A. (1999). Criteria for designing ecosystem-based, experimental management: Bottom trawling and the Bering Sea ecosystem. **In: *Ecosystem Approaches for Fisheries Management***. Lowell Wakefield Fisheries Symposium Series. **No. 16**: 425-446.
- Orenzanz, J. M., Armstrong, J. Armstrong, D. and Hilborn, R. (1998). Crustacean resources are vulnerable to serial depletion – multifaceted decline of crab and shrimp fisheries in the Greater Gulf of Alaska. *Reviews in Fish Biology and Fisheries* **8**:117-176.
- Oro, D. (1996). Effects of trawler discard availability on egg laying and breeding success in the lesser black-backed gull *Larus fuscus* in the Western Mediterranean. *Marine Ecology Progress Series* **132**: 43-46.
- Oro, D. and Ruiz, X. (1997). Exploitation of trawler discards by breeding seabirds in the north-western Mediterranean: differences between the Erbo Delta and the Balearic Islands areas. *ICES Journal of Marine Science* **54**: 695-707.
- Oro, D., Jover, L. and Ruiz, X. (1996). Influence of trawling activity on the breeding ecology of a threatened seabird, Audouin's gull *Larus audouini*. *Marine Ecology Progress Series* **139**: 19-29.
- *Otway, N.M., and Parker, P.C. (1999). *A review of the biology and ecology of the grey nurse shark (Carcharias taurus) Rafinesque 1810*. Fisheries Report Series No. 1. NSW Fisheries Research Institute, Cronulla.
- *Otway, N.M., and Parker, P.C. (2000). *The biology, ecology, distribution and abundance, and identification of marine protected areas for the conservation of threatened Grey Nurse Sharks in south east Australian waters*. NSW Fisheries Final Report Series No, 19. NSW Fisheries, Port Stephens.
- Padilla, D. K. and Allen, B. J. (2000). Paradigm lost: reconsidering functional form and group hypotheses in marine ecology. *Journal of Experimental Marine Biology and Ecology* **250**: 207-221.
- Palanques, A., Guillen, J. and Puig, P. (2001) Impact of bottom trawling on water turbidity and muddy sediment of an unfished continental shelf. *Limnology and Oceanography* **46**:1100-1110.
- Parijjs, S.M. van and Corkeron, P.J. (2001). Boat traffic affects the acoustic behaviour of Pacific humpback dolphins, *Sousa chinensis*. *Journal of the Marine Biological Association of the United Kingdom*, **81**: 533-538
- Pascoe, S. (1997). *Bycatch management and economics of discarding*. FAO Fisheries Technical Paper 370, Rome.
- Paterson, R. (1982). Tuna spotters' sightings aid sperm-whale count. *Australian Fisheries*, **41(10)**: 40-41.
- Patterson, K.R, Zuzunaga, J. and Cardenas, G. (1992). Size of the South American sardine (*Sardinops sagax*) population in the northern part of the Peru upwelling ecosystem after collapse of anchoveta. *Canadian Journal of Fisheries and Aquatic Sciences* **49**: 1762-1769
- Pauly, D. and Christensen, V. (1995). Primary production required to sustain global fisheries. *Nature* **374**: 255-257.

- Pauly, D. and Christensen V. (2002). Ecosystem models. **In: Handbook of Fish Biology and Fisheries.** Hart, P. J. B. Reynolds and J. D Blackwell (eds), p. 211-227.
- Pauly, D., Christensen, V., Dalsgaard, J., Froese, R. and Torres, F. (1998). Fishing down marine food webs. *Science* **279**: 860-863.
- *Pease, B. and Grinberg, A. (1995). *New South Wales Commercial Fisheries Statistics, 1940 to 1992.* NSW Fisheries, Fisheries Research Institute, Cronulla. 351 pp.
- Pecl, G. (2001). Flexible reproductive strategies in tropical and temperate *Sepioteuthis* squids. *Marine Biology*. **138**: 93-101.
- Pemberton, D., Brothers, N. P. and Kirkwood, R. (1992). Entanglement of Australian fur seals in man-made debris in Tasmanian waters. *Wildlife Research* **19**: 151-159.
- Peterman, R. M. and M'Gonigle, M. (1992) Statistical power analysis and the precautionary principle. *Marine Pollution Bulletin* **24**: 231-234.
