Glossary of Acronyms

Our use of terms and jargon is defined in a separate glossary in Volume 1.

ABWMAC - Australian Ballast Water Management Advisory Committee
AEAM - Adaptive Environmental Assessment and Management
AFMA - Australian Fisheries Management Authority
AFZ - Australian Fishing Zone
ANCA - Australian Nature Conservation Agency
ANZECC - Australian and New Zealand Environment and Conservation Council
AQIS - Australian Quarantine Inspection Service
ASFB - Australian Society for Fish Biology
ASIC - Australian Seafood Industry Council
ASS - Acid Sulfate Soils
BRD - Bycatch Reduction Device
BRS - Bureau of Resource Sciences
CCAMLR - Commission for the Conservation of Antarctic Marine Living Resources
CHRIS - Coastal Habitat Resource Information System
CONCOM - Council of Conservation Ministers, 1985 (now ANZECC)
CPUE - Catch per unit of fishing effort
CRC - Cooperative Research Centre
CRIMP - Centre for Research on Introduced Marine Pests (CSIRO)
CSIRO - Commonwealth Scientific and Industrial Research Organisation
CTC - Commonwealth Trust Consortium
CYPLUS - Cape York Peninsula Land Use Study
DEST - Department of Environment, Sport and Territories
EAC - East Australian Current
EEZ - Exclusive Economic Zone
EFT - Environmentally Friendly Trawl
ENSO - El Nino- Southern Oscillation
ERIN - Environmental Resources Information Network
ESD - Ecologically Sustainable Development
FAO - Food and Agriculture Organisation of the United Nations

FEHC - Fisheries and Environment Health Committee
FEM - Fisheries Ecosystem Management
FHA - Fish Habitat Area
GAB - Great Australian Bight
GBR - Great Barrier Reef
GBRMPA - Great Barrier Reef Marine Park Authority
GIS - Geographical Information System
GoC - Gulf of Carpentaria
Ha - hectare
ICM - Integrated catchment Management
IMCRA - Interim Marine and Coastal Regionalisation of Australia
ISMP - Integrated Scientific Monitoring Program
IUCN - International Council for the Conservation of Nature
JCUNQ - James Cook University of North Queensland
LME - Large Marine Ecosystem
LTMP - Long-Term Monitoring Program
LWRRDC - Land and Water Resources Research and Development Corporation
M - natural mortality
MAFRI - Marine and Freshwater Research Institute
MEPA- Marine and Estuarine Protected Areas
MPA - Marine Protected Area
MPC - Maximum Permitted Concentration
NatMIS - National Marine Information System
NHMRC - National Health and Medical Research Council
NORMAC - Northern Prawn Fishery Management Advisory Committee
NRSMPA - National Representative System of Marine Protected Areas
NSWFRI - New South Wales Fisheries Research Institute
NTDPIF - Northern Territory Department of Primary Industries
OR2000 - Ocean Rescue 2000
PAH - residual petroleum hydrocarbons
PASS - Potential Acid Sulfate Soils
QDPI - Queensland Department of Primary Industries
R&D - Research and Development
ROV - Remotely Operated Video
SARDI - South Australian Research and Development Institute
SBT - Southern Bluefin Tuna

SCARM - Standing Committee on Agriculture and Resource Management
SCFA - Standing Committee on Fisheries and Aquaculture
SIIP - Sugar Industry Infrastructure Package
SOER - State of the Environment Report
SOMER - State of the Marine Environment Report
TAP - Threat Abatement Plan
TBT - tributyltin
TCM - Total Catchment Management
TED - Trawl Efficiency Device, and used for Turtle Exclusion Device also
UNCLOS - United Nations Convention on the Law of the Sea
WAMRL - Western Australian Marine Research Laboratories
WWW - World Wide Web

Appendix 1: Standing Committee on Fisheries and Aquaculture - Fisheries Environment and Health Committee Terms of Reference (Hamdorf 1994)

To advise SCFA on environment and fish health matters by:

- identifying current and emerging national issues relating to the aquatic environment, the protection of fisheries ecosystems and fish health including:
- chemical usage and/or contamination,
- marine pollution
- disease identification and preparedness,
- management of introduced pests,
- ballast water issues,
- translocation,
- endangered species,
- habitat degradation,
- import and export of live fish and fish products
- co-ordinating and developing policy advice and strategies for dealing with such key national issues
- overseeing SCFA's role in co-ordinating the implementation of agreed national policies and strategies relating to environment and fish health matters
- determining strategic research priorities for areas under the ambit of the Committee
- facilitating the co-ordination of research activities into environmental health matters including those relating to introduced pests and diseases.
- liaising with relevant committees of SCARM and ANZECC and the Interim Australian Ballast Water Management Advisory Council and other groups in the area
- undertaking specific tasks affecting environment and fish health matters as requested by SCFA.

Appendix 2: Fisheries Environment and Health Committee Research Priorities Draft (June 1996)

see Hamdorf (1994)

CATEGORY	ISSUE	OBJECTIVE	OUTCOMES
1. Fish Diseases	1.1 Endemic diseases	1.1 Conduct adequate disease surveillance in fisheries (will also detect "exotics") Determine epidemiology of diseases Evaluate control strategies	Accessible information (database) of diseases, occurrence and effects
	1.2 Exotic diseases	1.2 Conduct disease surveillance Risk assessment for likely impacts Develop emergency response plans	Ability to rapidly quarantine areas, apply controls and prevent further spread of disease
	1.3 Infrastucture requirements	1.3 Maintain diagnostic/analytical capacity Develop/maintain disease preparedness plans	Maintain wild stocks free of exotic diseases
2. Habitats	2.1 Riverine health and status	2.1 Define requirement for water flows, fish passages and effects of salinisation, desnagging and increased nutrient loads	2.1 Improved management decisions regarding the habitat impacts of land use approvals
	2.2 Mapping/monitoring habitats	2.2 Defining the role of specific habitats for specific fisheries and benefits of buffer zones to the protection of fish habitats	2.2 Establishment of buffer zones to protect habitats from run-off, refuse and physical disturbance
	2.3 Habitat utilisation	2.3 Identification of critical habitat Define impacts of human developments Representative system of protected areas & monitor effectiveness of protected areas	2.3 Establishment of protected zones (MEPAs etc) and understanding of effects and benefits of these areas
	2.4 Rehabilitation	2.4 Develop restoration technology to allow enhancement of habitats for fisheries production	2.4 Ability to rehabilitate habitats to restore fisheries values
3. Effects of Fishing	3.1 Impacts of fishing - trawling (concern in all jurisdictions)	3.1 Document changes to benthic community and physical structure of substrates	3.1 Minimise habitat impacts through improved trawl design and reduce non-target bycatch
	3.2 Impacts of fishing - gillnetting (concern in most jurisdictions , and includes beach protection)	3.2 Document the impacts of netting and develop fishing gear/techniques to avoid or minimise the take of non-target species	3.2 Continued improvement of fishing techniques, access to overseas markets and reduced by-catch
	3.3. Impacts of other fishing methods - hauling, longlining, potting and trapping	3.3 Document the impacts of these fishing methods and develop techniques to avoid take of non-target species	3.3 Ditto

CATEGORY	ISSUE	OBJECTIVE	OUTCOMES
	3.4 Fishing gear and waste	3.4 Study the effects of ghost fishing, fishing debris and waste. Improve practices and develop gear that biodegrades	3.4 Ditto
4. Aquaculture	4.1 Impact of farms	4.1 Design effective monitoring methodology Reducing nutrient output Reducing other impacts (genetics, disease, aesthetic effects, etc) Study effects of stoking rates	4.1 Sustainable aquaculture in fresh and marine waters with guidelines on farm density Community acceptance of aquaculture and reduction in impacts on adjacent habitats
	4.2 Effects on farms	4.2 Design effective monitoring methodology	4.2/4.3 Improved siting and reduction of impacts from adjacent land uses with commercial benefits to farmers
	4.3 Zoning/site assessment	4.3 Effective site assessment procedures	
5. Introduced & Translocated Species	5.1 Management of impacts of translocated species on habitat and endemic species	5.1 Assess impacts of translocations from aspect of ecological, genetic, disease and endangered species effects.	5.1 Valid translocation policies and protocols. Prevention of exotic disease in cultured or wild stocks
	5.2 Quantification of impacts	5.2 Define impacts caused by the release of species outside their natural range	5.2 Recognition of risk involved with translocations
	5.3 Surveys of pest existence	5.3 Conduct surveys of pest distributions Study biology/ecology of introduced spp.	5.3 Detailed distributions of pests, eg carp, fanworms, tilapia, barramundi
	5.4 Control of organisms	5.4 Develop control measures for exotics which cause least impact on non-target spp	5.4 Capacity to control exotic species while maintaining endemic species
6. Pollution/Chemical Impacts	6.1 Nutrient discharges	6.1 Understanding impacts of nutrient sources such as sewage and agriculture.	6.1 Minimise impacts by improved planning and further mitigation
	6.2 Heavy metals, organics, biotoxins in seafood	6.2 Analyse different seafood to quantify natural background levels and sources to assist with quality assurance, assessment of human health and ecosystem impacts	6.2 Maintenance of markets, base line data sets for monitoring and response to pollution, food standards issues, and understand uptake mechanisms
	6.3 Algal blooms	6.3 Monitor bloom occurrence/effects	6.3 Maintain seafood quality

CATEGORY	ISSUE	OBJECTIVE	OUTCOMES
7. Management Tools	7.1 Ecological Risk Assessment	7.1 Document and apply risk assessment processes to fisheries issues such as translocations and resource management.	7.1 Application of risk assessment to protect fisheries habitat
	7.2 Design of research and monitoring methodology	7.2 Develop a suite of monitoring options to be considered and applied as appropriate for minimising the impacts of habitat losses	7.2 Implement/direct mitigation works, knowing likely benefits and costs, relative to impact of losses
	7.3 Adaptive management techniques	7.3 Develop techniques to assess and modify adaptive management tools	7.3 Assessment and updating of management approaches
	7.4 Protected areas, zoning and multiple use strategies	7.4 Assess the effectiveness of protected areas, zoning and multiple use strategies	7.4 Community involvement and awareness in habitat management
	7.5 Long-term change	7.5 Monitor likely impacts of long-term changes (eg. global warming, sea level, etc)	7.5 Longer-term plans and management strategies for fisheries

Appendix 3: A Collation of Investment by THE FRDC in Projects with some Focus on Issues covered in this Review

PROJECT CODE	PROJECT NAME	ORGANISATION NAME
97/222	Development of continuous prawn cell lines for virus isolation and cultivation	CSIRO Australian Animal Health Laboratory
97/220	Seagrasses in southern NSW estuaries: their ecology, conservation, restoration and management	University of Wollongong
97/217	The development and evaluation of methods to assess the impact of chronic toxicity on ichthyoplankton - a pilot study	Marine and Freshwater Resources Institute
97/214	Development of generic contingency plans for disease emergencies of aquatic animals	CSIRO Australian Animal Health Laboratory
97/212	The impact of prawn farm effluent on coastal waterways.	Cooperative Research Centre for Aquaculture
97/210	The effects of haul seining in Victorian bays and inlets	Marine and Freshwater Resources Institute
97/207	Development of discard-reducing gears and practices in the estuarine prawn and fish haul fisheries of NSW	NSW Fisheries
97/206	The effects of net fishing: addressing biodiversity and bycatch issues in Queensland inshore waters.	QLD Department of Primary Industries
97/205	Effects of trawling subprogram - Dynamics of large sessile seabed fauna, important for structural fisheries habitat and biodiversity of marine ecosystems and use of these habitats by key finfish species	CSIRO Division of Marine Research
97/204	Fish in the shallows of NSW south coast estuaries - variability and diversity of fish communities and the development of biological indicators for sustainability and biodiversity	University of Wollongong

Project Code	Project Name	Organisation Name
97/203	Fish use of subtropical saltmarsh habitat	Griffith University
97/201	The impacts of ponded pastures on barramundi and other finfish populations in tropical coastal wetlands.	QLD Department of Primary Industries
97/142	Issues affecting the sustainability of Australia's freshwater fisheries resources and identification of research strategies	University of Canberra
97/139	Mesoscale oceanographic data analysis and data assimilative modelling with application to Western Australian fisheries	CSIRO Division of Marine Research
97/133	Fisheries biology and habitat ecology of the southern sea garfish (*Hyporhamphus melanochir*) in southern Australia.	SA Research and Development Institute
97/128	The fisheries biology of blue throat wrasse (*Notolabrus tetricus*) in Victorian waters	VIC Fishing Industry Federation
97/124	The effects of line fishing on the Great Barrier Reef and evaluation of alternative potential management strategies	James Cook University
97/122	Ecologically sustainable development of the fishery for patagonian toothfish (*Dissostichus eleginoides*) around Macquarie Island: population parameters, population assessment and ecological interactions	CSIRO Division of Marine Research
97/114	Synthesis of industry information on fishing patterns, technological change and the influence of oceanographic effects on SEF fish stocks	Biospherics Pty Ltd
97/113	Residence times, exchange rates, migration patterns and behaviour of black marlin in the NW Coral Sea; a pilot study to evaluate interaction between recreational and commercial fishing sectors in Area E	CSIRO Division of Marine Research
97/108	The definition of effective spawning stocks of commercial tiger prawns in the NPF and king prawns in the eastern king prawn fishery - behaviour of postlarval prawns	CSIRO Division of Marine Research

Project Code	Project Name	Organisation Name
97/105	The growth, mortality, movements and nursery habitats of red-legged banana prawns (*Penaeus indicus*) in the Joseph Bonaparte Gulf	CSIRO Division of Marine Research
96/286	The physical effects of hauling on seagrass beds - stage 2 (an extension to 95/149)	NSW Fisheries
96/285	Identification of environmental factors, with particular reference to acid sulfate soil runoff, causing production losses in Sydney rock oysters	University of NSW
96/284	Huon estuary study - environmental research for integrated catchment management and aquaculture	CSIRO Division of Marine Research
96/280	Baseline studies on the ecology of scavengers (mainly sea-lice) on the continental shelf and slope off eastern Australia	The Australian Museum
96/275	Development of a rapid-assessment technique to determine biological interactions between fish, and their environment, and their role in ecosystem functioning	CSIRO Division of Marine Research
96/264	Dynamics of harmful *Rhizosolenia cf. chunii* blooms in Port Phillip Bay.	Marine and Freshwater Resources Institute
96/257	Effects of trawling subprogram - Ecological sustainability of bycatch and biodiversity in prawn trawl fisheries	CSIRO Division of Marine Research
96/255	A study of the impact of fishing pressure on midwater ecosystems.	Biospherics Pty Ltd
96/254	Effects of trawling subprogram - Commercialisation of by-catch reduction strategies and devices in northern Australian prawn trawl fisheries.	QLD Department of Primary Industries
96/149	Climate and fisheries on the south east Australian continental shelf and slope	CSIRO Division of Marine Research
96/140	Evaluation of selectivity in the south-east fishery to determine its sustainable aggregate yield	CSIRO Division of Marine Research

Project Code	Project Name	Organisation Name
96/139	Changes over 20 years in relative abundance of species and composition of catches from fishery independent surveys on SEF trawl grounds	NSW Fisheries
96/130	Biology and stock assessment of WA's commercially important sharks species	Fisheries Department of WA
96/118	Development of a fishery independent index of abundance for juvenile SBT	CSIRO Division of Marine Research
96/116	Spawning and larval recruitment processes of commercially important species in coastal waters off Victoria.	Marine and Freshwater Resources Institute
96/107	A synthesis of existing data on larval rock lobster distribution in southern Australia	CSIRO Division of Marine Research
96/102	Development of an environment-recruitment model for black bream as a case study for estuarine fisheries management	Marine and Freshwater Resources Institute
95/172	Improving the land and water management of coastal plains of NSW	Webbnet Land Resource Services Pty Ltd
95/167	Establishment of a Coastal Habitat Resources Information System for QLD (CHRIS)	QLD Department of Primary Industries
95/158	Recruitment, growth, mortality and habitat use of juvenile banded morwong *Cheilodactylus spectabilis*	University of TAS
95/150.02	An assessment of populations of commercially and recreationally important fish and invertebrates utilising large restored wetlands.	NSW Fisheries
95/150	An assessment of populations of commercially and recreationally important fish and invertebrates utilising large restored wetlands	NSW Fisheries
95/148	Enhancement of mulloway (*Argyrosomus hololepidotus*) in intermittently opening lagoons	NSW Fisheries
95/145	Impact of gillnet fishing on inshore temperate reef fishes, with particular reference to banded morwong	TAS Department of Primary Industry and Fisheries

Project Code	Project Name	Organisation Name
95/087	Aquatic disease preparedness assessment	CSIRO Australian Animal Health Laboratory
95/085	Development of an algal bloom monitoring buoy for the Australian aquaculture industry - proof of concept	University of TAS
95/083	Immuno-staining of a ciliate protozoan causing significant mortality of farmed tuna: the development of a rapid identification technique which will enable improved farm management practices to be implemented to minimise fish mortality	SA Research and Development Institute
95/060	Diagnosis and identification of *Aeromonas salmonicida* and detection of latent infections in carrier fish	CSIRO Australian Animal Health Laboratory
95/058	The seamount fauna off southern Tasmania: impacts of trawling, conservation and role within the fishery ecosystem	CSIRO Division of Marine Research
95/055	Review and synthesis of Australian fisheries habitat research	Australian Institute of Marine Science
95/048	Cephalopod beak identification and biomass estimation techniques: tools for dietary studies of southern Australian finfishes.	Museum of VIC
95/043	A collaborative investigation on the usage and stock assessment of bait fishes in southern and eastern Australian waters, with special reference to pilchards (*Sardinops sagax neopilchardus*); extension into QLD and NSW	QLD Department of Primary Industries
95/042	The influence of the Dawesville Channel on the recruitment, distribution and emigration of crustaceans and the fish in the Peel-Harvey estuary	Murdoch University
95/041	Growth of pearl oysters in the southern and northern areas of the pearl oyster fishery and examination of environmental influences on recruitment to the pearl oyster stock.	Fisheries Department of WA

Project Code	Project Name	Organisation Name
95/037	The biology and stock assessment of the tropical sardine, *Sardinella lemuru* off the mid-west coast of Western Australia	Fisheries Department of WA
95/025	Biological and ecological research needed for the effective management of the bar-cheeked coral trout and the chinaman cod, including an investigation into the factors controlling sex-change in the serranids (cods, groupers and coral trout).	University of WA
95/007	Determination of spawning areas and prediction of recruitment locations for King George whiting in Victorian waters using hydrodynamic numerical modelling	Marine and Freshwater Resources Institute
95/002	Applications of molecular biology to management of the abalone fishery	Deakin University
94/165	DNA markers and genetic stock structure in commercial species of penaeid prawns in the east coast fishery	QLD Department of Primary Industries
94/144	Identification and mapping of barramundi nursery swamp habitat in the Chambers Bay/Finke Bay area.	NT Primary Industry and Fisheries
94/135	International environmental instruments and actions - Their effects on the fishing industry	University of Wollongong
94/132	The use of oysters as natural filters of aquaculture effluent	Moreton Bay Prawn Farm
94/113	Feasibility study for the establishment of a kelp processing industry on the west coast of Tasmania	TAS Department of Primary Industry and Fisheries
94/079	Pearl oyster aquaculture: health survey of NT, WA and QLD pearl oyster beds and farms	NT Department Primary Industry and Fisheries
94/067	Assessment of juvenile eel resources in south east Australia	Marine and Freshwater Resources Institute
94/055	Regional larval fish archives: Preservation of an important fisheries resource	The Australian Museum

Project Code	Project Name	Organisation Name
94/045.02	Development, application and evaluation of the use of remotely sensed data by Australian fisheries	CSIRO Division of Marine Research
94/043	Investigation of the characteristics & properties of mixed function oxidases (mfo) in commercially significant fish from SA waters and assessment of their induction as a potential early warning and hence biomarker of organic pollutant linked stress	University of Adelaide
94/042	Sampling estuarine fish species for stock assessments	NSW Fisheries
94/041	Restoration of estuarine fisheries habitat	NSW Fisheries
94/040	Habitat and fisheries production in the South east fishery ecosystem	CSIRO Division of Fisheries
94/037	Assessment of inshore habitats around Tasmania for life-history stages of commercial finfish species	Tas Department of Primary Industries and Fisheries
94/032	Effects of seasonal and interannual variability of the ocean environment on recruitment to the fisheries of Western Australia	CSIRO Division of Marine Research
94/029	A collaborative investigation on the usage and stock assessment of bait fishes in southern and eastern Australian waters, with special reference to pilchards (*Sardinops sagax neopilchardus*)	SA Research and Development Institute
94/027	NSW inland commercial fisheries analysis	NSW Fisheries
94/024	Assessment of stocks of sea mullet (*Mugil cephalus*) in NSW and QLD waters	NSW Fisheries
94/022	The origin of recruits to the east coast yellowfin tuna fishery and the delineation of the structure of yellowfin stocks in the western Pacific.	CSIRO Division of Marine Research
94/014	Effects of biological and environmental factors and of fishing practices on recruitment and abundance of scallops	Marine and Freshwater Resources Institute