- Peterman, R. M. and McAllister M. K., (1993). A brief overview of the experimental approach to reducing uncertainty in fisheries management - an extended abstract. *Canadian Special Publication of Fisheries and Aquatic Sciences*, **120**: 419-422.
- Phillips, J. A., (2001). Marine macroalgal biodiversity hotspots: why is there high species richness and endemism in southern Australian marine benthic flora? *Biodiversity and Conservation*, **10**: 1555-1577.
- *Pimm, S. L. (2001). *The world according to Pimm: A scientist audits the earth.* McGraw Hill, New York.
- Pitcher, T. J. (2001). Fisheries managed to rebuild ecosystems? Reconstructing the past to salvage the future. *Ecological Applications*, **11**: 601-617.
- Pitcher, T. J. and Pauly, D. (1998). Rebuilding ecosystems, not sustainability as the proper goal of fishery management. **In: Reinventing Fisheries Management.** Pitcher, T.J., Hart, P.J.B. and Pauly, D. (eds), Kluwer Academic Publishers, Dordrecht, pp. 311-330.
- Pitcher, T. J., Hart, P. J. B. and Pauly, D. (1998). *Reinventing Fisheries Management*, Kluwer Academic Publishers, Dordrecht, p. 435.
- *Pizzey, G. and Doyle, R. (1985). *A Field Guide to the Birds of Australia.* Collins, Sydney. 460 pp.
- *Pogonoski, J.J., Pollard, D.A., and Paxton, J.R. (2002). *Conservation overview and action plan for Australian threatened and potentially threatened marine and estuarine fishes.* Environment Australia, Canberra.
- Polunin, N. V. C. and Pinnegar, J. K. (2002). Trophic ecology and the structure of marine food webs. **In: Handbook of Fish Biology and Fisheries,** Hart, P. J. B. and Reynolds, J. D. (eds). Reed Books, Sydney.
- *Ponder, W., Hutchings, P. and Chapman, R. (2002). *Overview of the Conservation of Australian Marine Invertebrates.* Report for Environment Australia, Australian Museum, Sydney. p. 587.
- *Poore, G. C. B. (1995a). Biogeography and diversity of Australia's marine biota. **In: State of the Marine Environment Report for Australia. Technical Annex 1: The Marine Environment.** Zann, L. P. and Kailola, P. (eds). Great Barrier Reef Marine Park Authority for the Department of Environment, Sport and Territories. p. 75-84.

- *Poore, G. C. B. (1995b). Australia's marine ecosystems: the continental shelf and slope. In: *State of the Marine Environment Report for Australia. Technical Annex 1: The Marine Environment*. Zann, L. P. and Kailola, P. (eds). Great Barrier Reef Marine Park Authority for the Department of Environment, Sport and Territories. p. 145-149.
- Poore, A.G.B., Watson, M.J., de Nys, R., Lowry, J.K. and Steinberg, P.D. (2000). Patterns of host use among alga- and sponge-associated amphipods. *Marine Ecology Progress Series*, **208**: 183-196.
- *Porter, G. (1998). Too much fishing fleet, too few fish. A proposal for eliminating global fishing overcapacity. *World Wildlife Fund*, pp 8 & 12
- *Powell, R. A., Jensen, R. and Horwood, L. (1989). *The Effects of Policy Change on South-East Trawl Fishing Communities*. Report to the Steering Committee on Long- Term Management of the South East Trawl fishery. University of New England and Department of Primary Industries and Energy, Canberra.
- *Powell, R. A., Jensen, R. and Horwood, L. (1989). *The effects of policy change on South-East Trawl fishing communities*. Report to the steering committee on long-term management of the South East Trawl Fishery. University of New England and Department of Primary Industries and Energy, Canberra.
- Priddel, D. and Carlile, N. (1997). Conservation of the endangered Gould's petrel *Pterodroma leucoptera leucoptera*. *Pacific Conservation Biology* **3**: 322-329.
- Punt, A. E., Smith, A. D. M. and Cui, G. (2001). Review of progress in the introduction of management strategy evaluation (MSE) approaches in Australia's south east fishery. *Marine and Freshwater Research* **52**:719-726.
- *Queensland Parks and Wildlife Service (1999). *Conservation and management plan for the dugong in Queensland 1999-2004*. State of Queensland Environmental Protection Agency.
- *Racek, A.A. (1959). Prawn investigations in eastern Australia. *New South Wales State Fisheries Research Bulletin* **6**:1-57.
- *Rafic, M. (1999). *Draft recovery plan for blue whales Balaenoptera musculus in Australian waters: Phase 1 2000-2004*. Environment Australia – Marine Group, Canberra, Australia. 41 pp.
- Ramsay, K., Kaiser, M. J. and Hughes, R. N. (1998) Responses of benthic scavengers to fishing disturbance by towed gears in different habitats. *Journal of Experimental Marine Biology and Ecology* **224**: 73-89.
- Reeves, S. A., Armstrong D. W., Fryer, R. J. and Coull, K. A. (1992). The effects of mesh size, cod-end extension , length and cod-end diameter on the selectivity of Scottish trawls and seines. *ICES Journal of Marine Science* **49**:279-288.
- Regehr, H. M. Montevecchi W. A., (1997). Interactive effects of food shortage and predation on breeding failure of black-legged kittiwakes: indirect effects of fisheries activities and implications for indicator species. *Marine Ecology Progress Series*, **155**: 249-260.
- *Reynolds, J.D., Dulvy, N.K. and Roberts, C.M. (2002). Exploitation and other treats to fish conservation. In: *Handbook of Fish Biology and Fisheries*. Hart, P. J. B. and Reynolds, J. D. (eds). Blackwell Science, Oxford, p. 320 -340.
- Richards, L.J. and Schnute, J.T. (1986). An experimental and statistical approach to the question: is CPUE an index of abundance? *Canadian Journal of Fisheries and Aquatic Science* **55**: 1545-1552.

- *Richardson, W. J., Greene, C. R. J., Malme, C. I., and Thomson, D. H. (1995). *Marine Mammals and Noise*. Academic Press, San Diego. 576 pp.
- Rickman, S. J., Dulvy, N. K., Jennings, S. and Reynolds, J. D. (2000). Recruitment variation related to fecundity in marine fishes. *Canadian Journal of Fisheries and Aquatic Sciences* **57**: 116-124.
- Rijnsdorp, A. D., Buijs, A. M., Storbeck, F. and Visser, E. (1998). Micro-scale distribution of beam trawl effort in the southern North Sea between 1993 and 1996 in relation to the trawling frequency of the sea bed and the impact on benthic organisms. *ICES Journal of Marine Science*, **55**: 403-419.
- Roberts, D. E. and Davis A. R., (1996). Patterns of sponge (Porifera) assemblages on temperate coastal reefs off Sydney, Australia. *Marine and Freshwater Research*, **47**: 897-906.
- Roberts, C. M. and Hawkins, J. (1999). Extinction risk in the sea. *Trends in Ecology and Evolution* **14**:241-246.
- *Robertson, G. (1998). Factors influencing breeding performance of the northern royal albatross. **In:** *Albatross: Biology and Conservation*. Robertson, G. and Gales, R. (eds). Surrey, Beatty and Sons, Chipping Norton, Australia. pp. 99-104.
- Rochet, M. and Trenkel V. M., (2003). Which community indicators can measure the impact of fishing? A review and proposals. *Canadian Journal of Fisheries and Aquatic Sciences*, **60**: 86-99.
- Rogers, S. I, Kaiser, M. J and Jennings, S. (1998). Ecosystem Effects of Demersal Fishing: A European Perspective. **In:** *Effects of Fishing Gear on the Sea Floor of New England*. pp. 68-79.
- Rosenberg, A.A. and Restrepo, V.R. (1994). Uncertainty and risk evaluation in stock assessment advice for U.S. marine fisheries *Canadian Journal of Fisheries and Aquatic Sciences* **51**: 2715-2720
- Rowling, K. R. (1979). NSW trawl fish study highlights importance of deepwater catches. *Australian Fisheries* **38**(4): 9-14.
- *Rowling, K. R. (1981). The current level of utilisation of the major fish stocks by the NSW trawl and Danish seine fishery. **In:** *Proceedings of the Demersal and Pelagic Fish Research Group Meeting No. 16*, Adelaide, October 1981. NSW Fisheries Research Institute, Cronulla.