Project Code	Project Name	Organisation Name
94/005	The feasibility of enhancing and rehabilitating abalone stocks by larval re-seeding	SA Research and Development Institute
93/245.03	Habitat Research/Management Workshop	NSW Commercial Fishing Advisory Council
93/245.01	Fisheries Ecosystem Management and the Coastal Environment	FRDC
93/240	A desk-top evaluation of the application of towed-body LIDAR to biomass assessment of demersal fish stocks - CSIRO TRUST FUND	CSIRO Division of Fisheries
93/239	Exchange and analysis of historical Soviet fishery data from the waters around Australia	CSIRO Division of Marine Research
93/237	Development of software for use in multi-frequency acoustic biomass assessments and ecological studies	CSIRO Division of Marine Research
93/235	Laboratory and field studies of the larval distribution and duration of the introduced Sea *Star Asterias amurensis* with updated and improved prediction of the species spread based on a larval dispersal model	CSIRO Division of Fisheries
93/231.07	Effects of trawling subprogram - Development and application of AUSTed in the Australian trawl industry	QLD Department of Primary Industries
93/229	Monitoring the impact of trawling on sea turtle populations of the Queensland East Coast - EFFECTS OF TRAWLING SUBPROGRAM	Queensland Department of Primary Industries
93/180	Development of by-catch reducing prawn trawl and fishing practices in NSW's prawn trawl fisheries - EFFECTS OF TRAWLING SUBPROGRAM	NSW Fisheries
93/180	Effects of trawling subprogram - Development of by-catch reducing prawn trawl and fishing practices in NSW's prawn trawl fisheries	NSW Fisheries

Project Code	Project Name	Organisation Name
93/179	The effects of trawl design on by-catch and benthos in prawn and fin-fish fisheries - EFFECTS OF TRAWLING SUBPROGRAM	CSIRO Division of Fisheries
93/176	Development and application of AUSTed in the Australian Trawl Industry REFER 93/231.07	Queensland Department of Primary Industries
93/169	Assessment of the carrying capacity of Boston Bay Port Lincoln with a view towards maximising the southern bluefin tuna resource	South Australian Marine Farm
93/153	Control of winter mortality and QX disease in Sydney rock oysters UniQld	University of Queensland
93/130	Development of vaccines and rapid diagnostic monoclonal antibodies against microorganisms associated with diseases of wild and cultured finfish and shellfish	Deakin University
93/128	Development of molecular probes for use in bacterial disease diagnosis and health monitoring of farmed and wild finfish in Australia	TAS Department of Primary Industry and Fisheries
93/109	Use of the bomb radiocarbon chronometer to validate fish age	Australian National University
93/102	Interactions between the abalone fishery and sea urchins in NSW	NSW Fisheries
93/100	Evaluation of methods to assess abalone abundance	Marine and Freshwater Resources Institute
93/096	Effects of trawling subprogram - The environmental effects of prawn trawling in the Far Northern Section of the Great Barrier Reef (Part of funding from CSIRO & Qld Trust Accounts)	QLD Department of Primary Industries
93/083	The impact of commercial hauling nets and recreational line fishing on the survival of undersize King George whiting (*Sillaginodes punctata*)	SA Research and Development Institute
93/074	Assessment of the fishery for snapper (*Pagrus auratus*) in QLD and NSW	QLD Department of Primary Industries

Project Code	Project Name	Organisation Name
93/061	Investigation of school and gummy shark nursery areas in southeastern Australia	CSIRO Division of Fisheries
93/058	Development of an acoustic system for remote sensing of benthic fisheries habitat for mapping, monitoring and impact assessment	CSIRO Division of Marine Research
93/050	Leeuwin environment index - pelagic recruitment strength relationship	SA Research and Development Institute
92/155	Preliminary assessment of the distribution and potential impact of the introduced seastar *Asterias amurensis* in Tasmanian waters	CSIRO Division of Fisheries
92/145	Biology and harvest of tropical fishes in Queensland's inshore gillnet fisheries	QLD Department of Primary Industries
92/140	Investigation of the potential distribution and fishery impact of the exotic seaweed *Undaria pinnatifida*	Tas Department of Primary Industries and Fisheries
92/090	Australian fisheries research publications database	CSIRO Division of Fisheries
92/084	National Fisheries Technical Workshop series - Sustainable fisheries through sustaining fish habitat	Australian Society for Fish Biology
92/079	The interaction between fish trawling and other commercial and recreational fisheries - EFFECTS OF TRAWLING SUBPROGRAM	NSW Fisheries
92/045	The role of coastal nursery habitats in determining the long-term productivity of prawn populations in the NPF	CSIRO Division of Fisheries
92/044	Importance of shallow water reef/algal habitats as nursery areas for commercial fish from temperate Australia	University of Melbourne
92/019	An Ichthyoplankton based analysis of the spawning distribution and stock structure of temperate Australian finfish species	CSIRO Division of Fisheries

PROJECT CODE	PROJECT NAME	ORGANISATION NAME
92/007	Small prawn habitat and recruitment study	Queensland Department of Primary Industries
91/049	Development of improved and environmentally sensitive scallop harvesting gear	CSIRO Division of Fisheries
91/045	Cyclones and seagrass communities - recolonisation rates and the effects on penaeid prawn stocks	CSIRO Division of Fisheries
91/041	Effects of habitat disturbances on coastal fisheries resources in Tin Can Bay/ Great Sandy Strait	Queensland Department of Primary Industries
91/023	Investigation of school and gummy shark nursery areas in south eastern Tasmania	CSIRO Division of Fisheries
91/017	Trophodynamics of the south-east trawl deep-water stocks	CSIRO Division of Fisheries
91/004	Modelling prawn larvae dispersion and settlement in Spencer Gulf - Management Implications	University of Adelaide
91/003	Key factors which affect prawn recruitment and implications to harvesting prawn stocks	SA Research and Development Institute
90/114	Evaluation of the benefits and costs of research in Australia	Australian Bureau of Agricultural and Resource Economics
90/112	Pilot study to include fisheries is the National Residue Survey	Department of Primary Industry and Energy
90/104	Development of 'Australian Rural Research in Progress' database REFER 93/250	Bureau of Resource Sciences
90/019	The biology and population status of important trawl by-catch species and the impact of trawling in SW Australia	WA Department of Fisheries
90/018	Growth, movement, mortality and reproductive strategies of the dominant demersal food-fish species on the Great Barrier Reef	Queensland Department of Primary Industries

Project Code	Project Name	Organisation Name
90/017	Monitoring the replenishment of the dominant demersal food-fish species on the Great barrier Reef	Queensland Department of Primary Industries
90/007	Assessment of spatial and temporal variation in puerulus settlement of the southern rock lobster	Tas Department of Primary Industries and Fisheries
89/081	Red spot disease of sea mullet (*Mugil cephalus*)	NSW Fisheries
89/039	Toxic dinoflagellate spores in ships' ballast water: a danger to aquaculture	CSIRO Division of Fisheries
89/038	Presence and persistence of the hazardous micro-organism *Clostridium botulinum* in ballast sediments	CSIRO Division of Food Science and Technology
89/013	Causes of decline in stocks of commercially important prawns in the Northern Prawn Fishery	CSIRO Division of Fisheries
89/002	Patterns of utilisation of seagrass (*Heterozostera*) dominated habitats as nursery areas by commercially important fish	Victorian Institute of Marine Science
88/091	Consequences for commercial fisheries of loss of seagrass beds in southern Australian waters	Victorian Institute of Marine Science
88/090	A workshop on recovery and restoration of seagrass habitat of significance to commercial fisheries	Victorian Institute of Marine Science
88/077	The fish resources of tropical north-eastern Australian waters	CSIRO Division of Fisheries
88/071	Distribution, seasonal abundance and dispersal patterns of larvae of commercially important finfish species from southern Australian continental shelf and slope waters	CSIRO Division of Fisheries
88/018	Assessment of trawl-induced incidental mortality on pre-recruit saucer scallops	Queensland Department of Primary Industries
87/116	Workshop to establish national protocol for monitoring loss of seagrass habit of significance to commercial fisheries	Victorian Institute of Marine Science

Project Code	Project Name	Organisation Name
87/016	The effects of cyclones on the seagrass communities and penaeid prawn stocks of the Gulf of Carpentaria	CSIRO Division of Fisheries
86/110	Preparation of a set of guidelines on the procedures necessary to carry out baseline studies at any Australian coastal site	The Australian Museum
86/108	Surveys of seagrass beds and juvenile prawn populations along the Queensland coast - Bowen to Cairns and Karumba to Cape York	Queensland Department of Primary Industries
86/100	Investigations of the effect of water temperature on the growth, recruitment and breeding cycle of the western rock lobster	WA Department of Fisheries
86/092	Investigation of the impact of the seastar Coscinasterias calamaria on commercial mollusc fisheries	University of Melbourne
86/084	Occurrence of toxic dinoflagellates in southern Tasmanian waters and possible implications for shellfish farming.	CSIRO Division of Fisheries
86/083	An investigation of the habitat requirements of post-puerulus stocks of western rock *lobster (Panulirus cygnus)*	CSIRO Division of Fisheries
86/078	Productivity of tiger prawn nursery areas	CSIRO Division of Fisheries
86/061	Settlement and recruitment of greenlip abalone: their use in predicting stock abundance	SA Research and Development Institute
86/053	Red spot disease of sea mullet (*Mugil cephalus*)	NSW Fisheries
86/038	Scallop Recruitment Studies at Lakes Entrance	Department of Conservation and Natural Resources
86/010	Factors affecting the toxicity of the dinoflagellate, *Gambierdiscus toxicus*, and the development of ciguatera outbreaks	Queensland Department of Primary Industries

Project Code	Project Name	Organisation Name
85/089	Assessment of the potential for the sea urchin *Heliocidaris erythrogramma* to destroy seagrass (*Posidonia*) beds in Botany Bay, NSW	University of Melbourne
85/085	Recruitment processes in commercially important prawn species	CSIRO Division of Fisheries
84/049	Colonisation of New South Wales by non-indigenous marine species: baseline studies at Twofold Bay, NSW	The Australian Museum
84/038	Applicability of inexpensive hyrdroacoustic techniques for assessment in shallow water conditions	University of Adelaide
84/022	A study of seagrass prawn nursery grounds and juvenile prawn populations in north Queensland	
84/020	Studies on the biology of and the fishery for the red-spot king prawn, *Penaeus longistylus*	
83/039	A study of the distribution of post-larval and juvenile Western King prawn in Spencer Gulf, South Australia	SA Research and Development Institute
83/032	Port Phillip Bay and Bass Strait scallop research	Department of Conservation and Natural Resources
82/070	Role of submersibles in fisheries research	NSW Fisheries
82/062	A demersal fisheries resource survey of the Queensland continental shelf slope between10°S and 21°S	Queensland Department of Primary Industries
82/060	Studies on toxic dinoflagellates responsible for formation of ciguatoxin	Queensland Department of Primary Industries
82/048	Bacterial pathogens of oyster larvae and spat	University of Tasmania

Project Code	Project Name	Organisation Name
82/043	The biology and ecology of the blacklip abalone with reference to the juvenile stage between post-planktonic settlement and recruitment to the fishery	University of Tasmania
82/033	A survey of the incidence of ciguatoxin in "high risk" fish from the Cairns region	University of Queensland
82/013	Investigation of the biology of tiger prawns in the western Gulf of Carpentaria	CSIRO Division of Fisheries
82/008	The occurrence and significance of pathogenic vibrios in oysters	CSIRO Division of Fisheries
81/035	The oceanography of a continental shelf section	Flinders University
81/024	A study of ciguatera poisoning in Queensland	University of Queensland
81/020	Investigations into QX disease in oysters and other problems associated with marine parasites	University of Queensland
81/002	Mortality of the Sydney rock oyster in northern New South Wales and southern Queensland	NSW Fisheries
80/033	Squid ecology	Department of Conservation and Natural Resources
80/028	Publication of the report of the Working Group on Mercury in Fish and fish products	Department of Primary Industry and Energy
79/005	Dependence of commercially import fish on krill as a food source in south-east Tasmania	University of Tasmania
78/039	A study of the biology and ecology of juvenile prawns in the Noosa River/lakes system	
78/036	Tide and current analysis of the Gulf of Carpentaria and its relation to banana prawn larval dispersion [extended as "Circulation in ..."]	CSIRO Division of Fisheries

Project Code	Project Name	Organisation Name
78/013	North Queensland continental slope survey using the Tethered Rope Instrument Package (TRIP)	Queensland Department of Primary Industries
77/005	Survey of prawns and fish in Joseph Bonaparte Gulf [and the Kimberley Region] by trawling	
76/020	Ecology of coastal reefs: the nurseries of juvenile western rock lobsters	CSIRO Division of Fisheries
76/018	Ballast water investigations	NSW Fisheries
76/015	Marine resources survey	NSW Fisheries
72/014	Establishment of juvenile rock lobster sampling sites for prediction of catch fluctuations	Tas Department of Primary Industries and Fisheries

Appendix 4: Summary of results of fisheries-habitat studies in inshore bays and estuaries, by region, location, habitat type, fisheries taxa, life-history stage and source

GoC = Gulf of Carpentaria, NQ= North Qld, SEQ = South East Qld, sWA = South-western WA, *** = not identified

Region	Location	habitat type	taxa	stage	type of study or results	reference
Aust. review	Tasmania, Victoria, NSW, SA, WA	shelf, beaches, estuaries, bays	*Arripis truttaceus, A. trutta, A. georgianus*	larvae, juv.-ad.	review of research needs/ role of Leeuwin-current/nursery/environmental-forcing/recruitment	Anon. (1996b)
Aust. review	Australia-wide examples	deep shelf, estuaries, freshwater	***	***	review of ecosystems /life-history/comparative-studies/ecological-distribution/migrations	Blaber, S. J. M. (1991)
Aust. review	14 localities, from Rottnest Is -- Jervis Bay	bare and seagrass dominated	47 fish species examined	***	definitive regional study of the nearshore/seagrass/trophodynamics and production of fish/invertebrates in bare vs seagrass habitats.	Edgar, G. J. and Shaw, C. (1995c)
Aust. review	Western Port, and 14 regional sites from Rottnest Is. - Jervis Bay, inc. Tas.	seagrass, bare sand	*Meuschenia freycineti* and *Haletta semifasciata,* and 86 other species	***	The effects of seagrass-dieback were studied by sampling in vegetated and unvegetated habitats. A high correlation was found between production of small fishes and the production of epifaunal crustaceans, leading to a suggestion of food-limitation.	Edgar, G. J., Hammond, L. S., and Watson, G. F. (1993)
Aust. review	Port Phillip Bay vs other Vic. bays, Jervis Bay, Botany Bay, Cockburn Sound	bay	review	larvae-adults	Review of fisheries productivity in PPB ; 1) in relation to nutrient inputs, and 2) some empirical comparisons with other marine embayments ; 1) hampered by no info. available on fish production prior to sewage inputs. No evidence of impacts	Gwyther, D. (1990)
Aust. review	***	/temperate-zones	***	fish-larvae	life-history/literature-review	Miskiewicz, A. G. (1992)
Aust. review	review article	particularly *Zostera, Posidonia, Thalassia, Halodule*	***	***	autecology, trophic relationships, shelter requirements and temporal changes in these various seagrass--fish assemblages.	Pollard, D. A. (1984)
Aust. review	entire coast	mangrove	fish/prawns	***	review of structure, function and ecology of mangrove ecosystems, including synthesis of fisheries-nursery value.	Robertson A. I. and Alongi, D. (1996)
Aust. review	tropical coasts	mangrove	fish/prawns	***	selected review of tropical estuarine fish communities with comparisons of Alligator Ck, Embley Estuary, Leanyer Swamp	Robertson, A. I. and Blaber, S. J. M. (1992)

Region	Location	habitat type	taxa	stage	type of study or results	reference
GoC	Embley R. and Albatross Bay	1) open-water channels<5m; 2) intertidal sandy-mud beaches; 3) seagrass *Enhalus*; 4) intertidal mudflats; 5) small mangrove creeks; 6) bay prawn trawl grounds	197 spp in Embley estuary; 243 in bay trawl; 106 spp unique to estuary	juv.-adult	At least 33% of the Embley fauna is "estuarine-dependent" and make up half the biomass in all estuarine habitats. Six spp groups recognised. Consistent variation amongst habitat types emphasises the need to sample all estuarine habitats	Blaber *et al.* (1989)
GoC	Gulf of Carpentaria	bay trawl grounds	***	***	distribution, community structure, nursery role	Blaber *et al.* (1990a)
GoC	Gulf of Carpentaria	***	***	***	distribution, community structure	Blaber *et al.* (1994c)
GoC	Gulf of Carpentaria	nearshore	***	***	distribution, community structure, nursery role	Blaber *et al.* (1995b)
GoC	Gulf of Carpentaria	entire Gulf on 30nm grids in depths >17m	300 spp from 85 families	juv.-adult	distribution, community structure vs time of day, grid location and 11 abiotic factors. Six main site groupings ; 15 fish community groupings; relationship between fish dsn and depth, but not with other abiotic factors such as temp and %mud,sand,gravel	Blaber, Brewer and Harris (1994b)
GoC	Groote-Eylandt	tall, dense seagrass, short sparse seagrass, bare substrata	156 fish species	***	highest spp diversity in tall dense seagrass and least in bare sand. Immigration to forage over seagrass at night by piscivores is major cause of high abundance	Blaber, S. J. M., Brewer, D. T., Salini, J. P., Kerr, J. D., and Conacher, C. (1992b)
GoC	***	***	*Caranx-bucculentus*	juv.-adult	predation on prawns/food-selection/body-size/food-organisms/feeding-behaviour/prey-selection	Brewer, D. T., Blaber, S. J. M., and Salini, J. P. (1989)
GoC	Carpentaria-Gulf,-Albatross-Bay	nearshore bay	***	***	fish predation on prawns/trophodynamics/nearshore	Brewer, D. T., Blaber, S. J. M., and Salini, J. P. (1991)
GoC	Groote-Eylandt	tall, dense seagrass, short dense seagrass, bare substrata, mixed reef/seagrass	*93 species*	juv.-adult	feeding behaviour and stomach contents showed similar prey regardless of habitat, with important density-dependent predation on prawns	Brewer, D. T., Blaber, S. J. M., Salini, J. P., and Farmer, M. J. (1995)
GoC	Wellesley Islands	***	*Penaeus esculentus, Metapenaeus endeavouri*	juv.	nursery areas found in estuarine and sheltered areas by beam trawl	Coles, R. G. and Long, W. J. L. (1985)

Region	Location	habitat type	taxa	stage	type of study or results	reference
GoC	Embley-Estuary	estuary	21 species	sub.ad-adult	variety of ariid catfish, mullet species, barramundi and threadfin salmon had increasing CPUE with increasing turbidity. However, we believe this could equally well be explained by the hypothesis that gillnet efficiency increase with turbidity --	Cyrus, D. P. (1992)
GoC	Embley-Estuary	***	***	***	seasonal turbidity, temperature and salinity gradients and their effects on ecological-distribution	Cyrus, D. P. and Blaber, S. J. M. (1992)
GoC	Qld	***	*Penaeus- merguiensis, Metapenaeus bennettae, P.esculentus, P.plebejus*	***	osmoregulatory ability as a determinant of adults and juveniles habitat-selection	Dall, W. (1981a,b)
GoC	***	estuary	*Penaeus merguiensis*	juv.	overwintering	Dredge (1985)
GoC	Torres Strait	***	***	***	use of carbon-isotopes to propose basis of food-webs/energy-flow	Fry, B., Scanlan, R. S., and Parker, P. L. (1983)
GoC	Carpentaria-Gulf	***	*Penaeus- merguiensis*	new recruits, juv.	seasonal temperature and salinity-effects on recruitment, growth and mortality measured in the field	Haywood, M. D. E. and Staples, D. J. (1993)
GoC	Embley River estuary, and single season in Port Musgrave, Albatross Bay, Archer Bay estuaries	*Enhalus, Halodule, Halophila, Caulerpa spp*	*Penaeus semisulcatus, P. esculentus*	***	comparison of seagrass/algal beds as tiger prawn <10mm nurseries. Decreased salinity with wet season floods caused disappearance of upstream algae beds and the *P. semisulcatus* in them: seagrass biomass no change and 97% of *P. esculentus* in downstr beds	Haywood, M. D. E., Vance, D. J., and Loneragan, N. R. (1995)
GoC	lab experiment	seagrass vs bare sand	*Lutjanus-russelli/Caranx-bucculentus*	***	predation on *Penaeus-esculentus* is prevented largely shelter function	Laprise, R. and Blaber, S. J. M. (1992)
GoC	Embley River estuary	mangrove, seagrass, macroalgae	*Penaeus esculentus, P. semisulcatus, P. merguiensis, Metapenaeus spp.*	juv.-adults	Used isotopes of carbon, nitrogen and sulphur to compare contribution of seagrass and mangroves to food webs supporting juvenile prawns in estuary and also on offshore trawl grounds, and examined seasonality in primary food source utilisation	Loneragan, N. R., Bunn, S. E., and Kellaway, D. M. (In Press)
GoC	Groote Eylandt	several genera seagrass	*Penaeus esculentus and P. semisulcatus*	benthic post-larvae, new recruits, juv.	almost all postlarvae (90 %) were caught in intertidal and shallow subtidal seagrass on open coastline<=2.0 m deep. Highest catches in seagrass within 200 m of the high-water, and during pre-wet, wet season	Loneragan, N. R., Kenyon, R. A., Haywood, M. D. E., and Staples, D. J. (1994)