- *Rowling, K. R. (1994). Gemfish *Rexea solandri*. **In:** *The South East Fishery – a scientific review with particular reference to quota management* Tilzey, R.D. (ed.), Bureau of Rural Resources Proceedings No. 16. Australian Government Publishing Service, Canberra.
- *Rowling, K. R. (1999). The fisheries biology and populations dynamics of gemfish *Rexea solandri*. Unpublished Ph.D Thesis, University of New South Wales, 300p.
- *Rowling, K. R. (2001). *Stock Assessment Report for Redfish, 2000*. South East Fishery Assessment Group. Australian Fisheries Management Authority, Canberra.
- *Rowling, K. R. and Raines, L. P. (2000). *Description of the biology and an assessment of the fishery for silver trevally Pseudocaranx dentex off New South Wales*. FRDC Project 97/125 NSW Fisheries Final Report Series No. 24. September, 2000. NSW Fisheries, Cronulla.
- *Rowling, K. R. and Makin, D. L. (2001). *Monitoring of the fishery for gemfish Rexea solandri, 1996 to 2000*. NSW Fisheries Final Report Series, No. 27. NSW Fisheries Research Institute, Cronulla.

- *Roy Morgan (1999). Recreational Fishing Licence Survey of 500 Persons in the Community. Confidential Document Prepared for NSW Fisheries, Roy Morgan Research, Sydney.
- *Roy Morgan Economic Survey (RM-ES). (2001). Economic Survey Results, Unpublished Research, Roy Morgan Research, Sydney. May/June 2001.
- *Roy Morgan Social Survey (RM-SS). (2001) Social Survey Results, Unpublished Research, Roy Morgan Research, Sydney. May 2001.
- *Ruello, N. V. (1971). *Some aspects of the ecology of the school prawn Metapenaeus macleayi in the Hunter region of New South Wales*. Unpublished M.Sc. Thesis, University of Sydney, 145 pp
- Ruello, N. V. (1973). Influence of rainfall on the distribution and abundance of the school prawn *Metapenaeus macleayi* (Haswell) in the Hunter River region, Australia. *Marine Biology* **23**:221-228.
- Ruello, N. V. (1975). Geographic distribution, growth and breeding migration of the eastern Australian king prawn *Penaeus plebejus* (Hess). *Australian Journal of Marine and Freshwater Research* **26**:348-354.
- *Ruello, N. V. (1996). A study of the demand and importance of seafood sourced in NSW and elsewhere to the catering and tourism industries in NSW. Final Report FRDC.
- *Ruello and Associates (2000). *Retail Sale and Consumption of Seafood*. A Study Prepared for the Fisheries Research and Development Corporation (FRDC), July, 2000.
- Ryer, C. H., (2002). Trawl stress and escape vulnerability to predation in juvenile walleye pollack: Is there an unobserved bycatch of behaviourally impaired escapees? *Marine Ecology Progress Series*, **232**: 269-279.
- Sadovy, Y. (2001). The threat of fishing to highly fecund fishes. *Journal of Fish Biology* **59**: 90-108.
- *Sainsbury, K. J. (1988). The ecological basis of multi-species fisheries, and management of a demersal fishery in tropical Australia. **In**: *Fish Population Dynamics* (ed. Gulland J.A.). John Wiley and Sons Ltd, London, p. 349-377.
- *Sainsbury, K.J., Campbell, R.A. and Whitelaw, A.W. (1993). Effects of trawling on the marine habitat on the North-West shelf of Australia and implications for sustainable fisheries management. **In**: *Sustainable Fisheries Through Sustaining Fish Habitat* (ed. Hancock, D.A.). Proceedings of Australian Society for Fish Biology Workshop, Victor Harbour, 12-13 August, 1992, pp. 137-143. Bureau of Resource Sciences, Canberra.
- *Sainsbury, K. J., Campbell, R. A., Lindholm, R. and Whitelaw, A. W. (1997). Experimental management of an Australian multi-species fishery: examining the possibility of trawl-induced habitat modification. **In**: *Global trends in fisheries management*, Pikitch, E. K., Huppert, D. D. and Sissenwine, M. P. (eds). American Fisheries Society, p. 107-112.