Region	Location	habitat type	taxa	stage	type of study or results	reference
GoC	Embley River estuary	*/Rhizophora /Ceriops /Avicennia*	*Penaeus merguiensis*	***	mapping of vegetation types by remote sensing to increase knowledge of the critical components of mangrove ecosystems that support banana prawn production	Long, B., Vance, D., and Conacher, C. (1992)
GoC	Embley-Estuary	***	*Lutjanus- russelli*	juv.	rates of consumption of marine-crustaceans, and effects of temperature, with reference to predation on prawns	Smith, R. L., Salini, J. P., and Blaber, S. J. M. (1991)
GoC	***	***	*Caranx bucculentus*	***	rates of consumption of marine-crustaceans, and effects of temperature, with reference to predation on prawns	Smith, R. L., Salini, J. P., and Blaber, S. J. M. (1992)
GoC	Norman-Estuary	estuary, nearshore bay	*Penaeus- merguiensis*	juvs	juveniles /migrations /population-structure/growth	Staples, D. J (1980a)
GoC	Norman-Estuary	estuary	*Penaeus-merguiensis*	post-larvae, new recruits	/life-cycle/ecology /hydrology/recruitment	Staples, D. J. (1980b)
GoC	Groote Eylandt	*Thalassia, Cymodocea, Syringodium, Halophila, Enhalus*	*Penaeus esculentus* ++ others	juv.	Compared reef flat *Thalassia* beds, (ii) Shelving beach *Cymodocea* and *Syringodium* beds, (iii) River mouth *Halophila* beds and (iv) Sheltered embayments characterised by *Enhalus.* Prawn abundance increased with seagrass biomass	Staples, D. J. and Poiner, I. R. (1987)
GoC	Norman River estuary	mangrove creeks and channel	*Penaeus merguiensis*	***	Postlarvae migrated vertically in response to changes in tidal height, rising to near the surface just before low tide, and entered the estuary throughout the flood tide peaking maximum current, regardless of time of day or night. Deeper in wet season	Staples, D. J. and Vance, D. J. (1985)
GoC	Gulf of Carpentaria	***	*Penaeus-merguiensis*	sub-adults	emigration from nurseries is governed by rainfall	Staples, D. J. and Vance, D. J. (1986)
GoC	Carpentaria-Gulf	5 estuaries	*Penaeus-merguiensis*	***	regional comparisons of recruitment /population-dynamics/migration	Staples, D. J. and Vance, D. J. (1987)
GoC	experimental	experimental	*Penaeus-merguiensis/Penaeus-esculentus/Metapenaeus-endeavouri*	juv.	experimental-research on effects of diurnal-variations/tidal-cycles on behaviour /avoidance-reactions/activity-patterns of juveniles with reference to catchability/predation /habitat-selection	Vance, D. J. (1992)
GoC	Embley River estuary	mangrove creeks, mudflats	*Penaeus merguiensis*	postlarvae-juv.	settled on all habitat types in the estuary, but large catches were only taken on the mangrove-lined banks and dsn., except in the wet season, was not related to salinity. Upstream catches 5 times higher than those near the creek mouth	Vance, D. J., Haywood, M. D. E., and Staples, D. J. (1990)

Region	Location	habitat type	taxa	stage	type of study or results	reference
GoC	Embley River estuary	*Enhalus acoroides, Halodule uninervis, H. ovalis,* also algae *Caulerpa* spp	*Penaeus semisulcatus*	post-larvae	6 yr study of environmental forcing in longitudinal estuarine comparison amongst habitats, times and size classes. Number of settlers determined n juvs, algal habitats lost during wet. Consistent seasonal peaks and bimodal recruitment.	Vance, D. J., Haywood, M. D. E., Heales, D. S., and Staples, D. J. (1996b)
GoC	Embley-Estuary	***	*Penaeus-semisulcatus*	juv.	variance in beam-trawl sampling induced by seasonal-variations/diurnal-variations/tidal-effects	Vance, D. J., Heales, D. S., and Loneragan, N. R. (1994)
GoC	Embley River estuary	*Rhizophora, Ceriops* fringe vs stand	*Penaeus merguiensis* and 55 fish species	juv	first study to quantify extent of movement of juveniles into forest margins. Found differences between "inland" and "fringe" sites. Prawns were indifferent, but fish were in greater numbers, size, biomass and diversity at fringe.	Vance, Dave J., Haywood, M. D. E., Heales, D. S., Kenyon, R. A., Loneragan, N. R., and Pendrey, R. C. (1996a)
GoC	Carpentaria-Gulf	***	*Penaeus- merguiensis*	juv.-adult	feeding-behaviour and diets related to body-size/tidal-effects	Wassenberg, T. J. and Hill, B. J. (1993)
Indo-Pacific	review	***	***	***	review of estuarine processes and communities in tropical oceans	Longhurst, A. R. and Pauly, D. (1987)
Indo-Pacific	Indo-Pacific	mangrove ecosystems	*Penaeus merguiensis*	***	Indo-pacific wide collecting indicated that the life-history was based on a common pattern of two cohorts per year. Differential survival resulted in one of the cohorts contributing more to the offshore fishery than the other. Rainfall controls emigration.	Staples, D. J. and Rothlisberg, P. C. (1990)
NQ	***	mangrove creeks, channel	*Acanthopagrus berda, Ctenogobius criniger, Chelonodon patoca, Anodontostoma chacunda*	***	feeding ecology, morphology and some notes on nursery function	Beumer, J. P. (1978)
NQ	Cairns-Bowen	***	***	***	inventory of seagrass beds and fish and prawn catches in them	Coles, R. G., Lee-Long, W. J., Helmke, S. A., Bennett, R. E., Miller, K. J., and Derbyshire, K. J. (1992)
NQ	Cairns Harbour	8 species of seagrass	134 fish , 20 prawn species	juv.	distribution of seagrasses and their population of juvenile prawns and fish	Coles, R. G., Lee-Long, W. J., Watson, R. A., and Derbyshire, K. J. (1993)

Region	Location	habitat type	taxa	stage	type of study or results	reference
NQ	Cape York- Cairns	13 species of seagrass	6 Penaeid prawn species	juv.	seagrasses spatial-distribution/species-composition/life-cycle/habitat-preferences/population-levels. Enhalus and Thalassia were uncommon, perhaps stressed by turbidity	Coles, R. G., Long, W. J. L., Squire, B. A., Squire, L. C., and Bibby, J. M. (1987a)
NQ	Bowen-Water Park Point	***	*penaeids*	juv.	inventory of seagrass and nursery locations for penaeids in "one off" mapping exercise	Coles, R., Mellors, J., Bibby, J., and Squire, B. (1987)
NQ	Halifax, Cleveland, Bowling Green Bays	nearshore bays	*Scomberomorus spp.*	larvae	feeding of larvae, especially on anchovy larvae	Jenkins, G. P., Milward, N. E., and Hartwick, R. F. (1984)
NQ	Halifax, Cleveland, Bowling Green Bays	cross-shelf transect	*Scomberomorus spp.*	larvae	separation of species along turbidity gradient	Jenkins, G. P., Milward, N. E., and Hartwick, R. F. (1985)
NQ	Water Park Point to Hervey Bay	seagrass	***	juv.	maps and inventory of sea-grass and nursery-grounds for -fish and prawns	Lee-Long, W. J., Coles, R. G., Miller, K. J., Vidler, K. P., and Derbyshire, K. J. (1992)
NQ	Cape York-Hervey Bay	14 spp seagrass	***	***	broad description of latitudinal and abiotic (depth, sediment, turbidity) patterns and newly found deepwater beds	Lee-Long, W. J., Mellors, J. E., and Coles, R. G. (1993)
NQ	Green Island	seagrass	carid, sergestid and penaeid prawns	juv.	Beam trawl, standing crop and "living index" of seagrass failed to correlate with penaeid abundance	Mellors, J. E. and Marsh, H. (1993)
NQ	Alligator Creek	*Avicennia, Rhizophora, Ceriops* drain-off creeks	*Penaeus- merguiensis*	post-larvae-juv.	prawns 1-21 mm carapace length entered the mangrove forest at high tide throughout the year. Diet of prawns varied with size and microhabitat. Barramundi 30-50 cm greatest predators with 22% of diet made up of prawns.	Robertson, A. I. (1988a)
NQ	Alligator Creek, and mangrove sampling in Escape, Lockhart, McIvor Rivers	*Avicennia marina, Rhizophora stylosa, Ceriops tagal* vs *Halophila/Halodule*	203 spp of fish, 47 spp of crustaceans	juv.-adult	comparison of community structure in seagrass vs Mangroves and inferences as to importance as nursery sites. comparisons were made amongst microhabitats, amongst regional river systems and amongst single species	Robertson, A. I. and Duke, N. C. (1987)
NQ	Alligator Creek	*Avicennia marina, Rhizophora stylosa, Ceriops tagal*	20 fish spp from 10 families selected	new recruits, juv.	recruitment for most spp in late dry to mid wet season. Study examined recruitment time, cohort growth, departure and "estuarine residency"	Robertson, A. I. and Duke, N. C. (1990a)

Region	Location	habitat type	taxa	stage	type of study or results	reference
NQ	Alligator Creek	*Avicennia marina, Rhizophora stylosa, Ceriops tagal*	128 fish spp from 43 families	juv.- adult	a study of seasonal and tidal variation in microhabitat (forest, creek, accreting banks, channel) use by fish communities and estimates of density and biomass	Robertson, A. I. and Duke, N. C. (1990b)
NQ	Alligator Creek	*Avicennia, Rhizophora, Ceriops* channel vs seagrass, offshore	170 zooplankton taxa	larvae-adult	zooplankton community compared amongst mangrove creek, mainstream, adjacent seagrass flat and 10km offshore. Brachyuran eggs and zoeae important fish prey are an order of magnitude more abundant in summer in mangroves.	Robertson, A. I., Dixon, P., and Daniel, P. A. (1988)
NQ	Alligator Creek	*Avicennia, Rhizophora, Ceriops* creeks and channel snags	23 fish species from 15 families	juv.-adult	Baited fish trapping (Z traps) in deeper snags and channels caught 8 large taxa not vulnerable to usual netting techniques. Upstream decline in abundance and microhabitat differences were evident	Sheaves, M. J. (1992)
NQ	Alligator-Creek	***	*Epinephelus coioides, E. malabaricus, Lutjanus- russelli, Acanthopagrus berda, A. australis, Arothron-manilensis*	***	local movements, home ranges and lack of seasonal displacements	Sheaves, M. J. (1993)
NQ	6 sites in Bowling Green, Cleveland and Halifax Bays	mangrove creeks and channels	*Epinephelus coioides, E. malabaricus, Lutjanus russelli, L. argentimaculatus*	juv-sub-adult	Biological (size, age, reproduction) studies showed all these large, (up to 50cm) major taxa are reproductively immature in estuaries. Mark-recapture and tetracycline validation used with baited fish traps	Sheaves, M. J. (1995a)
NQ	6 sites in Bowling Green, Cleveland and Halifax Bays	mangrove creeks and channels	22 fish species, incl. *Acanthopagrus berda, A. australis, Epinephelus spp, Lutjanus russelli*	sub-adult-adult	Baited trap catches compared amongst tidal states, mesh sizes, entrance funnel designs, soak times, bait container designs and parts of one lunar cycle	Sheaves, M. J. (1995b)
NQ	3 sites in Bowling Green and Cleveland Bays	mangrove creeks and channel	*Epinephelus coioides, E. malabaricus*	juv.-sub-adult females	*E. malabaricus* shows better adaptation to cope with variable salinity, and is generally found further upstream and is more common in some estuaries than others.	Sheaves, M.J. (1996)
NQ	Cleveland-Bay	nearshore, bay	*Carcharhinidae /Sphyrnidae*	***	nursery-grounds/food-availability/seasonality	Simpfendorfer, C. A. and Milward, N. E. (1993)
NQ	Torres Strait	trawl ground		***	spatial-distribution/species-composition of prawns in relation to sediment type	Somers, I. F., Poiner, I. R., and Harris, A. N. (1987)

Region	Location	habitat type	taxa	stage	type of study or results	reference
NQ	Torres Strait	*seagrass species*	*Penaeid prawns*	benthic post-larvae, juvs	spatial and temporal dynamics of prawn nursery role of seagrass, including extensive "reef top" seagrass beds	Turnbull, C. T. and Mellors, J. E. (1990)
NQ	Cairns Hbr	*Zostera capricorni, Halodule pinifolia*	*Penaeus esculentus, P. semisulcatus, Metapenaeus endeavouri*	***	potential total annual yield from Cairns Harbour seagrasses for the 3 maj. prawn species were 178 t (range 81-316 t) per yr with a landed value of $A1.2 million per yr range($0.6 million to $2.2 million per yr).	Watson, R. A., Coles, R. G., and Lee-Long, W. J. (1993)
NQ	Bowling Green Bay, Cleveland Bay	estuary, nearshore, bay trawl grounds	*Amblygaster sirm, Herklotsichthys spp, Sardinella spp*	***	ontogenetic shifts in nearshore resource use by baitfish species and autumn migration out into pelagic food chains topped by juvenile billfishes	Williams, D. McB. and Cappo, M. (1990)
NSW	Botany Bay	*Zostera-capricorni/Posidonia-australis*	6 invertebrate prey taxa	***	leaves were experimentally shortened and thinned an community structure was compared for 6 prey taxa and fish. Both had significant negative effects on communities	Bell, J. D. and Westoby, M. (1986a)
NSW	***	*Zostera-capricorni/Posidonia-australis*	6 invertebrate prey taxa	***	prey density found to be proportional to shoot density when experimentally thinned, with no influence of predation	Bell, J. D. and Westoby, M. (1986a)
NSW	Botany Bay	*Zostera-capricorni/Posidonia-australis*	fish and decapods	***	15 of 23 significant responses found in previous small-scale experiment did not appear when repeated at wider scale among beds. No other environmental correlates with the failure of the relationships were detected	Bell, J. D. and Westoby, M. (1986b,c)
NSW	Botany Bay	*Zostera-capricorni*	*Gobiidae, Syngnathidae, Scorpaenidae, Ophichthidae*	***	seagrass-fish-community was negatively affected by the abundance of *Giffordia mitchellie* - a macroalgal bloom of epiphytic-algae	Bell, J. D. and Westoby, M. (1987)
NSW	Port Hacking	*Posidonia australis*	*Centropogon-australis*	***	crustaceans comprised 90% of diet feeding-behaviour	Bell, J. D., Burchmore, J. J., and Pollard, D. A. (1978a)
NSW	Port Hacking	*Posidonia australis*	*Monacanthus chinensis, Meuschenia freycineti, M. trachylepis*	***	feeding-behaviour of Monacanthidae omnivorous on epiphytic algae and epifauna	Bell, J. D., Burchmore, J. J., and Pollard, D. A. (1978b)
NSW	Jervis Bay	*Posidonia-australis*	*Stigmatopora-argus/Gymnapistes-marmoratus/Siphamia-cephalotes/Upeneichthys-porosus* ++ others	***	consistent differences between the deep and shallow margins of seagrass in dominant-species/community-composition species-diversity	Bell, J. D., Ferrell, D. J., NcNeill, S. E., and Worthington, D. G. (1992)

Region	Location	habitat type	taxa	stage	type of study or results	reference
NSW	Botany Bay	*Avicennia marina*	48 species of fish	juv.-ad.	Block-net. Exclusive use of this habitat by small juveniles of several species.14 species were economically important, making up 38% of individuals and 32% of biomass and were represented only by small juveniles.	Bell, J. D., Pollard, D. A., Burchmore, J. J., Pease, B. C., and Middleton, M. J. (1984)
NSW	***	Artif. seagrass vs *Zostera capricorni*	***	***	7 sq. m. artificial sea-grass deployed adjacent to Zostera capricorni. signif. less spp in ASUs , but same abundance, probably due to time needed to accumulate vagile macrofauna	Bell, J. D., Steffe, A. S., and Westoby, M. (1985)
NSW	***	*Zostera capricorni*	***	***	position of the bed within an estuary, not bed size, leaf density or height, and the abundance of competent larvae determined the consistent zonal patterns seen	Bell, J. D., Steffe, A. S., and Westoby, M. (1988)
NSW	Botany Bay	Artif. seagrass units	*29 spp, including Achoerodus viridis*	***	not specific selection for blade densities, or predation - rather availability of fish-larvae prepared to settle indiscriminately into any shelter	Bell, J. D., Westoby, M., and Steffe, A. S. (1987)
NSW	Botany Bay	shallow (<4 m), deep (>4m), sandy vs muddy vs vegetated habitats (*Zostera, Posidonia*)	*Sillago ciliata, S. maculata maculata, S. robusta, S. bassensis flindersi*	juv.-ad.	habitat associations and feeding, reproduction ; also speculation on effects of dredging ;(1) *S.ciliata* and *S. m. maculata* ; shallow sandy beach <4 m and *Zostera; (2) S. robusta, S. b. flindersi* ;deep>4 m sandy sites. Ontogenetic. shifts in habitat use/diet	Burchmore *et al.* (1988)
NSW	Port- Hacking	*Posidonia-australis*	*39 species*	***	community-structure/trophic-relationships showed crustacean comprised 50% of community diets. 30% of fish were of economic importance	Burchmore, J. J., Pollard, D. A., and Bell, J. D. (1984)
NSW	5 estuaries and one ocean site comprising entire range of *P.australis*	*Posidonia australis*	323 invertebrate species	***	species-composition/community- structure/benthos. Polychaetes, molluscs, crustaceans dominated	Collett, L. C., Hutchings, P. A., Gibbs, P. J., and Collins, A. J. (1984)
NSW	Botany Bay	seagrass	*Monacanthus chinensis*	adults	6.5/biomass /plants /marine-ecology/feeding-behaviour/Invertebrate /production/ISW,-Australia,-Botany-Bay	Conacher, M. J., Lanzing, W. J. R., and Larkum, A. W. D. (1979)
NSW	East Coast	trawl grounds, shelf	*Penaeus plebejus*	***	identification of source of recruits for prawn fishery, and nursery habitats, using trace element analysis	Courtney, A. J., Die, D. J., and Holmes, M. J. (1994)
NSW	***	*Zostera capricorni* vs Bare sand	***	***	diversity and abundance of fish always greater in seagrass than over bare sand >100m away, but not always signif more abundant for bare sand <=10m away	Ferrell, D. J. and Bell, J. D. (1991)

Region	Location	habitat type	taxa	stage	type of study or results	reference
NSW	GET	*Posidonia-australis*	***	***	beam trawl compared among-beds and among estuaries	Ferrell, D. J., McNeill, S. E., Worthington, D. G., and Bell, J. D. (1993)
NSW	Jervis Bay	bay	*Pecten fumatus*	juv.-ad.	distribution, growth, episodic recruitment variability	Fuentes (1994)
NSW	Hawkesbury-Nepean River	freshw. and estuary	***	***	nutrification/recruitment/estuaries/freshwater/changes-to-drainage	Gehrke, P. C. and Harris, J. H. (1996)
NSW	Clarence River	estuary	*Metapenaeus macleayi*	juv.-ad.	movement, growth	Glaister (1978b)
NSW	Clarence, Evans, Richmond Rivers	estuary vs oceanic catch	*Metapenaeus macleayi*	juv.-ad.	Consistent (among 3 river systems) influence of environmental-flows in Nov. river discharge on prawn distribution and production. Also suggest northward migration and inter-estuary exchange from sth to nth of adults. Lunar periodicity in downstr migration	Glaister, J. P. (1978a)
NSW	Sydney region 3 estuaries	*seagrass*	*Macrobrachium-intermedium*	***	within/among estuary patterns attributed not to seagrass bed type or size, rather the "aspect", water depth and their interactions with competent larvae	Gray, C. A. (1991a)
NSW	Port-Hacking	*Posidonia australis, Zostera capricorni*	*Macrobrachium-intermedium*	***	No consistent temporal or spatial (between seagrass spp) variation in demography caught with beam trawl	Gray, C. A. (1991b)
NSW	8 north coast estuaries	*Zostera capricorni*	54 fish species (see Table 1.4.5.1)	***	seagrass vs bare-sand fish-community study. Abundances of spp varied as much between location as they did amongst estuaries. Economically important species were caught	Gray, C. A., McElligott, D. J., and Chick, R. C. (1996)
NSW	***	*artificial pontoons*	***	new recruits	fish recruitment to artificial-substrata was lower than seagrass 4 km away, ma y be due to position of pontoons in water-column and vertical-motion, as well as abundance of larvae	Hair, C. A. (1992)
NSW	Port-Hacking	artificial-seaweed	***	***	fish- larvae settling onto pontoons as a means of habitat-improvement	Hair, C. A. and Bell, J. D. (1992)
NSW	Botany Bay and 15 other sites	*Zostera capricorni*	*Rhabdosargus-sarba/Girella-tricuspidata/Achoerodus viridis*	new recruits, juv.	a "recruitment" sink was found where recruitment was up to 73 times higher for these taxa than elsewhere, although the pattern faded with ontogenetic dispersal away from beds	McNeill, S. E., Worthington, D. G., Ferrell, D. J., and Bell, J. D. (1992)

Region	Location	habitat type	taxa	stage	type of study or results	reference
NSW	Botany Bay	*Zostera capricorni, Posidonia australis*	102 spp in 52 families ; including *Girella, Acanthopagrus, Platycephalus, Sillago*, mugilids	***	fish community comparative study. No signif. difference between 2 seagrasses w.r.t species richness or abundance, but *Posidonia* had overall higher biomass, perhaps due to structural complexity. Summer peak in all community measures, incl. juvenile recruit	Middleton, M. J., Bell, J. D., Burchmore, J. J., Pollard, D. A., and Pease, B. C. (1984)
NSW	Macquarie-L	coastal lagoon	106 taxa incl. *Acanthopagrus australis, Rhabdosargus sarba, Pagrus auratus*	larvae	3yr survey to determine spp comp., seasonal variation in abundance and size at entry of larvae into the estuary. tidal/diel dynamics of exit/entry of larval sparids into a coastal lagoon through a restricted entrance	Miskiewicz, A. G. (1986)
NSW	Clarence R.	estuarine/freshwater/ drains	***	juv.-adult	comparison of floodgated vs ungated, and above/below gate comparisons of community composition and habitat quality	Pollard, D. (1993a)
NSW	***	coastal lagoons	comm. estuarine taxa	juv.-adult	comparison of community-composition/fisheries in permanently vs intermittently closed lagoons	Pollard, D. A. (1994a)
NSW	Hunter River	estuary	*Metapenaeus macleayi*	***	prawn production related to /rainfall/environmental-flows	Ruello, N. V. (1973)
NSW		***	***	***	orientation-behaviour of fish-larvae/geographical-distribution predicted by mathematical-models/environmental-conditions/nearshore-dynamics	Steffe, A. S. and Westoby, M. (1992)
NSW	***	*Posidonia-australis/Zostera-capricorni*	*Stigmatopora, S. argus, S. nigra*	adults	field expt to test effects of plant-morphology on fecundity /size-sex distribution	Steffe, A. S., Westoby, M., and Bell, J. D. (1989)
NSW	Clarence-R, -Richmond-R.	seagrass, brackish/fresh water submerged veg. , deep channels	see Table 1.4.5.1	new recruits, juv.-ad.	inventory of vegetated habitats/ longitudinal comparison of size and community composition of vegetated/unveg habitats and deep channels/stock-assessment/ community changes due to floodgates	West, R. J. (1993)
NSW	Clarence-R, -Richmond-R.	estuary	see Table 1.4.5.1	***	catch-sharing/landings/fisheries-production/commercial+sport-fishing	West, R. J. and Gordon, G. N. G. (1994)
NSW	16 estuaries	*Zostera capricorni, Posidonia australis*	*Macrobrachium intermedium* ++ other taxa	***	Variation in density of *Z. capricorni* shoots explained very little of the variation in abundance of animals. However, abundance the grass shrimp was more closely related to the density of shoots during non-recruitment seasons	Worthington, D. G., Ferrell, D. J., McNeill, S. E., and Bell, J. D. (1992a)

Region	Location	habitat type	taxa	stage	type of study or results	reference
NSW	Botany Bay	*Zostera-capricorni/Posidonia-australis/*	*Rhabdosargus sarba, Acanthopagrus australis, Achoerodus viridis, Girella tricuspidata*	***	2-3 cohorts of all, except *Girella*, where up to 7 cohorts. Growth rates estimated	Worthington, D. G., Ferrell, D. J., McNeill, S. E., and Bell, J. D. (1992b)
NSW	Botany Bay	Artificial seagrass (ASUs) simulated isolated habitats 0, 25, 50, 100, 200, 400 leaves per sq. m.	21 species	***	newly-settled *Achoerodus viridis* increased greatly between 0 and 25 leaves per msq. At > 25 leaves per m sq *A. viridis* settled in approximately equal numbers. Epiphytic Giffordia increased structural complexity and confounded some treatments	Worthington, D. G., Westoby, M., and Bell, J. D. (1991)
NT	van Diemen Gulf	***	***	***	NT/3.5/4.5/barramundi-nurseries	Davis, T. L. O. (1985)
NT	Leanyer Swamp	mangrove swamp	38 spp from 24 families	new-recruits, juv.	season, the sequence of flood spring tides and the height of these tides determined the movement of the fish community. Abundance of some spp determined more by their breeding patterns/dispersal abilities of juveniles than by temp./salinity	Davis, T. L. O. (1988)
NT	Daly River	estuary	*Lates calcarifer*	juv.-ad.	distribution, migration, growth, seasonality	Griffin (1987b)
NT	Chambers Bay/Finke Bay	wetland, upper tidal , saltmarsh	*Lates calcarifer*	***	mapping of critical nursery habitat for barramundi, and vegetative correlates	Griffin, R. K. (In Press)
nWA	Dampier	mangrove creeks	*Caranx ignobilis, Carcharhinus limbatus, Scomberoides commersonianus and Scomberomorus semifasciatus ++ others*	sub-ad.-adult	Large piscivores are unusually abundant in theses creeks. Feeding studies showed Atherinidae, *Sillago* spp. and *Harengula (Herklotsichthys)* the most preferred and *Ambassis* sp. the least preferred.	Blaber, S. J. M. (1986)
nWA	Dampier	mangroves and foreshores	165 spp	sub-ad-adult	Compared foreshore and creek communities. 54 spp common to both. Piscivores penetrated at high tide in clear creeks. Iliophagous spp abundant. Inshore region not a signif. nursery ground for offshore commercial spp and no overlap with fauna >20m	Blaber, S. J. M., Young, J. W., and Dunning, M. C. (1985)
nWA	Shark Bay	bay, shelf	*Pagrus auratus*	***	fine stock structure, within bay scale	Johnson *et al.* (1986)

Region	Location	habitat type	taxa	stage	type of study or results	reference
SA	Barker Inlet	*Zostera-muelleri*	*Stigmatopora-nigra/Sillaginodes-punctata/Rhombosolea-tapirina/Atherinosoma-microstoma*	juv.	/community-composition/ compared amongst bare/seagrass. Juvenile whiting over seagrass, flounder over bare	Connolly, R. M. (1994a)
SA	Barker Inlet	*Zostera-muelleri*	*Sillaginodes-punctata/Favonigobius-lateralis/*	***	efficiency and catch-composition of seines and bouyant pop-net in sea-grass. Seines fast, but best for only presence/absence work.	Connolly, R. M. (1994b)
SA	Barker Inlet	*Zostera-muelleri* vs bare, cleared patches	*Sillaginodes punctata* ++ *others*	***	experimental clearance of seagrass to allow for comparisons amongst bare sand/ cleared patches/ untouched seagrass. Looked at response of epifauna and *S.punctata*	Connolly, R. M. (1994c)
SA	***	*Zostera-muelleri*	*Sillaginodes-punctata*	***	experimental set-up to examine vegetated vs bare habitat choice in day/night and satiated/hungry situations where food density could be manipulated	Connolly, R. M. (1994d)
SA	Coorong-Lagoon	***	***	***	effects of freshwater flows from river-discharge on/water-salinity/macrophytes /benthos and fish	Geddes, M. C. (1987)
SA	Coorong	estuary	*Aldrichetta forsteri, Argyrosomus hololepidotus, Acanthopagrus butcheri, Rhombosolea tapirina, Arripis truttaceus*	juv.-ad.	biology of maj. spp, environmental flows and catch rates; all mulloway >200mm; Effort and flounder and mulloway catch has declined markedly. recent increase in black bream. Biology and fisheries for major spp described.	Hall (1984)
SA	Port River Estuary-Barker Inlet	seagrass, mangrove, mudflats	*41 spp of fish and elasmobranchs* (see Table 1.4.5.1)	juv.-adults	Life-history patterns, direct effects of temp./salinity, and habitat differences amongst sites governed fish community distribution and this was influenced by warm effluent from the power station.	Jones, G.K., Baker,J.L., Edyvane, K. and Wright, G.J. (1996)
SA	West Coast Bays, Great Australian Bight	bays	*Penaeus latisulcatus*	post-larvae, juv.	Nett flood night tides correspond with spawning season. Nurseries in extensive littoral sandflats in lees or other shelter. Some bays had lethal extremes of salinity and temp. Preferred habitat is fine, bare sand in shallows	Wallner, B. (1985)

Region	Location	habitat type	taxa	stage	type of study or results	reference
SEQ	Tin Can Bay	*Zostera capricorni, Halophila* before/after dieback	52 fish species from 34 families	benthic postlarval-juv.	Roller-beam trawl, ring-net. Loss of seagrass had no effect on numbers, may have affected overall species composition, but no effect on major 10 spp.	Beumer, J. and Halliday, I. (1994)
SEQ	Moreton-Bay	4 habitat types; mangrove fringe vs seagrass and sandy vs muddy substrata	25 teleosts from 12 families	new recruits - adults	spawning, recruitment, diet presented together with measurements of salinity, temp, turbidity, substrata. Juveniles of many spp are attracted to turbid shallows rather than estuaries per se. salinity and temp unimportant to most spp	Blaber, S. J. M. and Blaber, T. G. (1980)
SEQ	***	field and laboratory, mangrove/seagrass	*Sillago analis*	sub-ad.-adult	calculation of electivity indices prey-selection on siphon tips of *Glauconome-virens*/Annelida /Crustacea in field and lab. experiments	Brewer, D. T. and Warburton, K. (1992)
SEQ	Tin Can Bay	*Zostera capricorni, Halophila*	*Penaeus plebejus, Metapenaeus bennettae, M. endeavouri, P.esculentus*	benthic postlarvae and juv.	Beam Trawl. Comparison of catches at seagrass die-back site and sparse vs dense seagrass. *P.plebejus* dominated sparse and dense sites, and colonised dieback sites and such events may not be detrimental to all fisheries	Halliday, I. A. (1995)
SEQ	Tin Can Bay	*Rhizophora stylosa* fringe	42 spp of fish from 24 families	juv.-adults	Fence block-off method. Novel and effective means of assessing use of forest fringe. Lower abundances than other studies may be due to habitat complexity ; still important nursery for fisheries	Halliday, I. A. and Young, W. R. (1996)
SEQ	?	tidal mudflats	*Scylla serrata*	juv.-ad.	Distribution among microhabitats	Hill *et al.* (1982)
SEQ	experimental tanks	artificial seagrass vs bare sand	*Penaeus-esculentus/Penaeus-semisulcatus*	juv. and adult	ontogenetic differences in tank response and diel position and burying in response to seagrass	Hill, B. J. and Wassenberg, T. J. (1993)
SEQ	Sunshine Coast	bay, estuary	***	***	inventory of catches and habitats	Hyland (1993)
SEQ	Hervey Bay	bay, estuary	***	***	inventory of catches and habitats	Hyland (1993a)
SEQ	***	bay, estuary	*Scylla serrata*	juv.-ad.	distribution, movement	Hyland *et al.* (1984)
SEQ	Moreton Bay	*Avicennia marina* vs seagrass vs mudflats	53 fish species	juv.	Trap and seine nets to compare seagrass, mudflats and mangrove fringe habitats. Seagrass had distinct fauna not economically important; mudflats are transition zones between juv/adult habitats. Mangroves most important nursery for economically important species.	Laegdsgaard, P. and Johnson, C. R. (1995)

Region	Location	habitat type	taxa	stage	type of study or results	reference
SEQ	***	***	***	***	studies of fish communities in canal estates /silting /stratification /species-diversity/hydrology /community-composition/dissolved-oxygen/sediments	Morton, R. M. (1989)
SEQ	Moreton Bay	*Avicennia marina* fringe and channel	***	***	Forty six percent of the species, 75% of the number of fishes and 94% of the biomass taken during the study (all methods combined) were of direct importance to regional fisheries.	Morton, R. M. (1990)
SEQ	Tallebudgera-Estuary/	***	***	***	study of hydrology /dissolved-oxygen/fishery-resources/community-composition in a canal estate	Morton, R. M. (1992)
SEQ	Fraser-I.	***	***	***	marine-fisheries/commercial+sport-fishing/stock-assessment	Morton, R. M. and Healy, T. (1992)
SEQ	Moreton-Bay	***	*Pomatomus saltatrix*	***	movement/nursery	Morton, R. M., Halliday, I., and Cameron, D. (1993)
SEQ	Toondah Hbr	*Zostera capricorni*	*Penaeus esculentus*	new recruits (benthic post-larvae), juv.	diets changed markedly with ontogeny of juveniles from diatoms to filamentous algae to sea-grass and Copepoda /Decapoda /Ostracoda /Gastropoda	O'Brien, C. J. (1994a)
SEQ	Moreton-Bay	***	*Penaeus-esculentus*	juv.	population-dynamics/growth /mortality	O'Brien, C. J. (1994b)
SEQ	Serpentine Creek	***	***	***	effects of sampling during different moon-phases, tidal direction and time of day	Quinn, N. J. and Kojis, B. L. (1981,1987)
SEQ	Moreton-Bay	***	***	***	fishery-resources/stock-assessment/	Quinn, R. H. (1992)
SEQ	Nerang River	river mouth vs 2km offshore (20m) vs 12km offshore (50m)	*Penaeus-plebejus*	post-larval	PL's change from a diurnally-migrating to a tidally vertically migrating strategy once the pressure change at the bottom becomes a significant fraction of the total pressure. The importance of small localised near-shore spawning has been underestimated	Rothlisberg, P. C., Church, J. A., and Fandry, C. B. (1995)
SEQ	Logan-Albert System, Moreton-Bay	***	*Johnnies-vogleri/Polynemus-multiradiatus/Aseraggodes-macleayanus/Arius-graeffii*	***	stomach-contents by age-composition and predation on *Copepoda /Mysidacea/Acetes* during and after freshwater flooding	Sumpton, W. and Greenwood, J. (1990)

Region	Location	habitat type	taxa	stage	type of study or results	reference
SEQ	Moreton Bay	St Helen and Green Islands; 7 sites ; varying in seagrass and shell substrata	5spp in *Apogon, Monacanthus, Paramonacanthus, Pelates, Leiognathus*	new-recruits-adults	Diet and distribution study; juveniles of the 5 species recruited to the area, with all except *L. moretoniensis* being most abundant at the most vegetated site; evidence of ontogenetic migration into deeper water in all species	Warburton, K. and Blaber, S. J. M. (1992)
SEQ	Moreton-Bay	*Zostera-capricorni*	*Penaeus-esculentus*	juv.	seasonality of seagrass seed predation by prawns	Wassenberg, T. J. (1990)
SEQ	Moreton-Bay	estuary and bay shallows	*Sillago-ciliata, S.analis, S.maculata*	new recruits, 10-90mm long	Used QUINALDINE. Habitat preferences for sediment types and seasonal occurrence, with a guide to identification	Weng, H. T. (1983)
SEQ	Moreton-Bay	bay trawl grounds	***	***	catch-composition/commercial-species/ecological-zonation	Weng, H. T. (1988)
SEQ	Moreton-Bay	?	***	***	environmental correlates of fish community distribution and structure in shallow bay waters	Weng, H. T. (1990)
SEQ	Moreton-Bay	***	*Penaeidae*	***	nursery-role/ecological-distribution/environmental-factors/stock-assessment/	Young, P. C. (1978)
SEQ	Moreton Bay	***	*Penaeus-plebejus/Penaeus-esculentus/Metapenaeus-bennettae*	juv.	nursery habitats and seasonal-variations in recruitment to them	Young, P. C. and Carpenter, S. M (1977)
SEQ	Moreton Bay	***	*Penaeidae*	***	distribution of benthic megafauna	Young, P. C. and Wadley, V. A. (1979)
sWA	Swan River	estuary	*Apogon ruppelli*	juv.-ad.	age, growth, movement	Chrystal *et al.* (1985)
sWA	Swan River	estuary	*Nematalosa vlaminghi*	juv.-ad.	age, growth, distribution, reproduction	Chubb and Potter (1986)
sWA	Swan River	estuary	*Mugil cephalus, Aldrichetta forsteri*	juv.-ad.	age, growth, movement	Chubb *et al.* (1981)
sWA	Swan-Avon-Estuary	***	*Nematalosa-vlaminghi*	***	reproductive-cycle/oogenesis /movements within estuary around salinity changes	Chubb, C. F. and Potter, I. C. (1984)
sWA	7 mile beach vs Dongara	*Amphibolis antarctica, Halophila, Heterozostera*	*Panulirus cygnus*	juv.	juveniles ate epifauna on Amphibolis at 30 mm carapace length, then shifted to herbivory of filamentous coralline algae except at Cliff head where they ate the trochid *Cantharidus lepidus*	Edgar, G. J. (1989)
sWA	Cliff Head vs 7 Mile	*Amphibolis, Posidonia, Halophila, Heterozostera*	macrofauna	***	species-diversity/community-composition/biomass /secondary-production and production of debris /particulate-organic-matter,	Edgar, G. J. (1990a)

Region	Location	habitat type	taxa	stage	type of study or results	reference
sWA	Cliff Head vs 7 Mile	*Amphibolis, Posidonia, Halophila, Heterozostera*	***	***	used experimental microcosms to shade seagrass in various treatments then measured population-dynamics of vagile-species and production	Edgar, G. J. (1990b)
sWA	Cliff Head vs 7 Mile	*Amphibolis, Posidonia, Halophila, Heterozostera*	*Panulirus-cygnus/*	***	Feeding ecology and prey abundance. In the absence of gastropod abundance at 7 mile, the lobster juveniles ate filamentous coralline algae. They preyed heavily on trochid *Cantharidus* at Cliff Head. Intraspecifc competition is possible	Edgar, G. J. (1990c)
sWA	Cliff Head	*Amphibolis, Posidonia, Halophila, Heterozostera*	*Portunus-pelagicus*	***	Studies of food abundance and crab feeding showed ontogenetic difference and very fast growth. Seagrass herbivory and mostly slow-moving gastropods comprise diet.	Edgar, G. J. (1990d)
sWA	Cliff Head	*Amphibolis, Posidonia, Halophila, Heterozostera*	*Panulirus-cygnus*	***	predation and prey-selection by lobsters for trochid Cantharidus. Using caging experiments and estimation of consumption rates, lobsters known to graze down trochids and could compete intraspecifically	Edgar, G. J. (1990e)
sWA	Cliff Head	*Amphibolis, Halophila*	epifaunal invertebrates	***	daily turnover and colonisation of epifaunal invertebrates	Edgar, G. J. (1992)
sWA	***	*Amphibolis antarctica, A. griffithsi*	***	***	3 experimental leaf and epiphyte trimming treatments allowed inference that there were a) leaf-associated, b) epiphyte associated and c) taxa which need both	Edgar, G. J. and Robertson, A. I. (1992)
sWA	Rottnest Is., Cockburn Sound, Albany	*Posidonia*	*48* fish species	***	compared fish and invertebrate production with sediments /particle-size/organic-matter/ in sea-grass and unvegetated sites. Production higher in sheltered vs exposed sites for unvegetated habitats	Edgar, G. J. and Shaw, C. (1993)
sWA	***	***	***	***	marine-environment/brackishwater-environment/fish-larvae/feeding- behaviour/prey-selection/comparative-studies	Gaughan, D. J. (1992)
sWA	***	***	***	***	longitudinal patterns of larval feeding in an estuary	Gaughan, D. J. and Potter, I. C. (Submitted)
sWA	Swan River	lower estuary	32 families and 60 taxa; 29 identifiable to species	larvae	marine species collected just inside mouth were very similar in size to those collected a further 7.2 km upstream, indicating that they are transported rapidly through the lower estuary, presumably through tidal action; Clupeids predominant in samples	Gaughan, Neira , Beckley and Potter (1990)

Region	Location	habitat type	taxa	stage	type of study or results	reference
sWA	Swan-Estuary	***	*Gobiidae*	***	ecological-distribution/salinity-tolerance//diets /spawning-grounds/dominant- species/feeding-behavior/population-density/temperature-effects/seasonal-variations/	Gill, H. S. and Potter, I. C. (1993)
sWA	Wilson Inlet	estuary; :"bare sand" vs *Ruppia megacarpa*	6 spp of atherinids and gobies	sub.ad-adults	effects of location, habitat and seasonal salinity and temperature changes on food-preferences; dominated by crustaceans and/or polychaetes; spp segregated over use of *Ruppia* habitat and diet	Humphries, P. and Potter, I. C. (1993)
sWA	Wilson Inlet	*Ruppia-megacarpa vs bare sand*	23 fish species of 16 families	juv.-adults	fish density and biomass signif positively correlated with Ruppia weight and leaf density	Humphries, P., Potter, I. C., and Loneragan, N. R. (1992)
sWA	Cockburn Sound	bay, shelf	*Sillago robusta, S. bassensis*	juv.-ad.	age, growth, reproduction	Hyndes and Potter (in press)
sWA	Swan River	estuary	*Platycephalus speculator*	juv.-ad.	early life, reproduction	Hyndes *et al.* (1992)
sWA	Warnbro Sound , Shoalwater Bay	*Posidonia australis, P. sinuosa,* vs Bare sand	*Sillaginodes punctata, Sillago schomburgkii, S. bassensis, S. burrus, S. vittata, S. robusta*	***	five of six whiting use shallow nearshore nursery habitats, but variable use of seagrass and variable ontogeny related to depth and exposure of habitat	Hyndes, G. A., Potter, I. C., and Lenanton, R. C. J. (1996)
sWA	Cockburn Sound	*Posidonia australis and P. sinuosa*	*32 families*	larvae	greater diversity and concentration in summer community-composition of larvae over degraded seagrasses - may be due to hydrodynamics?	Jonker, L. J. (1993)
sWA	Princess Royal Hbr, King George Sound	*Posidonia and Amphibolis* ++	epifauna and decapods	***	5.5/macrofauna/teleosts/sand crab/decapods/seagrass/gastropods/Western Australia/Australia/IWP	Kirkman, H., Humphries, P., and Manning, R. (1991a)
sWA	Blackwood river	estuary	***	***	inventory of habitats and resources	Lenanton, R. C. J. (1977)
sWA	Busselton-Blackwood River mouth	estuary and 8 coastal sites, incl. *Ruppia, Posidonia, Amphibolis, Heterozostera*	62 teleosts, 3 elasmobranchs ; focus on 16 economically important species	juv.-adults	alternative non-estuarine habitats as nursery-grounds for 13 of 16 economically important fish spp. *Rhabdosargus sarba* and *Mugil cephalus* only 2 with estuarine-resident 0+, also *Hyperlophus vittatus* may be totally estuarine dependent	Lenanton, R. C. J. (1982)
sWA	Murchison River to Esperance	all marine and estuarine fisheries habitats	96 spp of finfish, 7 crustaceans, 12 molluscs	***	REVIEW; quantification of estuarine contribution to WA coastal fisheries production, and classification of fauna according to their life-histories and "dependence" on estuaries	Lenanton, R. C. J. and Potter, I. C. (1987)