- Sainsbury, K. J., Punt A. E. and Smith A. D. M., (2000). Design of operations management strategies for achieving fishery ecosystem objectives. *ICES Journal of Marine Science*, **57**: 731-741.
- Sampson, D. B. (1994). Fishing tactics in a two-species fisheries model: The bioeconomics of bycatch and discarding. *Canadian Journal of Fisheries and Aquatic Sciences*, **51**: 2688-2694.
- *Scammell, S. and Baker, R. (2004). *Code of Practice for Antifouling and in-water cleaning and maintenance - Working together to reduce impacts from shipping operations*. ANZECC strategy to protect the marine environment, Sydney. p.12.

- Scammell, M. S. Batley G. E. Brockbank C. I., (1991). A field study of the impact on oysters of tributyltin introduction and removal in a pristine lake. *Archives of Environmental Contamination and Toxicology*, **20**: 276-281.
- Shanks, A. L., Grantham B. A. and Carr M. H., (2003). Propagule dispersal distance and the size and spacing of marine reserves. *Ecological Applications* **13** (Supplement): S159-S169.
- *Scandol J. P. (2003a). *A Framework for the Assessment of Fish Resources in NSW (Draft)*. NSW Fisheries Fishery Resource Assessment Series, Cronulla.
- Scandol, J. P. (2003b). Use of cumulative sum (CUSUM) control charts of landed catch in the management of fisheries. *Fisheries Research* **64**: 19-36.
- *Scandol, J. P. and Forrest, R. E. (2001). *Modelling services for the NSW Estuary General Fishery*. Final report for NSW Fisheries. Centre for Research on Ecological Impacts of Coastal Cities, University of Sydney, Sydney. 117 pp.
- Schmitt, R. J. and Osenberg, C. W. (1996). *Detecting ecological impacts – Concepts and applications in coastal habitats*. Academic Press, San Diego, 401p.
- *Schnierer, S. and Faulkner, A. (2002). *A description of the aboriginal fisheries of NSW*. Centre for Indigenous Fisheries, School of Environmental Sciences, Southern Cross University.
- Shanks, A. L., Grantham, B. A. and Carr, M. H. (2003). Propagule dispersal distance and the size and spacing of marine reserves. *Ecological Applications* **13** (Supplement): S159-S169.
- *Shaughnessy, P. D. (1999). *The action plan for Australian seals*. Environment Australia, Canberra.
- Shaughnessy, P. D. and Davenport, S. R. (1996). Underwater videographic observations and incidental mortality of fur seals around fishing equipment in south-eastern Australia. *Marine and Freshwater Research* **47**: 553-556.
- Shaughnessy, P. D., Briggs, S. V., and Constable, R. (2001). Observations on seals at Montague Island, New South Wales. *Australian Mammalogy* **23**: 1-7.
- Simpfendorfer, C. A. Hueter, R. E., Bergman, U., Connett, S. M. H. (2002). Results of a fishery-independent survey for pelagic sharks in the western North Atlantic, 1977-1994. *Fisheries Research*, **55**: 175-192.
- *Slater, J. (1991). *Flotsam and Jetsam. Marine Debris Bulletin 1. Beach Survey Results January 1990-June 1991*. Tasmanian Department of Parks, Wildlife and Heritage, Hobart.
- *Smith, P.J. (2001). *Review of the conservation status of marine mammal species in NSW*. A report to the NSW Scientific Committee, NSW National Parks and Wildlife Service, Hurstville NSW. 116 pp.
- *Smith, A. D. M. and Wayte, S. E. (eds) (2002). *The South East Fishery 2002*. Fishery Assessment Report compiled by the South East Fishery Assessment Group. Australian Fisheries Management Authority, Canberra.
- Smith, A. D. M., Sainsbury, K. J. and Stevens, R. A. (1999). Implementing effective fisheries-management systems - management strategy evaluation and the Australian partnership. *ICES Journal of Marine Science*, **56**: 967-979.
- Spencer, P. D. and Collie, J. S. (1997). Effect of nonlinear predation rates on rebuilding the Georges Bank haddock (*Melanogrammus aeglefinus*) stock. *Canadian Journal of Fisheries and Aquatic Sciences* **51**: 2920-2929.

- *Standards Australia/Standards New Zealand (1999). *Risk management – generic guide for establishing and implementing the risk management process – AS/NZS 4360*. Standards Australia International Ltd, Sydney, Australia and Standards New Zealand, Wellington, New Zealand.