Region	Location	habitat type	taxa	stage	type of study or results	reference
sWA	Peel-Harvey-Estuary	***	***	***	effects of Macroalgal blooms on fishing-grounds/fisheries/	Lenanton, R. C. J., Loneragan, N. R., and Potter, I. C. (1985)
sWA	Swan-Estuary	10 sites from lower to middle to upper reaches	focus on 37 spp of 71 spp in 36 families	juv.-adult	longitudinal study of 1) salinity, temp., 3) distance from estuary mouth, site, season and year to test hypo. that marine stragglers more likely to be influenced by 1and 3 than estuarine residents	Loneragan, N. R. and Potter, I. C. (1990)
sWA	Swan-Estuary	***	***	***	longitudinal study/community-composition/seasonality /life-cycle/salinity-data/temperature-data/annual-variations/	Loneragan, N. R., Potter, I. C., and Lenanton, R. C. J. (1989)
sWA	Swan River	estuary	*Amniataba-caudavittatus/Nematalosa-vlaminghi/Cnidoglanis-macrocephalus/Hyporhamphus-melanochir/Gerres-subfasciatus/Pomatomus-saltator*	***	vertical and horizontal profiles and forcing by salinity/temp on composition of deeper water fish communities	Loneragan, N. R., Potter, I. C., Lenanton, R. C. J., and Caputi, N. (1987)
sWA	Peel-Harvey-Estuary	***	***	***	longitudinal study of salinity and temperature seasonality and its effect on the distribution of members of shallow-water fish communities	Loneragan, N. R., Potter, I. C., Lenanton, R. C. J., and Caputi, N. (1986)
sWA	Wilson-Inlet	estuary basin	17 families; 25 species	larvae	tidal forcing and opening regime and its effect on ichthyoplankton /fish-eggs/fish-larvae/species-diversity/community-composition; estuarine breeders dominated (99.9%); no change in "position" of community with opening -- because of rarity of marine spp	Neira, F. J. and Potter, I. C. (1992a)
sWA	Wilson-Inlet	estuary channel	59 spp and 39 families; including sparids, engraulids	larvae	dynamics of movement of ichthyoplankton /dispersion through a tidal-inlet inferred from larval studies; larvae1) leave and then return as post-flexion; 2) leave and do not return (*Engraulis*); 3) enter as postflexion (few-sparids)	Neira, F. J. and Potter, I. C. (1992b)

Region	Location	habitat type	taxa	stage	type of study or results	reference
sWA	Nornalup-Walpole-Estuary	permanently open estuary	36 spp ; 23 families; mostly estuarine spawners	fish-larvae	community-composition in a permanently open estuary; larvae of 26 marine species were caught in the entrance but were either rare or absent in the basins; absence of larvae of most of the marine teleosts that are abundant in the basins	Neira, F. J. and Potter, I. C. (1994)
sWA	Swan estuary	lower, middle and upper regions 13 sites	37 families and 74 species	larvae	seasonal and longitudinal changes in fish-larval/abundance/distribution; each reached a maximum between mid-spring and early summer; Gobiidae comprised 88.2%; mean larval abundance far greater in lower than upper (14.7 vs 2.7); 59 spp were marine in lower	Neira, F. J., Potter, I. C., and Bradley, J. S. (1992c)
sWA	Swan-Estuary	permanently open estuary	*Cnidoglanis-macrocephalus*	***	age /growth /diets /sexual-maturity/sexual-reproduction	Nel, S. A., Potter, I. C., and Loneragan, N. R. (1985)
sWA	Review; comparing sWA with Southern Africa	estuaries; closed seasonally; permanently open	REVIEW	***	Clupeidae, Mugilidae, Atherinidae and Gobiidae were important families in both regions; teraponidae and Tetraodontidae, and the tropical families Apogonidae and Gerreidae, were abundant only in the estuaries of south-western Australia.	Potter, Beckley, Whitfield and Lenanton (1990)
sWA	Nornalup-Walpole	outer basin, inner basin, saline tributary	29 species in 21 families ; incl. rays and sharks	juv.-adult	effects of different opening regimes on fish community structure in permanently open and seasonally open estuaries; depth and salinity/entrance characteristics caused differences, but fauna remarkably similar to Wilson Inlet	Potter, I. C. and Hyndes, G. A. (1994)
sWA	***	***	*Torquigener-pluerogramma*	***	"blowies" have immensely variable recruitment, with a long estuarine phase. feeding, reproductive status and distribution are related to salinity gradients	Potter, I. C., Cheal, A. J., and Loneragan, N. R. (1988)
sWA	Peel-Harvey-Estuary	lower vs upper estuary	*Portunus-pelagicus*	juv.-adult	salinity-effects/spawning-seasons/sex-ratio/size-distribution//ecological-distribution;changes in distribution are apparently related to the marked seasonal variation in salinity which results from the very seasonal pattern of rainfall	Potter, I. C., Chrystal, P. J., and Loneragan, N. R. (1983c)
sWA	Wilson Inlet	seasonally landlocked estuary basin and river	38 species	juv.-adult	test 2 hypotheses; 1) closure will cause greater preponderance of "estuarine" spp, 2) lower estuarine fauna will comprise more "marine" spp following long opening period. Classification into 4 categories, incl. estuarine-dependent, marine straggler	Potter, I. C., Hyndes, G. A., and Baronie, F. M. (1993a)

Region	Location	habitat type	taxa	stage	type of study or results	reference
sWA	Peel-Harvey-Estuary, Murray River	lower estuary, lagoon and inlet	29 families, 55 spp	juv.-adult	seasonality in community-composition/distribution/life-histories compared; 6 estuarine spp; 9 marine spp. General ontogenetic shift away from banks to deeper water; comparison with other WA estuaries, Cockburn Sound and Botany Bay faunas	Potter, I. C., Loneragan, N. R., Lenanton, R. C. J., Chrystal, P. J., and Grant, C. J. (1983a)
sWA	Peel-Harvey-Estuary	***	*Penaeus-latisulcatus*	juv.-sub-adult	movements, spatial-distribution, fishery-biology and departure; related to body-size/sexual- maturity/salinity-effects and distance from the mouth; they leave when change in freshwater discharge/salinity/temp were changing markedly;	Potter, I. C., Manning, R. J. G., and Loneragan, N. R. (1991)
sWA	Swan estuary	***	*Metapenaeus-dalli*	juv.-adults	influence of freshwater flows in life-cycle; completes life cycle within closed estuaries; ontogenetic movement to deeper water ; species not found >31 deg. South	Potter, I. C., Penn, J. W., and Brooker, K. S. (1986)
sWA	Peel-Harvey-Estuary	estuary vs *Nodularia* affected sites	55 spp in 29 families	juv.-adults	dense blooms of the blue- green alga *Nodularia spumigena* have affected fish and crab populations; fishermen have recorded greatly reduced catches; dead fish and crabs in fish kills	Potter, Loneragan, Lenanton and Chrystal (1983b)
sWA	Swan-Avon-Estuary	***	*Atherinidae*	***	life-cycle/longevity /growth /spawning	Prince, J. D. and Potter, I. C. (1983)
sWA	Swan-Avon-Estuary	***	*Atherinidae*	***	habitat-selection/niches /food-preferences/	Prince, J. D., Potter, I. C., Lenanton, R. C. J., and Loneragan, N. R. (1982)
sWA	7 mile beach	*Halophila ovalis, Heterozostera tasmanica*	*Panulirus argus*	juv.	sea grass infauna consist mainly of fast growing spp with several generations per year, but biomass is insufficient support observed lobster densities. Lobsters may be food limited and have important effect on infaunal communities	Rainer, S. F. (1989)
sWA	7 mile beach	*seagrass*	***	***	Together with *Nebalia* , small crustaceans with high P:B ratios may have a significant role in secondary production in the seagrass beds. 3 fish predators were found	Rainer, S. F. and Unsworth, P. (1991)
sWA	7 mile beach	*seagrass*	*Panulirus cygnus*	food of juv.	Study of growth, recruitment, reproduction, production of bivalve. Production by *Solemya* sufficient to supply up to 22% of the food requirements for greater than or equal to 2-yr- old juveniles of *P. cygnus* .	Rainer, S. F. and Wadley, V. A. (1991)

Region	Location	habitat type	taxa	stage	type of study or results	reference
sWA	Geographe Bay	*Posidonia spp*	*19* fish species	***	sampled using small beam trawl in seagrass are dominated by the odacid Neoodax radiatus and Eighteen other species. Stomach contents analysed	Scott, J. K. (1981b)
sWA	Cockburn Sound	*Posidonia,* bare sand	*69* species of fish and invertebrates	***	unpubl. thesis. comparing a 40m and a 25m seine to sample nearshore fish community in seagrass and bare sand. Sign diff amongst bare-veg. habitats. More sp and wider size range in 40m seine	vanderKlift, M. (1994)
sWA	Owen Anchorage (Cockburn Sound)	mosaic of bare sand, patchy seagrass of 5 genera	***	***	a review using 2 techniques to assess the ecological significance of seagrass to assess the short-, medium- and long-term effects of shell-sand dredging	Walker, D. I., Kinhill Engineers Pty Ltd, Museum of Western Australia, Annandale, D., and Lavery, P. (Unpublished)
sWA	Swan-Estuary	***	*Amniataba-caudavittata*	***	growth /local-movements/diets /age-composition	Wise, B. S., Potter, I. C., and Wallace, J. H. (1994)
Tas	SE Tasmania	estuaries, bays	***	***	school and gummy sharks/nursery role and feeding/ seasonal inshore/offshore movements for overwintering	Anon. (1993c)
Tas	SE Tasmania	*seagrass*	*Nesogobius sp., Gymnapistes marmoratus, Neoodax balteatus, Acanthaluteres spilomelanurus*	adults	diet, feeding chronologies, gastric evacuation rates and daily ration showed differences in hernibovry and zooplankton, macro-invertebrate contribution	Robertson, C. H. and White, R. W. G. (1986)
Tas	west coast Tasmania	*shelf*	*Macruronus novaezelandiae*	larvae	several lines of evidence that suggest that the food chain supporting the larvae of the region's dominant midwater predator is not based on phytoplankton but rather on microbial decomposition of seagrass detritus outwelled by storms	Thresher, R. E., Nichols, P. O., Gunn, J. S., Bruce, B. D., and Furlani, D. M. (1992)
Tas	d'Entrecasteaux-Channel	bay dredge grounds	*Pecten- fumatus/ Chlamys-asperrimus/ Equichlamys-bifrons*	***	scallop-fisheries/stock-assessment	Zacharin, W., Green, R., and Waterworth, C. (1990)
tropics	Gulf of Carpentaria, Torres Strait, Moreton Bay	bay and offshore trawl grounds	*Penaeus-esculentus, P. semisulcatus*	juv.-adult	2 spp eat similar taxa of benthic fauna. Quantitative differences in diet suggest they are selective. Strong regional differences In diet were probably due to differences in the availability of prey	Wassenberg, T. J. and Hill, B. J. (1987b)
Vic	Port-Phillip-Bay	***	*Pecten-alba*	new recruits	spat collection as indicator of recruitment /stock-assessment	Coleman, N. (1989)

Region	Location	habitat type	taxa	stage	type of study or results	reference
Vic	Western Port	mainly *Heterozostera and Zostera muelleri* and bare sand	*75 fish species*	***	nearshore/seagrass vs unvegetated sediment vs channel-. Seagrass supported over twice the fish production as unveg. , but did not provide a significantly more important nursery habitat for economically important species.	Edgar, G. J. and Shaw, C. (1995b)
Vic	Western Port	seagrass vs bare substrata	macro-invertebrates	***	Diversity/epifaunal production greater in vegetated intertidal cf bare. Secondary infaunal production correlated with amt of organic material in sediment and declines over long-term occur with seagrass loss and decline in production of seagrass detritus	Edgar, G. J., Shaw, C., Watson, G. F., and Hammond, L. S. (1994)
Vic	Port-Phillip-Bay	***	*Pseudorhiza-haeckeli/Cyanea-capillata*	***	examination of jellyfish predator-prey-interactions with fish-eggs//fish-larvae/	Fancett, M. S. and Jenkins, G. P. (1988)
Vic	Victoria	bays, shelf	*Pagrus auratus*	juv.-ad.	regional growth variation	Francis and Winstanley (1989)
Vic	Port Phillip Bay	bay	***	***	community changes over 2 decades	Hobday *et al.* (1996)
Vic	Western Port	bay	*Arripis truttaceus*	juv.	diet	Hoedt and Dimmlich (1994)
Vic	Port Phillip Bay	bay	***	larvae	distribution, community structure, seasonality	Jenkins (1986)
Vic	***	***	*Rhombosolea tapirina, ++*	larvae	diet, prey selection, predatory impact	Jenkins (1987)
Vic	***	***	*Sillaginodes-punctata*	larvae, new recruits	recruitment "hotspots" and temporal-variations in settlement/wind- driven-circulation/hydrodynamics	Jenkins, G. P. and Black, K. P. (1994)
Vic	Swan-Bay	***	*Sillaginodes-punctata*	larvae, new recruits	back-calculations of timing of larval-settlement and larval history from daily rings on otoliths	Jenkins, G. P. and May, H. M. A. (1994)
Vic	Western Port	*Heterozostera*	*Monacanthidae /Aldrichetta-forsteri/Sillaginodes-punctata*	***	parallel declines in seagrass dieback/loss and commercial fisheries not as clear as first apparent, and variable depending on life-history	Jenkins, G. P., Edgar, G. J., May, H. M. A., and Shaw, C. (1993d)
Vic	Swan Bay, Corner Inlet	*Zostera muelleri, Heterozostera tasmanica*	*Sillaginodes punctata + other spp*	new recruits, juv.	species richness, abundance and biomass compared between bare substrata and 2 spp of seagrass, King George Whiting associated with unvegetated patches in Swan Bay, but this is a special case	Jenkins, G. P., May, H. A., Wheatley, M. J., and Holloway, M. G. (1997)
Vic	Swan- Bay	***	*Rhombosolea tapirina*	***	larval feeding histories based on back-calculations from otolith daily increments	Jenkins, G. P., Shaw, M., and Stewart, B. D. (1993a)

Region	Location	habitat type	taxa	stage	type of study or results	reference
Vic	Swan Bay, Western Port, Corner Inlet	*Heterozostera tasmanica*	*67 spp*	new recruits, juv.	compared seagrass with unvegetated substrata to infer seagrass dieback effects on fish production	Jenkins, G. P., Watson, G. F., and Hammond, L. S. (1993b,c)
Vic	Port Phillip Bay	*Heterozostera*	*Sillaginodes punctata*	***	recruitment inversely related to distance from bay mouth, but then redistribution of juveniles. No correlation with seagrass biomass overall. Correlations between recruitment and feeding success	Jenkins, G. P., Wheatley, M. J., and Poore, A. G. B. (In Press)
Vic	Corner Inlet	*Heterozostera tasmanica*	*Hyporhamphus-melanochir*	sub-adult-adult	garfish ate seagrass during the day and then ate nocturnally-emergent crustaceans at night	Klumpp, D. W. and Nichols, P. D. (1983a)
Vic	Corner Inlet	*Posidonia-australis*	*Leviprora laevigata*	sub-adult-adult	juveniles ate fish and squid, while adults ate Nectocarcinus-integrifons/	Klumpp, D. W. and Nichols, P. D. (1983b)
Vic	Corner Inlet	*Posidonia-australis*	*Nectocarcinus-integrifons*	***	this rock crab eats and assimilates seagrass fronds	Klumpp, D. W. and Nichols, P. D. (1983c)
Vic	Gippsland Lakes	estuarine	*Acanthopagrus butcheri*	***	survival recruitment of black bream in the events of poor water-quality/algal-blooms	Longmore, A. R., Norman, L., and Strong, J. (1990)
Vic	Western Port, Gippsland Lakes	*Heterozostera tasmanica, H. muelleri, Caulerpa, Zostera, Ruppia, Lepilaena*	*Sillaginodes punctata, Monacanthidae, Haletta semifasciata, Acanthopagrus butcheri, Girella tricuspidata*	adult fishery	sea grass loss and recovery and parallels in commercial fishery decline and return are discussed in light of recruitment processes	MacDonald, C. M. (1992)
Vic	Swan-Bay	seagrass sediments	*Rhombosolea-tapirina*	larvae	back-calculations of timing of larval-settlement and larval history from daily rings on otoliths	May, H. M. A. and Jenkins, G. P. (1992)
Vic	Corner-Inlet	*Heterozostera tasmanica, Posidonia australis*	***	***	biochemical-composition of lipids as chemical markers of these seagrasses for use in food-chain and other studies	Nichols, P. D., Klumpp, D. W., and Johns, R. B. (1982)
Vic	Corner-Inlet	*Heterozostera tasmanica, Posidonia australis*	*Hyporhamphus-melanochir, Leviprora laevigata*	adults	use of isotopes of carbon-13 to delimit the seagrass role in food-chains/carbon-cycle/	Nichols, P. D., Klumpp, D. W., and Johns, R. B. (1985)
Vic	Port-Phillip-Bay	bay, all subtidal habitats, *Sabella* beds	20 most important trophic links in ;sharks, rays, demersal and pelagic fish	juv.-adults	PPBES, definitive description of fish-food webs; Sand Flathead dominant predator; Pebble Crab *Philyra* very important prey in deeps; introduced-pests *Pyromaia* and *Corbula* are important trophic links in deeps; prey consumption lowest in areas invaded by *Sabella*	Officer, R. A. and Parry, G. D. (1996)

Region	Location	habitat type	taxa	stage	type of study or results	reference
Vic	Port-Phillip-Bay	7,12,17 and 22m depth trawl stations	35 taxa for diets; sharks, rays, demersal and pelagic fish	juv.-adults	PPBES, ; spatial, interannual, seasonal differences in fish communities; fish diets; *Neoodax balteatus* has increased due to *Sabella*; seasonal and depth related migrations; 4 groupings based on depth/sediment/benthos type; no fish eat *Sabella*	Parry, G. D., Hobday, D. K., Currie, D. R., Officer, R. A., and Gason, A. S. (1995)
Vic	Western Port	*Heterozostera tasmanica, Zostera muelleri*	*Sillaginodes punctata*	juv.	initial diet is harpacticoid copepods and amphipods, whereas Callianassa is major prey for older fish	Robertson, A.I. (1977)
Vic	Western Port	*Heterozostera tasmanica, Zostera muelleri* vs Bare Mud	*Torquigener, Aldrichetta, Gymnapistes, Rhombosolea, Atherinosoma, Clinus, Arenigobius, Sillaginodes punctata, Atopomycterus, Favonigobius*	sub-ad.-adult	Trophic interactions. Macrobenthos the major energy source for fish (88% of total food) with crustacea, followed by polychaetes. Seagrass had twice the total secondary production as bare mud, but ratio of consumption to production much greater over mud	Robertson, A.I. (1984)

Appendix 5: Summary of results of fisheries-habitat studies on rocky coasts and reefs, by region, location, habitat type, fisheries taxa, life-history stage and source.

NQ= North Qld, SEQ = South East Qld, sWA = South-western WA, nWA = northern WA, *** = not identified

Region	Location	habitat type	taxa	stage	type of study or results	reference
NQ	Townsville	*Sargassum*	epifauna	***	epifaunal abundance greatest during July-Sept. and showed a negative correlation with *Sargassum* biomass but a positive correlation with levels of epiphytes. Artificial macroalgae and fish exclusion cages used to test habitat complexity vs predation hypos	Martin-Smith, K. M. (1993)
NSW	NSW	"urchin barrens" and other abalone habitat	*Haliotis rubra / Centrostephanus rodgersii*	juv.-adult	urchins have a negative impact on abalone, but abalone settle in greatest number on crustose coralline algae in "urchin barrens". A suite of manipulative experiments to outline mechanisms of interaction - toward establishing urchin fishery to enhance abalone	Andrew, N. L. (1993a unpubl. Research proposal)
NSW	Cape banks, Botany Bay	Ecklonia radiata	*Odax cyanomelas*	adult	Seasonal herbivory (severing primary meristem) in discrete patches each year was followed by recruitment ; generating single age-class of plants. May be due to change in aggregation of fish due to spawning.	Andrew, N. L. and Jones, G. P. (1990)
NSW	Sydney, Jervis Bay, Mowarry Pt, Green Cape, Disaster Bay	"Fringe" habitat	*Haliotis rubra, Centrostephanus rodgersii*	***	urchins and abalone are segregated at the nearest-neighbour scale, and were negatively associated at 20% of sites within 10 sq m transects. Hypotheses regarding the maintenance of these patterns are discussed.	Andrew, N. L. and Underwood, A. J. (1992)
NSW	Avoca-Wollongong	rocky reefs	*Cheilodactylus fuscus*	sub-ad.-adult	Feeding study. Benthic-feeder ; polychaetes, brachyurans, amphipods, gastropods, bivalves with seasonal variability	Bell, J. D. (1979)
NSW	Sydney region	rocky reefs	*Girella-elevata*	new recruits-adults	Algae comprised the principal food, making up 77% of the diet in adults, 74% in juveniles and 40% in small juveniles. Small juveniles ate mainly crustaceans (36%) and there were ontogenetic shifts in feeding morphology, gut length and diet	Bell, J. D., Burchmore, J. J., and Pollard, D. A. (1980)
NSW	NZ vs NSW	rocky reef	*Odax pullus, O. acroptilus, Aplodactylus arctidens, Girella-tricuspidata*	sub-ad.-adult	*O. pullus* eats fucoid and laminarian algae and evidence of selection of reproductive structures of fucoid algae. *O. acroptilus* eats small benthic invertebrates. other 2 facultative herbivores with diets dominated by understorey and epiphytic red algae	Choat, J. H. and Clements, K. D. (1992)

Region	Location	habitat type	taxa	stage	type of study or results	reference
NSW	Sydney	rocky reefs	*Parma microlepis, Achoerodus viridis*	sub-adults, adults	Use of ICP-MS trace element analysis to compare constituents at early life vs later life portions of otoliths, with reference to mapping sources of population replenishment through ontogenetic habitat change	Dove, S. G., Gillanders, B. M., and Kingsford, M. J. (1996)
NSW	Botany Bay	"urchin barrens" and *Ecklonia radiata* habitat	*Atypichthys strigatus*	juv.-adult	experimental disturbance of substratum showed more response in barrens. Fish also followed disturbance by other larger spp and exhibited "cleaning" behaviour	Glasby, T. M. and Kingsford, M. J. (1994)
NSW	Botany-Bay	artificial habitats	***	new recruits	Experimental shade/depth/exposure/ ; abundance of several spp varied significantly with at least one of these factors - habitat may be provided for a greater number of species if artificial structures are installed under a wide range of conditions.	Hair, C. A., Bell, J. D., and Kingsford, M. J. (1994)
NSW	Cape banks, Botany Bay	"urchin barrens", Ecklonia	*Parma, Hypoplectrodes, Parupuneus,* + tropical "vagrants" *(Abudefduf, Pomacentrus, Thalassoma, Halichoeres, Stethojulis, Acanthurus)*	new recruits-adults	diversity indices should be used with caution to indicate status. "Buffering" mechanisms include larval dispersal, high "inertia" in relative abundance and population structures of long-lived spp, and broad ecological requirements of many spp	Holbrook, S. J., Kingsford, M. J., Schmitt, R. J., and Stephens, J. S. Jr (1994)
NSW	Jervis Bay	<1 m rocky reef	26 species from 17 families	new recruits-juv.	recruits of economically important species were negligible in number : some *Arripis trutta, Cheilodactylus fuscus, Achoerodus viridis*	Jenkins, G. P., Watson, G. F., Hammond, L. S., Black, K. P., Wheatley, M. J., and Shaw, C. (1996)
NSW	Jervis Bay	2-7m kelp forest (*Ecklonia*)	27 species from 29 families	juv.-adult	older juveniles and adults of commercial spp were observed (eg. sparid, girellids), but previous studies would suggest these initially recruit to estuarine seagrass and bare habitats then move	Jenkins, G. P., Watson, G. F., Hammond, L. S., Black, K. P., Wheatley, M. J., and Shaw, C. (1996)
NSW	***	*Ecklonia radiata*	understorey algae, invertebrates, infauna	***	Fish exclusion experiments ;effects on understorey species in a sublittoral *Ecklonia radiata* kelp assemblage. Significant caging artefacts acted on certain species early in the experiments and on most species after 8 wk.	Kennelly, S. J. (1991)

Region	Location	habitat type	taxa	stage	type of study or results	reference
NSW	Kempsey - Merimbula	sandstone cliffs and fringing rocky reef	37 species of fish, 11 molluscs, 2 echinoderms, 3 decapods, 1 ascidian	juv.-adult	multi-factorial sampling designs identified the times and scales of human gathering and fishing along 1000 km of coast. Girellids, sparids and tailor were major. components of fish catch, but ascidians, crabs and molluscs were collected for bait.	Kingsford, M. J., Underwood, A. J., and Kennelly, S. J. (1991a)
NSW	Seal Rocks	tidepool	***	juv.	repeated defaunation annually ; fish assemblage was of moderate diversity, dominated by juveniles of subtidal species; variation in component species over the long-term collections, but composition remained relatively constant	Lardner, R., Ivantsoff, W., and Crowley, L. E. L. M. (1993)
NSW	***	rocky reefs	***	***	Improving multispecies rocky reef fish censuses by counting different groups of species using different procedures.	Lincoln Smith, M. P. (1989)
NSW	Port Stephens to Eden	rocky nearshore reef	*Cheilodactylus fuscus, Crinodus lophodon, Girella tricuspidata, G. elevata* and 26 others	sub-ad.-adult	speared catch was not representative of rocky reef fish assemblage, but focuses on "reef-dependents". Little overlap with other users except for *G. elevata*	Lincoln Smith, M. P., Bell, J. D., Pollard, D. A., and Russell, B. C. (1989)
NSW	1) amongst reefs 29 km apart. 2) 3 levels: regions (100-200 km) locations (5-12 km) and reefs (1-3 km).	rocky reefs <12 m	Scorpaenidae ,Dinolestidae ,Mullidae ,Pempheridae ,Scorpididae ,Pomacentridae ,Cirrhitidae	recently settled juvs	differences in abundance among reefs for many species, but these were masked by great variability in abundance within reefs; among or within reefs, rather than among locations and regions.	Lincoln-Smith, M. P., Bell, J. D., and Hair, C. A. (1991)
NSW	Jervis Bay	breakwaters vs natural rocky reefs		recruits-adults	breakwaters often had higher species richness and abundances of fish than the natural reefs. Recruitment in spring-summer; greatest on sthn side of bay ; suggests breakwaters on the Nthn side not have comparable assemblages	Lincoln-Smith, M. P., Hair, C. A., and Bell, J. D. (1994)
NSW	Port Hacking, Sydney Hbr	***	*Cheilodactylus fuscus*	sub-ad. - adult	development of technique for underwater visual appraisal of sex, based on orbit-tubercle, to improve home-range and bio-accumulation studies	Schroeder, A., Lowry, M., and Suthers, I. (1994)
NSW	south coast of NSW	***	*Haliotis rubra*	juv.-adult	growth variation amongst sites within 20km was almost s great as for within entire range. Harvesting by width limit may free slow growers from food limitation	Worthington, D. G. and Andrew, N. L. (submitted)

Region	Location	habitat type	taxa	stage	type of study or results	reference
NSW	Broughton Island, Sydney, Merry's Beach, Eden	***	*Haliotis rubra*	juv.-adult	Tagging :growth curves and rates differed amongst sites within 1-20km. There was also sign. variation in growth of individuals within sites and this variation differed amongst sites. Faster growers were morphologically distinct. Width limits are discussed	Worthington, D. G., Andrew, N. L., and Hamer, G. (1995)
NZ	Leigh Marine Reserve	Shallow Broken Rock Habitat	*Jasus-edwardsii, Evechinus chloroticus*	sub-adult-adult	field surveys of abundance and laboratory manipulations of prey shelter and size showed that differing micro-habitat requirements of the 2 spp acts to dislocate any relationship between the abundance of the 2 spp	Andrew, N. L. and MacDiarmid, A. B. (1991)
NZ	North Island	***	*Jasus edwardsii*	***	pueruli on collectors greatest in depth <= 12m, although some settlement down to 50 m	Booth, J. D. (1989)
NZ	15 locations at northern and southern ends of North Island	kelp forests and echinoid dominated reefs	22 species in 11 families	post-settlement	2 types of reef 1) coralline reef flats dominated by echinoids; supported different fish fauna with large benthic-feeders, 2) algal reefs with high-density laminarian/fucoid algae; large Nos of small spp, mainly labrids, with a few large benthic-feeders	Choat, J. H. and Ayling, A. M. (1987)
NZ	Goat Island Bay	coralline algal flats	*Upeneichthys-porosus/Chrysophrys-auratus*	***	Experimental fish exclusion. Juvenile *C. auratus* and *U.porosus* achieved their highest densities over coralline turf areas and fed on the associated invertebrates. Gammarid amphipods constituted the main food items of each species.	Choat, J. H. and Kingett, P. D. (1982)
NZ	***	rocky reef	*Forsterygion varium*	new-recruits-adults	relative importance of recruitment and post-recruitment processes in determining these patterns was evaluated by monitoring the abundance, survival, growth and movement of two separate cohorts of juveniles in habitats of different complexity	Connell, S. D. and Jones, G. P. (1991)
NZ	Leigh	urchin-barrens, *Ecklonia, Carpophyllum, Sargassum, Corallina*	*Pseudolabrus celidotus*	adults	complex home-range and territorial behaviour by Terminal-phase males and females classified as "resource defence polygyny". Preference for deep, bare-rock areas with extensive shelter as spawning sites	Jones, G. P. (1981)
NZ	***	6 habitat types within site	*Pseudolabrus-celidotus*	new-recruits	Shallow broken rock (SBR) habitats dominated by macrophytic brown algae consistently had highest recruitment. Adult removal experiment showed recruitment was independent of adult numbers. Macroalgae affected recruitment in algal removal/addition experimental	Jones, G. P. (1984a)

Region	Location	habitat type	taxa	stage	type of study or results	reference
NZ		6 habitat types within site	*Pseudolabrus-celidotus*	***	Number of juveniles reaching maturity limited adult densities; limited by 1)Density-dependent mortality. Proportion of juveniles surviving first year was inversely correlated with initial densities, 2) Density-dept maturation - Juvenile. growth inversely correlated with dens	Jones, G. P. (1984b)
NZ	north-eastern NZ	rocky reefs	*fish*	all post-settlement	review article, addressing all spatial scales from small-large. Maj. biological features of the habitat (eg. urchins, macroalgae) affect fish populations at all scales, but habitat has a far greater impact on fish communities than vice versa	Jones, G. P. (1988b)
NZ	Leigh	urchin-barrens, *Ecklonia, Carpophyllum, Corallina*	*Pseudolabrus celidotus, Tripterygion varium*	adults	female aggression by larger female *P. celidotus* inhibited maturation of smaller females	Jones, G. P. and Thompson, S. M. (1980)
NZ	coastal waters	pelagic habitats	includes major reef spp	pre-settlement	Review. The importance of physical and biological processes influencing the distribution and survival of ichthyoplankton will vary among categories (eg. pelagic and reef fish) and taxonomic groups within. Vertical and horizontal patterns are described	Kingsford, M. J. (1988)
NZ	coastal waters, NE NZ	pelagic habitats, including 0-2m deep above reef	includes some major temperate reef families	pre-settlement	distribution of pre-settlement sparids, mullids (pelagic eggs), and blenniids and monacanthids (demersal eggs) was not determined in a predictable way by the proximity of reefs. Sparid patches 1-2km across moved quickly through	Kingsford, M. J. and Choat, J. H. (1989)
NZ	Poor-Knights-I.	water column above rocky reef	*Chromis dispilus, Caprodon longimanus, Scorpis violaceous, Decapterus koheru*	***	hypothesis that fish have a localised effect on zooplankton was investigated in detail within a small reef area. Lowest zooplankton densities were usually found in the archway where planktivorous fish were abundant.	Kingsford, M. J. and MacDiarmid, A. B. (1988)
NZ	Auckland Islands	sub-antarctic rocky reefs	*8 spp*	***	diversity and abundance of species of large reef fish was low; a total of eight species; mostly benthic carnivores; spp composition varied among locations; *Bovichthys, Latridopsis, Latris,* and *Pseudolabrus* were in deep water on reefs	Kingsford, M. J., Schiel, D. R., and Battershill, C. N. (1989)

Region	Location	habitat type	taxa	stage	type of study or results	reference
NZ	Leigh	9 "areas" in 7 rocky reef habitats based on topography, flora, echinoids, depth	*Cheilodactylus spectabilis*	juv.-adult	Home-ranges and spatial patterns mapped and diet and behaviour studied. Topographic complexity has positive effect on density ; size increases with depth ; only small individuals were territorial. Larger fish moved through overlapping home ranges.	Leum, L. L. and Choat, J. H. (1980)
NZ	NE NZ	down-slope gradient amongst rocky reef habitats	*Cheilodactylus-spectabilis*	***	on a within-day basis ripe females visited large males on the reef edge, peaking in density at dusk. These males were highly territorial towards similar sized conspecifics, with particular sites being defended by the same fish each year	McCormick, M. I. (1989a)
NZ	Okarakiri Marine Reserve	10 rocky reef habitats based on topography, flora, depth	*Cheilodactylus spectabilis*	juv.-adult	density, size, sex distribution mapped down depth gradient over 12mo. Females and juveniles inhabited shallows, males in deeper. Habitat choice evident. Spatial patterns consistent over decadal, between-month, between-day, within-day scale over range of depths	McCormick, M. I. (1989b)
NZ	NE NZ	10 habitat types within rocky reefs	*Cheilodactylus-spectabilis*	***	size and sex distribution over a 10 yr period for a range of reef habitats, and density and size trends are examined. "Storage effects" mask underlying instability in age composition	McCormick, M. I. and Choat, J. H. (1987)
NZ	Goat Island	rocky reef	50 fish species	***	Most rocky reef fishes ate amphipods, crabs, fishes, gastropods, copepods, errant polychaetes, hermit crabs, and small bivalves; foods taken mainly reflect those organisms of suitable size that are abundant and accessible	Russell, B. C. (1983)
SA	Pt Lincoln-Franklin Hbr	granite-gneiss	*Haliotis- roei*	adult	Survey. Found in shallow water (0-2 m) in places of moderate to strong water movement. Length frequency distribution negatively skewed as is expected for an unfished stock. common algae and principal larger grazing animals are given for each site.	Branden, K. L. and Shepherd, S. A. (1982a)
SA	Thorny Passage	rocky reef	*Haliotis- roei*	adult	Survey. Catch rates above 65 mm in length ranged from 1-21 kg (live weight) per diver hour at 16 sites. Habitat notes of the substrata, the common algae and principal larger grazing animals for each site are added in the Appendix.	Branden, K. L. and Shepherd, S. A. (1982b)

Region	Location	habitat type	taxa	stage	type of study or results	reference
SA	Great Australian Bight	aeolianite wave-cut platforms	*Haliotis- roei, H. cyclobates*	sub-adult-adult	Survey. Found in shallow water (0-4 m deep) in places of moderate water movement. *H. cyclobates* occurs in sheltered bays epizoic on the razor fish *Pinna bicolor.* Common algae and principal larger grazing animals are given for each site.	Branden, K. L. and Shepherd, S. A. (1984)
SA	Investigator-Group	***	? fish species	***	distribution/abundance survey by 1) visual census along belt transect lines - consistent and repeatable, but does not sample whole community, and 2) by recording the log abundances observed for a fixed time period in a variety of habitats - more species	Branden, K. L., Edgar, G. J., and Shepherd, S. A. (1986)
SA	Yorke Peninsula	artificial, pier habitat	*Cheilodactylus nigripes*	juv.-adults	small-scale mapping of home range, temporal change; distribution positively correlated with topographical complexity for shelter and feeding. Benthic-feeder on gammarids, polychaetes, ostracods, bivalves and other infauna.	Cappo, M. (1995)
SA	Yorke Peninsula	<1 m *Hormosira*	15 species from 10 families including *Sillaginodes punctata, Aldrichetta forsteri, Haletta semifasciata*	new recruits-juv.	ontogenetic shift in juvenile habitat is probably occurring for *S. punctata* which utilised shallow reef/algal habitat	Jenkins, G. P., Watson, G. F., Hammond, L. S., Black, K. P., Wheatley, M. J., and Shaw, C. (1996)
SA	5 islands in Investigator Group	<=30 m	90 species in 43 families	***	Fish inventory. Brief notes on habitat and abundance are given for each spp .	Kuiter, R. H. (1983)
SA	South-East, Kangaroo Island and West Coast	bryozoal limestone overlain by calcarenite vs granitic rocks	*Jasus novaehollandiae*	all post-settlement	review of biology and movement shows variation at a range of spatial scale in life-history parameters and abundance, with indications of density-dependence -- but no tests yet of this hypothesis	Lewis, R. K. (1986)
SA	West Island	boulder slope at Abalone Cove	16 crab species	***	Four of the species are mainly herbivorous but eat small amounts of animal matter and one species is omnivorous. Four of the species also ate small abalone in cage experiments and represent potential agents of abalone mortality.	Mower, A. G. J. and Shepherd, S. A. (1988)
SA	West Island	granite boulder slope	*Haliotis laevigata*	2+ juveniles	18 yrs of monitoring densities showed 2 oscillations due to strong recruitment and density-dependent mortality through predation, mainly by stingrays, octopus and crabs	Shepherd, S. A. (1990)

Region	Location	habitat type	taxa	stage	type of study or results	reference
SA	West Island	rocky reef	*Haliotis rubra, H. laevigata*	***	stocks are composed of local populations linked by larval dispersal into metapopulations ; an explanation is given of the role of refugia in enhancing egg production, conserving genetic diversity, providing for scientific study	Shepherd, S. A. and Brown, L. D. (1993)
SA	Fleurieu and Yorke Peninsulas	inshore rocky reefs	*Pseudolabrus-tetricus*	juv.-adult	age at length estimated from scale-reading up to a longevity of 8+	Shepherd, S. A. and Hobbs, L. J. (1985)
SA	Waterloo Bay, West Coast	travertinised limestone	*Haliotis laevigata*	2+ juveniles	spatial distribution of recruitment correlated during each year with gradient of water movement, habitat complexity, predator density, depth. Recruitment during 6 yrs of closure = 2.7 times that of preceding 7 yrs of fishing	Shepherd, S. A. and Partington, D. (1995)
SA	West Island	"experimental" boulders	*Haliotis laevigata, H. scalaris*	***	association of juvenile abalone with crustose coralline algae appears to be important for food and as a refuge from predators. Wrasses are important predators of juveniles but do not take individuals <5 mm long.	Shepherd, S. A. and Turner, J. A. (1985)
SA	Taylor and Owen Islands, Thorny Passage	granite, *Ecklonia, Cystophora, Seirococcus, Scaberia, Sargassum*	*Haliotis laevigata*	3 month old recruits	Adult densities were manipulated in the field. Deduced that larvae are transported near-bottom for 100s of m and are concentrated in lee eddy and stagnation zones caused by bottom/shore topography. Recruitment highest here and independent of adult density	Shepherd, S. A., Lowe, D., and Partington, D. (1992)
sWA	Shark Bay, Abrolhos, Dongara, Jurien, Lancelin, Alkimos, Fremantle	limestone reef	*Panulirus cygnus*	puerulus recruitment, egg production	(as above) and ; Spawning stocks from the coastal regions must provide an important contribution to Abrolhos, because Abrolhos egg production unchanged over 20yrs, but coastal egg production has declined due to 1-2yrs fishing before maturity	Caputi, N., Chubb, C. F, and Brown, R. S. (1995b)
sWA	Abrolhos	limestone reef	*Panulirus cygnus*	puerulus recruitment	The Leeuwin Current and spring westerly winds cannot explain a 50% decrease over 1970's - 1991 in settlement at the Abrolhos Islands on the edge of the shelf 60 km offshore. Fishing-down of spawning stock in the region is the major cause of decline	Caputi, N., Chubb, C. F., and Brown, R. S. (1995a)
sWA	Alkimos, Dongara	limestone reef	*Panulirus cygnus*	puerulus recruitment	puerulus settlement is positively correlated with strong Leeuwin Current in La Nina years. The correlation peaks in April and mechanisms are discussed and proposed to explain why. The spawning stock-recruitment relationship is not significant here	Caputi, N., Fletcher, W. J., Pearce, A., and Chubb, C. F. (1996)