- *Standards Australia/Standards New Zealand (2000). *Environmental Risk management – principles and processes – HB 203:2000*. Standards Australia International Ltd, Sydney, Australia and Standards New Zealand, Wellington, New Zealand. 81pp.
- Staples, D. J, Dall, W. and Vance, D. J. (1984). Catch prediction of the banana prawn, *Penaeus merguensis*, in the south-eastern Gulf of Carpentaria. **In: *Penaeid shrimps - their biology and management***. Selected papers, Workshop on the scientific basis for the management of penaeid shrimp, Florida, USA, pp. 259-267.
- *Steffe, A. and Murphy, J. (1995). A survey of recreational trailer boat fishing in the marine waters of New South Wales – a case study. **In: *Recreational fishing: what's the catch?*** Hancock, D. A. (ed). Australian Society for Fish Biology Workshop Proceedings, Canberra 30-31 August, 1994. Australian Society for Fish Biology, Canberra, p. 106-112.
- Stenhouse, I. J. and Montevecchi, W. A. (1999). Indirect effects of the availability of capelin and fishery discards: Gull predation on breeding storm-petrels. *Marine Ecology Progress Series*, **184**: 303-307.
- Stewart, J. and Kennelly, S. J. (1997). Fecundity and egg-size of the Balmain bug *Ibacus peronii* (Leach, 1815) (Decapoda, Scyllaridae) off the east coast of Australia. *Crustaceana*, **70**: 191-197.
- Stewart, J. and Kennelly, S. J. (2000). Growth of the scyllarid lobsters *Ibacus peronii* and *I. chacei*. *Marine Biology*, **136**: 921-930.
- Stewart, J; Kennelly, SJ; Hoegh-Guldberg, O (1997). Size at sexual maturity and the reproductive biology of two species of scyllarid lobster from New South Wales and Victoria, Australia. *Crustaceana*, **70**: 344-367.
- Stobutzki, I. C., Miller M. J., Heales D. S. and Brewer D. T. (2002). Sustainability of elasmobranchs caught as bycatch in a tropical prawn (shrimp) trawl fishery. *Fishery Bulletin*, **100**: 800-821.
- Stratoudakis, Y., Fryer R. J. and Cook R. M., (1998). Discarding practices for commercial gadoids in the North Sea. *Canadian Journal of Fisheries and Aquatic Sciences*, **55**: 1632-1644.
- *Tamblyn, C. and R.A. Powell (1988). *Input and Output study of the North Coast Agriculture and Fisheries Industries*, NSW Dept. of Agriculture, Wollongbar.
- *Tanner, M. and Liggins, G. W. (2001). *New South Wales Commercial Fisheries Statistics 1999/00* (draft). NSW Fisheries, Cronulla Fisheries Centre.
- *Tarvey, L. (1993). First nesting records for the leatherback turtle *Dermochelys coriacea* in northern New South Wales Australia, and field management of nest sites. **In: *Herpetology in Australia: a diverse discipline*** (Lunney, D. and Ayres, D. eds). Surrey Beatty and Sons, Chipping Norton, Australia, pp. 233-237.
- Thompson, K. R. (1992). Quantitative analysis of the use of discards from squid trawlers by black-browed albatrosses *Diomedea melanophrys* in the vicinity of the Falkland Islands. *Ibis* **134**: 11-21.
- *Threatened Species Scientific Committee (2001). Commonwealth listing advice on loss of climatic habitat caused by anthropogenic emissions of greenhouse gasses. 4 pp.

- *Threatened Species Scientific Committee (2003). Commonwealth listing advice for injury and fatality to vertebrate marine life caused by ingestion of or entanglement in, harmful marine debris. 8 pp.
- *Trites, A. W. (2002). Food webs in the ocean: who eats who and how much? **In: *Responsible Fisheries in the Marine Ecosystem***, Sinclair, M. and Valdimarsson, G. (Eds), CAB International, Wallingford, FAO Fisheries Report no. **658**, supplement, p. 12.