Region	Location	habitat type	taxa	stage	type of study or results	reference
sWA	as above	limestone reef	*Panulirus cygnus*	puerulus recruitment, egg production	description of long-term, fisheries-independent data collection on 1) recruitment - monthly; of puerulus on artificial seaweed collectors, 2) spawning indices and egg production	Chubb, C. F., Caputi, N., and Brown, R. S. (1995)
sWA	***	*Sargassum-patens*	*Halichoeres tenuispinis*	***	Field exclusion experiments support the hypothesis that the secondary production of epifaunal communities on macrophytes is constrained by quantifiable food resource ceilings. Fish did not alter macrofaunal production, but removed most larger animals	Edgar, G. J. and Aoki, M. (1993)
sWA	7 mile beach, Cliff Head	limestone reef , seagrass, macroalgae (*Scytothalia, Ecklonia*)	*Panulirus cygnus*	post-puerulus <= 25 mm CL	pp prefer shelters covered by seagrass/algae of a size positively related to their CL until 16-20mm when they leave for reef dens. Found also to 30m deep. "Collectors" are good indicators of settlement. Artificial. habitats may prove useful, but not pp transfer	Fitzpatrick, J., Jernakoff, P., and Phillips, B. F. (1989)
sWA	7 mile beach	limestone reef	*Panulirus-cygnus*	puerulus and juv.	*Psammoperca waigiensis* was the most consistent predator followed by *Pelates humeralis*. The predation is concentrated on newly settled lobsters possibly accounting for a large proportion of the juvenile mortality.	Howard, R. K. (1987)
sWA	7 mile beach	limestone reef	*Panulirus-cygnus*	puerulus and juv.	Six spp of fish predators were found. Conservatively, annual removal by fish of thousands of lobsters per hectare is likely, suggesting that predation is a major factor in juvenile mortality. Explains cryptic behaviour of newly-settled stage	Howard, R. K. (1988)
sWA	7 mile beach	limestone reefs	*Panulirus cygnus*	new-recruits	Six fish predators (*Psammoperca, Pelates, Pseudolabrus, Plectorhynchus*). Vulnerability strongly related to size and cryptic behaviour.. Predation may critically affect mortality on nursery reefs	Howard, R. K. (1989a)
sWA	Dongara	limestone reef and surrounding seagrass	***	juv.-adults	diel gillnetting and (2) quantitative rotenone sampling of enclosed areas of substratum. Long-term and day-to-day variability was low. High catches at reef-edge sites suggest that the majority of fishes forage on or near limestone patch reefs	Howard, R. K. (1989b)

Region	Location	habitat type	taxa	stage	type of study or results	reference
sWA	Rottnest-I.	rocky reef	***	new recruits-juv.-adults	arrival of tropical larvae in March and April coincides with the strengthening of the Leeuwin Current, a southward flow of warm tropical water, at that time.	Hutchins, J. B. and Pearce, A. F. (1994)
sWA	7 mile beach	limestone reef	*Panulirus cygnus*	post-puerulus	Surveys. Habitat preference tests using artificial habitats and the response of the post-pueruli to transferral between shelters. Very cryptic; shelter in small holes on the reef face, in ledges, caves ; especially with vegetated cover ; move daily and gregarious	Jernakoff, P. (1990)
sWA	7 mile beach, Cliff Head	limestone reef	*Panulirus cygnus*	juv.	Densities at least three times greater at 7 Mile Beach than at Cliff Head. However, juveniles grew faster at Cliff Head than at Seven Mile Beach. Density in ledges was twice that in caves; density in caves was 10 times that on reef face.	Jernakoff, P., Fitzpatrick, J., Phillips, B. F., and De-Boer, E. (1994)
sWA	7 mile beach	limestone reef	*Panulirus cygnus*	post-pueruli	foraged in seagrass and macroalgae on limestone reefs, and animals on settlement collectors foraged only on the collectors. The major diets were coralline algae, molluscs and crustaceans. The ratios of these in foreguts depended on moult stage	Jernakoff, P., Phillips, B. F., and Fitzpatrick, J. J. (1993)
sWA	7 mile beach	limestone reef	*Panulirus cygnus*	juv.	Diet. Molluscs (high growth site) vs foliose coralline algae (low growth site) ; broad diet and high densities suggest a significant role of grazing and predation by this species in structuring habitat.	Joll, L. M. and Phillips, B. F. (1984)
sWA	***	review life-history w.r.t oceanic processes	*Panulirus cygnus*	puerulus	correlation of annual mean sea levels along the west Australian continental shelf with annual levels of recruitment to the lobster fishery suggest role of ENSO events	Pearce, A. F. and Phillips, B. F. (1988)
sWA	***	review life-history w.r.t oceanic processes	*Panulirus cygnus*	puerulus	Offshore larval transport affected by wind-driven circulation; return by the deeper oceanic circulation; level of puerulus settlement shows close correlation between adjacent sites but Sthn sites receive lower levels than farther north	Phillips, B. F. and Pearce, A. F. (1992)
sWA	Waterman ++ other sites	coastal reef platforms	*Haliotis-roei*	juv.-adult	short period of intense spawning in July and August, followed by low levels of spawning until December ; herbivorous, feeding on a variety of macroalgae present in the drift. Algae consumed varied seasonally and between platforms	Wells, F. E. and Keesing, J. K. (1989)

Region	Location	habitat type	taxa	stage	type of study or results	reference
Tas	D'Entrecasteaux Channel	*Durvillea, Lessonia, Macrocystis, Ecklonia, Sargassum,* red algae	*Notolabrus tetricus, N. fucicola, Pictilabrus laticlavius, Pseudolabrus psittaculus, Penicipelta vittiger, Meuschenia australis*	sub-ad.-adult	Tag-recapture and u/w observation showed that all spp were permanent reef residents (all except *M. australis* in <=100x25m), but sex changing wrasses site-attached and territorial males. Other wrasses not territorial. Open sand a natural boundary for MPAs	Barrett, N. S. (1995)
Tas	Maria Island, Tinderbox, Ninepin Pt, Governor Island	marine reserves vs reference reef sites	*Notolabrus, Penicipelta, Jasus, Heliocidaris, Haliotis* (71 fish, 24 echinoderm, 17 mollusc, 92 plant species)	***	densities of *Jasus*, urchins and the means size of wrasse, leatherjackets, abalone and *Jasus*, all increased within the reserves relative to outside, over the first year, however, a doubling in population numbers or >=10% increase in size needed for significance	Edgar, G.J. and Barrett N.S. (In Press)
Tas		crustose coralline algae	*Haliotis ruber*	new recruits	In lightly grazed areas, the animals ingested a layer 1-2 mu m thick, consisting of the algal cuticle and the bacterial biota (mostly Moraxella) indigenous on it. In heavily grazed areas, the cytoplasmic contents of the epithallium also ingested	Garland, C. D., Cooke, S. L., Grant, J. F., and McMeekin, T. A. (1985)
Tas	***	rocky reef	*Meuschenia-australis, M. freycineti, Acanthaluteres-spilomelanurus/Penicipelta- vittiger*	***	Diet. *A.spilomelanurus* and *P. vittiger* ate large amounts of algae, amphipods, bivalves and hydrozoans. Both *Meuschenia* ate macro- invertebrates such as sponges, echinoderms and larger molluscs.	Last, P. R. (1983)
Tas	Kent and Hogan groups in northern Bass Strait	rocky reef	*Haliotis rubra, H. laevigata*	adult	The blacklip stock was "stunted" by with < 16% of the biomass of the abalone vulnerable being above the current legal size ; greenlip stocks are less abundant but are not "stunted".	Prince, J., Sellers, T., Ford, W., and Talbot, S. (1987)
Tas	Storm Bay ++ other east coast sites	tidepool and subtidal rocky reef	*Heteroclinus perspicillatus, Heteroclinus sp.*	all post-settlement	little or no consistency of temporal patterns within or among years, but at all scales spatially concordant settlement. Various environmental correlates outlined inc. wind, chlorophyll	Thresher, R. E. (1992)
Tas	Storm Bay ++ other east coast sites	tidepool and subtidal rocky reef	*Heteroclinus perspicillatus, Heteroclinus sp.*	all post-settlement	pulses of settlement of a species of temperate reef fish were invariably preceded by brief, irregularly occurring peaks of phytoplankton production. The lag time was consistent with a "critical period" hypothesis	Thresher, R. E., Harris, G. P., Gunn, J. S., and Clementson, L. A. (1989b)

Region	Location	habitat type	taxa	stage	type of study or results	reference
temp	temperate Australasia	rocky reef/algal	review, herbivorous fish and urchins	***	fish and sea urchins exhibit distinct patterns of distribution among depth strata. Within depth strata, all herbivores are restricted to (sea urchins), or forage preferentially in (fish), particular habitat patches, causing a mosaic of different feeding activity	Jones, G. P. and Andrew, N. L. (1990)
Vic	Port Phillip Bay	sandstone ledge reefs and basalt boulders	*Coscinasterias calamaria*	adults	abalone are not often eaten unless mussel stocks are depleted and starfish are at high densities. This is most likely on offshore reefs where mussel recruitment is usually high (but can fail)	Day, R., Dowell, A., Sant, G., Klemke, J., and Shaw, C. (1995)
Vic	Port Phillip Bay	2-7 m basalt or ironstone ; *Ecklonia, Caulerpa, Laurencia, Sargassum, Cystophora, Ulva*	71 species, 36 families including *Notolabrus, Neoodax, Acanthaluteres*	new-recruits-adults	increased spp richness and abundances on reefs cf adjacent unvegetated. habitat. Wide variation amongst locations in community structure, may be related to macroalgal cover and topography. No recruitment of commercial spp observed, and minimal other recruitment	Jenkins, G. P., Watson, G. F., Hammond, L. S., Black, K. P., Wheatley, M. J., and Shaw, C. (1996)
Vic	Port Phillip Bay	<1 m basalt or ironstone ; *Ulva, Cladophora, Caulerpa, Codium, ; Cystophora, Caulocystis, Sargassum, Ecklonia; Heterosiphonia, Laurencia etc*	>=34 species from >=8 families including *Sillaginodes punctata, Aldrichetta forsteri, Neoodax, Haletta, Meuschenia, Acanthaluteres*	new-recruits-adults	when reef-algal and seagrass habitats both occur in shallow, high recruitment areas, the reef-algal habitat may be at least as important. Ontogenetic shifts from seagrass to reef/algal to bare sand for *Sillaginodes punctata.*	Jenkins, G. P., Watson, G. F., Hammond, L. S., Black, K. P., Wheatley, M. J., and Shaw, C. (1996)
Vic		*Ecklonia-radiata*	*Parma-victoriae, Monacanthids, Odax cyanomelas*	***	Experimental kelp clearances in shallow water; major increase in the feeding by leatherjackets and damselfish (established territories on cleared patches); large brown macro-algae affect distribution of herbivorous fish at a number of spatial scales.	Jones, G. P. (1992)
Vic	Port Phillip Bay -	"closed" area vs "open" to harvesting	effects of shoreline harvesting on molluscs	***	3 of the 4 collected species, *Cellana, Austrocochlea,* and *Nerita*, were significantly larger at the protected sites, and *Nerita* was markedly less abundant at heavily visited sites. Possible that *Turbo* populations are replenished from deeper water.	Keough, M. J., Quinn, G. P., and King, A. (1993)

Region	Location	habitat type	taxa	stage	type of study or results	reference
Vic	laboratory analysis of food value	macroalgae *Gigartina radula, Plocamium mertensii, Ecklonia radiata, Phyllospora comosa, Jenerettia lobata, Ulva lactuca, Macrocystis augustofolia*	*Haliotis-rubra*	adult	Toughness accounted for much of the variation (60%) in the feeding rate on the macroalgal diets; little evidence for chemical deterrence of herbivory for *H. rubra*, but suggest that food toughness is a primary factor in the feeding preferences of abalone	McShane, P. E., Gorfine, H. K., and Knuckey, I. A. (1994)
Vic	***	macroalgal reef	*Parma-victoriae*	adult	No correlation between territory size and abundance of algal food, body size, age or time spent on defence ; little variation in territory size over time, despite seasonal changes in food algae; inversely correlated with local densities of conspecifics	Norman, M. D. and Jones, G. P. (1984)
WA	Abrolhos Islands	sub-tropical	*Choerodon rubescens*	adult	sex change from female to male at 8-9+ yrs and longevity 13+. Eats mainly molluscs (especially whelks) and echinoderms (especially. urchins). Comprised 47% of trapcatch ahead of *Pagrus auratus* (11.7%) and Bodianus (?) (7.6%)	Walker, M. H. (1983)

Appendix 6: Summary of results of fisheries-habitat studies on continental shelves, by region, location, habitat type, fisheries taxa, life-history stage and source.

Ant = Antarctic Territories GoC = Gulf of Carpentaria, NQ= North Qld, SEQ = South East Qld, sWA = South-western WA, nWA = northern WA *** = not identified

Region	Location	habitat type	taxa	stage	type of study or results	reference
Ant	Antarctic-Ocean	review of 15 yrs demersal trawling by Russians	***	***	Species comp, distribution of bio-resources, bio-productivity and food chains have been found to be closely connected to the latitudinal vertical and circum-Antarctic patterns of the water structure to the south of the Antarctic convergence	Lubimova, T. (1985a)
Ant	Antarctic-Ocean	review of Russian trawl data	squids	***	Grouped as tropico-subtropical, notal and Antarctic. In view of the absence of beaks in sediments, 2 hypotheses are suggested: all squids migrate to the Antarctic in the summer or the abundance of the true meso- and bathypelagic squids is very low.	Lubimova, T. G. (1985b)
Ant.	South-Georgia	Antarctic shelf to 500m	*Champsocephalus gunnari*	juv.	juvenile icefish collected 82-146 mm. Catches highest in the west, south and south-east shelf areas and the greatest abundance was found in shallow waters of 100-200 m depth. A typical pattern of diurnal vertical migration of fish was observed	Boronin, V. A., Zakharov, G. P., and Shopov, V. P. (1987)
Ant.	Antarctic	pelagic	krill	***	the designation of regions and sub-regions based on the distribution of populations of Antarctic marine living resources. In order to select meaningful boundaries for such areas, first priority given to surface circulation of southern waters and krill	Chittleborough, R. G. (1988)
Ant.	Weddell Sea	demersal 99-1243m	*Trematomus, Dolloidraco, Prionodraco, Chionodraco*	juv.-adult	using u/w photographs of substratum and fish, and trawl data, was able to identify various relationships with sediment type, topographic complexity and epibenthic macrofauna and filter feeders	Gutt, J., and Ekau, W. (1996)
Ant.	Prydz Bay	Antarctic shelf	*Euphausia superba*	sub-adult	Maximum aggregation density was estimated to be 1530 g/m; total biomass 57,000 tonnes wet weight; mainly of very large sexually immature males,	Higginbottom, I. R. and Hosie, G. W. (1989)
Ant.	South-Georgia	pelagic, Antarctic shelf	*Champsocephalus-gunnari*	larvae	Distribution of fish larvae at South Georgia: Horizontal, vertical, and temporal distribution and early life-history relevant to monitoring year-class strength and recruitment	North, A. W. (1988)

Region	Location	habitat type	taxa	stage	type of study or results	reference
Ant.	Scotia-Sea	Antarctic shelf, pelagic	*Martialia hyadesi*	***	likely that exploitation of the sub-Antarctic ommastrephid species will be attempted in the future. This spp is an important component of the diet of several species of albatross and the southern elephant seal and probably other vertebrates	Rodhouse, P. G. (1991)
Ant.	South Georgia shelf	Antarctic demersal	*Champsocephalus-gunnari, Notothenia, Euphausia-superba*	***	concentrations for *Champsocephalus gunnari*, *Notothenia squamifrons* , and (to some extent) *N. rossii* off Kerguelen are determined. The distribution of about 60 species on the South Georgia shelf and the Scotia area is investigated.	Slosarczyk, W., Witek, Z., and Kalinowski, J. (1985)
Ant.	Antarctic and sub-Antarctic waters	review	***	***	The history, situation and prospects of fisheries; essentially 2 forms of living resource: fish species; and the Antarctic krill. Large invertebrates such as lobsters and shellfish do not occur in the area.	Williams, R. and Nicol, S. (1991)
east coast	Cape Grenville (>12S) to Vic/NSW border (>36S)	inshore bays and shelf, pelagic	21 families of teleost used as baitfish	***	Inventory of bait species, bait grounds and baitfish biology along most of the East coast. Emphasis on maps, local knowledge gleaned from multiple port meetings.	Glaister, J.P. and Diplock, J.H. (1993)
east coast	a warm-core eddy, the EAC, the Coral Sea and the Tasman Sea.	pelagic	***	***	Mesopelagic fishes and crustaceans inside a newly formed, warm-core eddy off eastern Australia were similar in composition and abundance of species to those from the more northerly Coral Sea and East Australian Current (EAC) source waters of the eddy	Griffiths, F. B. and Wadley, V. A. (1986)
GoC	south-eastern Gulf	demersal prawn trawl	demersal fish and cephalopods	***	Temporal changes in community composition resulted in large changes between different seasons in the structure of site groups derived by classification; temporal effects within seasons were also found.	Rainer, S. F. (1984)
GoC	grid pattern through entire Gulf of Carpentaria	various sediment types	79 spp of fish and sharks	juv.-adult	Diets of entire community; 23 of 40 most abundant predators were major piscivores ; ate mainly Pleuronectiformes, Leiognathidae, Anguilliformes.14 of the 17 minor piscivores ate mainly Brachyura, Penaeidae, Stomatopoda and other Crustacea). Seasonality.	Salini, J. P., Blaber, S. J. M., and Brewer, D. T. (1994)

Region	Location	habitat type	taxa	stage	type of study or results	reference
GoC	entire Gulf down to about 40m isobath	demersal prawn trawl grounds	9 spp of *Penaeus, Metapenaeus* in 4 commercial groups	adult	spatial dsn related to depth/and or sediment type. *P.merguiensis*<20m, no sediment. pref ; *P. esculentus, M.endeavouri*<35m, sand, muddy-sand ; *P. semisulcatus*>35m, mud, sandy-mud; *M.ensis* 35-45m, more than 60% mud. Also distinct regional patterns of abundance	Somers, I.F. (1994)
Indian ocean	Indian ocean	pelagic	*Thunnus maccoyii, T. alalunga, Katsuwonus pelamis*	larvae	*Thunnus maccoyii* and *T. alalunga* larvae moved into the surface layers during the day. *Katsuwonus pelamis* , however, moved into deeper water during the day. All species of tuna were more evenly dispersed in the mixed layer at night.	Davis, T. L. O., Jenkins, G. P., and Young, J. W. (1990a)
Indian ocean	Indian ocean	pelagic	*Thunnus maccoyii, T. alalunga, Katsuwonus pelamis*	larvae	index of patchiness was consistently high for all tuna species, ranging from 3.0 to 5.2 for T. maccoyii . There was no change in the index when tow distance was doubled to 1200 m, which suggests that the dominant patch size was somewhat larger than previously thought	Davis, T. L. O., Jenkins, G. P., and Young, J. W. (1990b)
NQ	Townsville	cross-shelf macrobenthic fauna	***	***	zoning of the epifaunal assemblages across the shelf. A diverse epifaunal component had survived cyclone damage to the time of sampling, although heavy siltation was apparent across the shelf with particular marked effects in the shallower stations	Birtles, A. (1986)
NQ	NW Coral Sea	pelagic	*Thunnus obesus, T. alalunga*	sub-ad.-adults	significance and dynamics of the 26 degree isotherm at 50m depth, whale sharks and bathymetry to surface handline fishery	Hasada, Koichi (1988)
NQ	Halifax, Cleveland, Bowling Green Bays	shallow (<40m) soft-bottom, pelagic	*Scomberomorus semifasciatus, S.queenslandicus, S. commerson*	larvae	*S.semifasciatus* feed almost exclusively on larval fish, and S.queenslandicus and *S.commerson* feed almost exclusively on larval fish and larvaceans. *S.queenslandicus* exhibit ontogenetic change; larvaceans decreasing; larval fish increasing in diet	Jenkins, G. P., Milward, N. E., and Hartwick, R. F. (1984)
NQ	Halifax, Cleveland, Bowling Green Bays	shallow (<40m) soft-bottom, pelagic	*Scomberomorus semifasciatus, S.queenslandicus, S. commerson*	larvae	*S.semifasciatus* restricted to coastal bays and the inner margin of the lagoon. *S.queenslandicus* in the coastal bays but extended over the lagoonal region as well. *S. commerson* occurred only in the lagoon. Related to spawning sites, longshore currents	Jenkins, G. P., Milward, N. E., and Hartwick, R. F. (1985)