- *Trites, A. W., Livingston, P. A., Vasconcellos, M., Mackinson, S., Springer, A. M. and Pauly, D. (1999). Ecosystem considerations and the limitations of ecosystem models in fisheries management: insights from the Bering Sea. **In: *Ecosystem Approaches for Fisheries Management***, Alaska Sea Grant Program, p. 609-619.
- Ulrich, C., Pascoe S., Sparre P. J., De Wilde J. and Marchal P., (2002). Influence of trends in fishing power on bioeconomics in the North Sea flatfish fishery regulated by catches or by effort quotas. *Canadian Journal of Fisheries and Aquatic Sciences*, **59**: 829-843.
- Underwood, A.J. (1986). What is a community? **In: *Patterns and Processes in the History of Life***. Raup, D. M. and Jablonski, D., Dahlem Konferenzen, Springer-Verlag, Berlin, p.351-367.
- Underwood, A.J. (1989). The analysis of stress in natural populations. *Biological Journal of the Linnean Society* **37**: 51-78.
- Underwood, A. J., (1990). Experiments in ecology and management: their logics, functions and interpretations. *Australian Journal of Ecology*, **15**: 365-389.
- Underwood, A.J. (1991) Beyond BACI: experimental designs for detecting human environmental impacts on temporal variations in natural populations. *Australian Journal of Marine and Freshwater Research* **42**: 569-587.
- Underwood, A. J., (1992). Beyond BACI: the detection of environmental impact on populations in the real, but variable, world. *Journal of Experimental Marine Biology and Ecology*, **161**: 145-178.
- Underwood, A. J., (1995). Ecological research and (and research into) environmental management. *Ecological Applications*, **5**: 232-247.
- Underwood, A. J., (1996). Detection, interpretation, prediction and management of environmental marine ecology. *Journal of Experimental Marine Biology and Ecology*, **200**: 1-27.
- Underwood, A.J. (1997a). Environmental decision-making and the precautionary principle: what does this principle mean in environmental sampling. *Landscape and Urban Planning* **37**: 137-146.
- Underwood, A.J. (1997b). *Experiments in Ecology – their logical design and interpretation using analysis of variance*. Cambridge University Press, pp.504.
- Underwood, A.J. (2000). Experimental ecology of rocky intertidal habitats: what are we learning? *Journal of Experimental Marine Biology and Ecology* **250**: 51-76.
- Underwood, A.J. and Chapman, M.G. (eds) (1995). *Coastal Marine Ecology of Temperate Australia*. University of NSW Press Ltd, Sydney, pp. 341.
- Underwood, A. J. and Chapman M. G. (2003a). Power, precaution, Type II error and sampling design in assessment of environmental impacts. *Journal of Experimental Marine Biology and Ecology*, **296**: 49-70.
- Underwood, A. J. and Chapman M. G. (2003b). Problems of measuring biodiversity in coastal habitats: a summary of issues. **In: *Conserving marine environments, Out of sight out of mind***.

- Hutchings, P. and Lunney D. (eds). Sydney Royal Zoological Society of New South Wales, p.103-107.
- Underwood, A. J, Kingsford, M. J. and Andrew, N. L. (1991). Patterns in shallow subtidal marine assemblages along the coast of New South Wales. *Australian Journal of Ecology*, **16**: 231-249.
- Vance, D. J., Staples, D. J. and Kerr, J. D. (1985). Factors affecting year-to-year variation in the catch of banana prawns (*Penaeus merguensis*) in the Gulf of Carpentaria, Australia. *Journal du Conseil International Pour L'Exploration de la Mer*, **42**: 83-97.
- Voisin, J. F. (1988). Breeding biology of the northern giant petrel *Macronectes halli* and the southern giant petrel *M. giganteus* at Ile de la Possession, Iles Crozet, 1966-1980. *Cormorant* **16**: 65-97.
- Walker, T. I., (1998). Can shark resources be harvested sustainably? A question revisited with a review of shark fisheries. *Marine and Freshwater Research*, **49**: 553-572.
- Walker, D. I. Kendrick G. A., (1998). Threats to macroalgal diversity: marine habitat destruction and fragmentation, pollution and introduced species. *Botanica Marina*, **41**: 105-112.
- Walter, U. and Becker, P.H. (1997). Occurrence and consumption of seabirds scavenging on shrimp trawler discards in the Wadden Sea. *ICES Journal of Marine Science* **54**: 684-694.
- *Walters, C. J. (1986). *Adaptive Management of Renewable Resources*. New York, Macmillian Press
- *Walters, C. (1998). Designing fisheries management systems that do not depend on accurate stock assessments. **In:** *Reinventing fisheries management*. T. J. Pitcher, P. J. B. Hart and D. Pauly (eds), Chapman and Hall, London, p. 279-288.
- Walters, C. (2000). Impacts of dispersal, ecological interactions and fishing effort dynamics on efficacy of marine protected areas: how large should protected areas be?. *Bulletin of Marine Science*, **66**: 745-757.
- Walters, C. and Maguire, J. (1996). Lessons for stock assessment from the northern cod collapse. *Reviews in Fish Biology and Fisheries* **6**: 125-137.
- Walters, C. and Pearse, P. H. (1996). Stock information requirements for quota management systems in commercial fisheries. *Reviews in Fish Biology and Fisheries*, **66**: 21-42.
- *Warneke, R.M. (1996). Fauna Impact Statement: evaluation of mussel aquaculture in Twofold Bay. **In:** *Environmental Impact Statement (incorporating Fauna Impact Statement) Evaluating Mussel Aquaculture in Twofold Bay*. Report prepared for South Coast Business Enterprise Centre by Pacific Seafood Management Consulting Group, Melbourne. Appendix IV.
- Warner, R. R. and Cowen, R. K. (2002). Local retention of production in marine populations: evidence, mechanisms, and consequences. *Bulletin of Marine Science*, **70**: 245-249.
- Wassenberg, T.J. and Hill, B.J. (1989). The effect of trawling and subsequent handling on the survival rates of the by-catch of prawn trawlers in Moreton Bay, Australia. *Fisheries Research* **7**: 99-110.
- Wassenberg, T.J. and Hill, B.J. (1990a). Partitioning of material discarded from prawn trawlers in Moreton Bay. *Australian Journal of Marine and Freshwater Research* **41**: 27-36.
- Wassenberg, T.J. and Hill, B.J. (1990b). Fate of discards from prawn trawlers in Torres Strait. *Australian Journal of Marine and Freshwater Research* **41**: 53-64.

- Wassenberg, T. J., Dews, G. and Cook, S. D. (2002). The impact of fish trawls on megabenthos (sponges) on the north-west shelf of Australia. *Fisheries Research* **58**: 141-151.
- *Waterways Authority, (2003). *NSW State waters marine oil and chemical spill contingency plan*. NSW Government.
- Watling, L. and Norse, E. A. (1998). Disturbance of the seabed by mobile fishing gear: a comparison to forest clear-cutting. *Conservation Biology* **12**: 1180-1197.
- Weeks, H. and Berkley, S. (2000). Uncertainty and precautionary management of marine fisheries: can the old methods fit the new mandates? *Fisheries* **25**: 12-15.
- Whiting, S. D. (1998). Types and sources of marine debris in Fog Bay, northern Australia. *Marine Pollution Bulletin* **36**: 904-910.
- Wienecke, B. and Robertson, G. (2002). Seabird and seal – fisheries interactions in the Australian Patagonian toothfish *Dissostichus eleginoides* trawl fishery. *Fisheries Research* **54**: 253-265.
- Williams, J. G., (1999). Stock dynamics and adaptive management of habitat: an evaluation based on simulations. *North American Journal of Fisheries Management*, **19**: 329-341.
- Williams, A. and Bax N. J., (2001). Delineating fish-habitat associations for spatially based management: an example from the south-eastern Australian continental shelf. *Marine and Freshwater Research*, **52**: 513-536.
- *Yearsley, G. K., Last, P. R. and Ward, R. D. (eds). (1999). *Australian Seafood Handbook – an Identification Guide to Domestic Species*. CSIRO Marine Research, Hobart, 461pp.
- Yoneda, M., Yamasaki, S., Yamamoto, K., Horikawa, H. and Matsuyama, M. (2002). Age and growth of John Dory, *Zeus faber* (Linnaeus, 1758), in the East China Sea. *ICES Journal of Marine Science*. **59**: 749-756.
- *Zann, L.P. (1995). *State of the Marine Environment Report for Australia. The Marine Environment – Technical Annex 1*. Great Barrier Reef Marine Park Authority, 193pp.