Region	Location	habitat type	taxa	stage	type of study or results	reference
NQ	Lizard Island	pelagic ; GBR Lagoon; neuston, 0-6m, 6-13m, 13-20m	50 taxa in 24 families	larvae	Vertical dsn highly structured in day ; nearly unstructured at night; most taxa highest concentrations deep in day; day/night changes in pattern apparently were due to randomization or spread, rather than active migration	Leis, J. M. (1991b)
NQ	Lizard Island, Coral Sea	pelagic	*Chanos chanos*	larvae	concentration, abundance and size-frequency data deduced that spawning was in the Coral Sea or outer edge of shelf, apparently after adult spawning migration of >=50 km. Larvae moved inshore to at least midshelf, by use of currents and swimming	Leis, J. M. and Reader, S. E. (1991)
NQ	Great-Barrier-Reef	ribbon reefs	Istiophoridae	Preflexion larvae	spawning or hatching of blue/black marlin/sailfish eggs was concentrated in the area within 0.25 nautical mile seaward of the reef crest. Preflexion larvae of blue marlin and sailfish were essentially confined to the upper 6 m of the water column	Leis, J. M., Goldman, B., and Ueyanagi, S. (1987)
NQ	Coral Sea	tuna aggregation area	*Thunnus-albacares, Thunnus-obesus*	sub-ad.-adult	The yellowfin and the bigeye taken from the tuna aggregations fed almost exclusively on a single species of deepwater lanternfish (*Diaphus* sp.), not sampled in catches from the other 2 areas.	McPherson, G. R. (1991)
NQ	Great Barrier Reef Lagoon	pelagic <40m	38 families of fish ; and lologinid squids	late-stage larvae, juvs	Size-frequencies indicated that the light traps sampled late-stage larvae and pelagic juveniles exclusively; Coefficients of variation among replicate traps were taxon-specific, ranging from 0.9 (for clupeids) to 0.2-0.1 (for pomacentrids).	Thorrold, S. R. (1992)
NQ	GBR Lagoon ; cross-shelf off Townsville	8-40m pelagic	*Scomberomorus semifasciatus, S. commerson/queenslandicus, Cybiosarda-elegans, Euthynnus-affinis, Thunnus sp, Rastrelliger sp*	large post-larvae and small juvs	Innovative technique to catch previously unseen life-stages. A patch of *Scomberomorus, Thunnus* coherent over >= 1 km. All scombrids relatively abundant at station 16-24 km from the coast; corresponded to position of a coastal boundary layer in the area.	Thorrold, S. R. (1993)
NQ	Townsville cross-shelf transect	GBR Lagoon and inter-reef,	***	***	composition affected more by location of sample sites than by time. Ordination differentiated "nearshore", "midshelf" and "inter-reef" groups "wet" and "dry" season groupings; "wet" with higher abundances of several "nearshore" spp. No effect of reef proximity	Watson, R. A., Dredge, M. L. C., and Mayer, D. G. (1990)

Region	Location	habitat type	taxa	stage	type of study or results	reference
NQ	Townsville cross-shelf transect	mid-shelf reef to outer shelf	zooplankton, ichthyoplankton	***	distribution of total dry weight of zooplankton, copepod numbers and ichthyoplankton across the outer continental shelf in the central Great Barrier Reef was examined.	Williams, D. McB., Dixon, P., and English, S. (1988)
NSW	Sydney-Port Stephens	demersal trawl	*Helicolenus papillosis; Squalus megalops; Squatina australis; Rexea solandri*	***	assess the quantity of fish on the deepwater trawling grounds off the Sydney-Port Stephens area,	Anon. (1977)
NSW	Tasman-Sea	warm core eddy ; midwater to 500m	88% of 26 taxa were in family Myctophidae	***	night structure within eddy distinct from surrounding water masses; most distributions correlated with thermal structure; eddy spp (n = 5), outside eddy/cold-water spp (n = 5), warm-water spp (n = 1), cold-water spp (n = 8) and widespread spp (n = 7)	Brandt, S. B. (1981)
NSW	Sydney	Artif FADS vs controls	***	larvae-pre-settlement	great numbers that were present in low abundance in open water included pelagic, reef and estuarine-associated fish as follows: juvenile carangids, sphyraenids, mullids, mugilids and larval ambassids, sillaginids, sparids and gerreids.	Druce, B. E. and Kingsford, M. J. (1995)
NSW	off Sydney	(20 to 30 m) over the 30, 70 and 100m isobaths across each transect;	***	larvae	Horizontal trends in the distributions of the abundant taxa were evident in the inshore-offshore direction, but not longshore ; Gobiidae, Labridae, Sillaginidae, Sparidae, Ambassidae, Clupeidae and Clinidae/Tripterygiidae were most abundant inshore	Gray, C. A. (1993)
NSW	North Head, Bondi and Potter Point	sewage plume, plume front, adjacent clear, shelf water	49 families, including sparids, sciaenids, sillaginids, girellids, mugilids, carangids	pre- and post-flexion larvae	sewage plumes form a turbid, 1-5 m deep lens of lowered salinity overlying clear, shelf waters. Many fish were concentrated in plume fronts and advection or active attraction influences dsn of fish at scales <1km. ; may prolong exposure to pollutants	Gray, C. A. (1996)
NSW	Long Reef, Port Hacking	30m vs 60m vs 100m	75 demersal trawl species	juv.-adult	assemblages at 30 and 60 m were most similar to each other ; they consistently differed from those at 100 m depth ; may reflect a change in the demersal ichthyofauna from nearshore to offshore assemblage. Longshore diffs due to substrata?	Gray, C. A. and Otway, N. M. (1994)

Region	Location	habitat type	taxa	stage	type of study or results	reference
NSW	3 cliff-face sewage outfalls, 3 control sites ; between Long Reef- Marley	25-30m pelagic, net tows at surface and 20m	127 taxa	larvae	plumes vs control correlations were swamped by the spatial heterogeneity in dsn and relative. abundance of larvae. Striking vertical differences and amongst autumn, spring and summer periods. These diffs consistent amongst plume/control. Least catches in December	Gray, C. A., Otway, N. M., Laurenson, F. A., Miskiewicz, A. G., and Pethebridge, R. L. (1992)
NSW	Botany Bay	pelagic (dynamic estuarine plumes intruding 11km out across shelf)	zooplankton, 29 families of reef, pelagic, estuarine and benthic fishes	larvae	Major differences (some conservative) found over 400-800m of water encompassing plume, front, ocean. Sillaginids, gobiids, gerreids, sparids most abundant in plumes. Fronts may act to retain, or plumes act as cues to larvae of estuarine spp.	Kingsford, M. J. and Suthers, I. M. (1994)
NSW	Sydney, Long Reef-Port Hacking	soft-bottom, 60m	49 fish species	sub-ad.-adult	Trawl survey and dietary study to assess changes in trophic groups in BACI design around sewage outfalls. At least 5 hypotheses can be proposed to explain rise in 1 trophic group (crust., fish, echinoderms., polychaetes) of mainly triglids, urolophids	Otway, N. M., Sullings, D. J., and Lenehan, N. W. (1995b)
NSW	entire coast	inland, estuarine, coastal, demersal, pelagic	teleosts, elasmobranchs, molluscs, crustaceans	juv.-adult	Compilation, collation, review and synthesis of all reported production data in the period 1940-1992 and discussion of trends	Pease, B. C. and Grinberg, A. (1995)
NSW	entire coast	***	all fisheries	***	Fisheries effort and production figures for 1991/92	Pease, B. C. and Scribner, E. A. (1994)
NSW	Botany Bay	pelagic (dynamic estuarine plumes intruding 11km out across shelf)	Blenniidae, Kyphosidae, Monodactylidae, Pomacentridae, Gerreidae, Mugilidae, Mullidae, Sparidae	larvae	nutritional significance of larval feeding in estuarine plume fronts is often taxon specific and responded variably to 1) estuarine plume vs 2) front vs 3) shelf water. Used GFI and prey id. ; mugilids and kyphosid feeding selectivity for harpacticoids	Rissik, D. and Suthers, I.M. (In Press)
NSW	SE Fishery	demersal trawl, shelf	*Rexea-solandri*	***	very fecund; possible that strong recruitment may result from relatively small spawning biomass, given suitable environmental conditions. However such conditions would need to be sustained over a period of years to bring about any substantial recovery	Rowling, K. R. (1992)
NSW	Tasman Sea	pelagic	*Rexea solandri*	pre-recruits	No consistent relationship between ENSO and gemfish recruitment, but 2 peaks in the early 1970's and 1980's match peak periods in the number of days of strong zonal west winds. Mechanism unknown and may be no cause-effect at all. Winds have 11yr cycle.	Thresher, R. E. (1994a)

Region	Location	habitat type	taxa	stage	type of study or results	reference
NT	NT tiger prawn grounds	trawl grounds	*Scylla-serrata*	adults	migrating adults caught 10 - 60 m depth (mean 28.5 m), 3 to 95 km offshore (mean 17.9 km). Mostly (87 %) in Oct-Nov; migration allows dispersal of megalopa stage to recruit to habitats distant from those of the parents	Hill, B. J. (1994)
NT	Timor-Arafura seas, Gulf of Carpentaria	<20m - >200m	364 species from 104 families	juv.-adult	Cross-shelf, regional scale demersal and pelagic fish trawling inventory with biological synopses provide a baseline dataset in CSIRONET on relative abundance and size by depth and region. A variety of ecosystem level questions are proposed	Okera, W. and Gunn, J. S. (1986)
NT	Joseph Bonaparte Gulf 128E - western Gulf of Carpentaria 138E	20-50m on prawn trawl grounds	73 families of fish, 11 families of elasmobranchs, 4 fam. of crustaceans, 6 fam.of molluscs	juv.-adult	218 taxa in 73 families of fish dominated by-catch (75-92 % weight of bycatch); 2612 t of sharks and rays ; crustaceans excluding commercial prawns (1060 t); molluscs (1166 t); echinoderms (660 t); other invertebrates (483 t); reptiles (144 t)	Pender, P. J., Willing, R. S. and Ramm, D. C.(1993b)
NT	Joseph Bonaparte Gulf 128E - western Gulf of Carpentaria 138E	18-76m on prawn trawl grounds	selected 115 taxa of teleost	juv.-adult	Large-scale patterns of abundance of fish bycatch in prawn trawls; distinct 1) western and 2) eastern groups separated at 132E, and shallow (<30m) and deep (>30m) groups within these. Other conclusions from previous studies dependent on scale of sampling	Ramm, D. C., Pender, P. J., Willing, R. S., and Buckworth, R. C. (1990)
NT	114-142 deg longtd ; North West Shelf to Cp York	mixed seabed type, 50-90m,	24 commercial catch categories, >= 69 spp of fish, squid and cuttlefish	juv.-adult	Desktop assessment of size and extent of groundfish resources in the Nthn sector of AFZ using observer and logbook data from foreign trawlers. Lethrinidae, Lutjanidae, Nemipteridae, Centrolophidae (Psenopsis only), Synodontidae, Trichiuridae predominated	Ramm, D.C. (1994)
NT	Arafura, Timor Seas, Gulf of Carpentaria	shelf pelagic, neritic	17 spp from Triakidae, Hemigaleidae and Carcharhinidae	***	distribution, size composition, sex ratio, reproductive biology and diet. 3 groups based on reproduction. Notably small demersal spp reproduced continuously through year; Diets were omnivorous to highly selective. Fish was an important component in all but 1spp	Stevens, J. D. and McLoughlin, K. J. (1991)
nWA	North West Slope	***	Caridae	***	Recent research (Rainer 1992) suggests that the diets of some North West Slope (NWS) prawns, which are trawled by demersal gear, indicate that prawns not only migrate into midwater at night, but also feed there.	Rainer, S. (1994)

Region	Location	habitat type	taxa	stage	type of study or results	reference
nWA	NW Slope	315-485 m	carids and penaeids	***	penaeids *Aristeus virilis, Haliporoides sibogae* and *Plesiopenaeus edwardsianus* ate benthic/demersal prey; penaeid *Aristaeomorpha foliacea* and the carid *Heterocarpus sibogae* ate both midwater and demersal animals; *H. woodmasoni* ate mainly midwater animals.	Rainer, S. F. (1992)
nWA	North West Shelf and NT	demersal trawl	***	***	Tropical demersal fisheries have 3 pronounced attributes which lead to difficulty in their biological management; (1) a large number of species are exploited, (2) there are biological interactions between species and (3) fishing mortality is unequal	Sainsbury, K. J. (1982)
nWA	North West Shelf	demersal trawl	Lethrinidae, Nemipteridae, Lutjanidae, Synodontidae, Serranidae	***	continental shelf of north-western Australia has been exploited since 1959. The history of exploitation is summarised, and concurrent changes in fish community are inferred from data collected during research surveys.	Sainsbury, K. J. (1987)
nWA	North West Shelf	40m and 80m, epibenthic	357 taxa of epibenthic crustaceans, including 308 decapods	***	highly diverse fauna of epibenthic decapod crustaceans; only 35% of the most common spp differed in abundance between depths. The abundances of 30% of these common spp related to particle size of sediment or to the biomass of macrofauna.	Ward, T. J. and Rainer, S. F. (1988)
nWA	eastern Indian Ocean	pelagic	*Thunnus-maccoyii, T.alalunga, Katsuwonus-pelamis*	***	Copepod nauplii, calanoids, cyclopoids and cladocerans main prey of SBT/yellowfin. Skipjack ate appendicularians, fish larvae. Indexes of feeding success of SBT positively correlated with prey biomass suggests food was limited	Young, J. W. and Davis, T. L. O. (1990)
nWA	North West Shelf	cross-shelf transect, stepped oblique tows down to 100m	104 taxa	fish larvae	Distributional patterns. pooled larvae least at shelf break; denser towards both shore and ocean; other patterns due to sampling gear, depth of sampling site and time of year of sampling.	Young, P. C., Leis, J. M., and Hausfeld, H. F. (1986)
NZ	***	Surface drift algae *Carpophyllum, Sargassum*	***	pre-post-flexion and pre-settlement fish	some Monacanthidae, Arripidae, Emmelichthyidae, Syngnathidae, Clinidae, Tripterygiidae more abundant around drift algae than in open water Although some fish associated with algae were preflexion forms, most were postflexion or juvenile forms	Kingsford, M. J. (1992a)

Region	Location	habitat type	taxa	stage	type of study or results	reference
NZ	north-eastern coast	neuston	***	neustonic larvae	tripterygiids (*Forsterygion* spp.), an engraulid (*Engraulis australis*) and a clupeoid (*Sardinops neopilchardus*) accounted for 80% of the total catch. Most neustonic larvae caught at stations 3.2 or 6.0 km offshore	Tricklebank, K. A., Jacoby, C. A., and Montgomery, J. C. (1992)
review	review	estuarine, shelf, deep sea	review of life-history implications with examples	***	The lack of sufficient basic knowledge of the biology of most species, especially in the tropics and deep sea; decline of support for basic research are an important constraint to the development of reliable models of divisions between habitats	Blaber, S. J. M. (1991)
review	world-wide dsn of species	pelagic	*Thunnus-maccoyi*	all	classification; early life-history; trophic relationships; aging and growth of juveniles and adults; maturation and spawning; stock structure, distribution and migration; natural mortality; the southern bluefin tuna fisheries;	Caton, A. (1991)
review	review	pelagic drifting structures and oceanographic features	73 families of fish	preflexion to juvs	importance of biotic structures of a wide size range (eg. , marine snow, jellyfish, drift algae) and interactions between biotic and abiotic (oceanographic features) structures in the pelagic environment are discussed.	Kingsford, M. J. (1993)
review	review	convergence zones, internal waves, Langmuir circulations, fronts	***	eggs, larvae and pre-settlement stages	a surprising number of oceanographic processes manifest themselves as lines at the ocean surface; aggregation, retention, onshore and offshore movement, concentration of food, interactions with other plankters. Slicks and research utility are described	Kingsford, M.J. (1990)
review	Antarctic- Ocean	***	***	***	19 species have been recorded in FAO statistics, most species belonging into the sub-Channichthyidae ("Icefish"). A short description of the life cycle of 18 of these species is given. population dynamics and stock assessment, are summarised	Kock, K.-H., Duhamel, G., and Hureau, J.-C. (1985)
review	review	pelagic	fish	larvae	Future research should aim to 1) collect larval feeding data on more species and 2) examine further the relationship between feeding ecology, recruitment success and seasonal and interannual variations in plankton production.	Young, J. W. (1992)
SA	Great Aust Bight	pelagic, shelf	*Thunnus maccoyii*	juv.	Innovation in use of GIS, acoustics, archival tags, aerial surveys, LIDAR to assess juvenile abundance and recruitment	Anon. (1995l)

Region	Location	habitat type	taxa	stage	type of study or results	reference
SA	lower Spencer Gulf	frontal zone	42 taxa including *Sillaginodes punctata, Sillago schomburgkii, S. bassensis*, a sparid and a hemirhamphid	larvae	pronounced discontinuity in larval distribution is apparent across the frontal zone of Spencer Gulf, consistent with a reduction in gulf-shelf exchange. Both larval diversity and concentration peak within the frontal zone. no productivity measures	Bruce, B. D. and Short, D. A. (1992)
SA	Great Australian Bight	demersal	*Nelusetta ayraudi*	juv.-adult	Review of fisheries biology. eggs spawned during late Apr appeared the following Dec as 7mth old 96.5mm juveniles in bays - then emigrated offshore in autumn.	Grove-Jones, R. P. and Burnell, A. F. (1991)
SA	Great Aust. Bight, 2 Gulfs - Kangaroo Island	Lower Gulfs and Shelf pelagic	*Sardinops neopilchardus*	eggs, larvae, GSI	pilchards most common <= 100m. GSI (Mar-Apr), larval abundance (Mar-May) and egg abundance all indicate spawning in Feb-May with peak in Apr-May and at eastern head of GAB. Daily-Egg-Production-Method should be aimed there first	Hoedt, F. and Jones, G. K. (In Press)
SA	Great Aust. Bight, 2 Gulfs - Kangaroo Island	Pelagic,	*Sardinops neopilchardus*	eggs and schools	A suite of upwelling cells identified and related to dsn of eggs and acoustic records of pilchard schools. Pilchards may have been attracted to feed/spawn in these areas, and intra-annual shifts in spawning caused by intrusion of cooler water over shelf	Hoedt, F. E., Jones, G. K., Jackson, G., and Dimmlich, W. F. (In Press)
SA	South East region	deepwater canyons, demersal, 200-800m	*Hyperoglyphe antarctica* (++ 14 other taxa)	sub-ad.-adult	Survey. April highest CPUE occurred in 400-700m and coincided with spawning and upwelling of nutrients from deeper waters. Ate mostly pelagic tunicates *Pyrosoma*	Jones, G. K. (1985)
SA	Great-Australian-Bight	demersal trawl		***	assess the distribution of commercial and potentially commercial fish species across the GAB slope and to determine the extent of trawlable ground on the slope. Additional objectives were to investigate the biology of the major commercial species	Newton, G. and Klaer, N. (1991)
SA	Great Australian Bight; Cp Pasley 123E- Kangaroo Island 137E	pelagic 40-300m	*Scomber australasicus, Trachurus declivis, Sardinops neopilchardus,*	sub-ad.-adults	Cross-shelf and longshore pelagic trawling and studies of diet, dsn by depth and age of major pelagic planktivores. Euphausids, mysids, copepods major prey	Stevens, J. D., Hausfeld, H. F., and Davenport, S. R. (1984)
sWA	off Albany	Leeuwin Current	*Sardinops-sagax-neopilchardus*	eggs	variation in the location of the different pilchard stages consistent with eastwards transport rate of 0.5 to 1.0 knots. vs December, when the Leeuwin Current weak no evidence of unidirectional transport	Fletcher, W. J., Tregonning, R. J., and Sant, G. J. (1994)

Region	Location	habitat type	taxa	stage	type of study or results	reference
sWA	31.58S-32.28S; lower west Coast	shelf (5-15m)	*Sillago burrus, S. vittata*	juv.-ad.	age, growth, reproduction; both spp use shallows <=1.5 m as nursery but *S.burrus* leaves at 60mm by 3mo old and *S. vittata* leaves after a year and 90mm long	Hyndes, Potter and Hesp(in press)
Tas	***	pelagic midwater and surface drift objects	*Hyperoglyphe antarctica*	juv.	Centrolophids (trevalla, warehous) complex life-histories; undergo dramatic shape changes during their growth -- juveniles are generally paler, have a more evenly rounded forehead and a relatively smaller eye ; appears to move to deeper water after >= 460 mm LCF	Baelde, P. and Last, P. (1993)
Tas	shelf off eastern Tasmania	upper continental slope (420 to 550 m)	15 spp including *Brama, Lepidopus, Macruronus, Genypterus*	sub-ad.-adults	four trophic categories: pelagic piscivores, epibenthic piscivores, epibenthic invertebrate feeders; benthopelagic omnivores. Pelagic piscivores eat myctophid *Lampanyctodes*; their diet is narrow, with large overlap between spp	Blaber, S. J. M. and Bulman, C. M. (1987)
Tas	Sub-tropical convergence	pelagic	review	***	Tas. lies on the STC and surrounding waters therefore very sensitive to interannual changes in the position of the STC. plankton biomass, the timing of the spring bloom, the structure of the food chain, and the recruitment of commercial fisheries correlated	Harris, G. P. (1987)
Tas	eastern coastal shelf	nr Sub-tropical Convergence	***	***	(1945-85) observations at Maria Island showed strong interannual variability in SST; spring bloom often extended by as much as three months in some years. links between climate and the fisheries.	Harris, G. P., Davies, P., Nunez, M., and Meyers, G. (1988)
Tas	eastern coastal shelf	Sub-Antarctic water, Sub-Tropical convergence, EAC	*Trachurus declivis*	adult	High ZWW stress causes advection of colder, nutrient-rich SAW up the eastern side of Tas. and reduces water column stability; result is periodic overturn of the water column and increased new production. Spring blooms tend to be later but stronger	Harris, G. P., Griffiths, F. B., and Clementson, L. A. (1992)
Tas	Storm Bay	2.5deg C rise in water temp due to influence of EAC	***	***	Pulses of algal growth in Storm Bay (measured as chlorophyll) followed peaks in the 40 day wind oscillation and resulted from the resuspension of nutrients regenerated by decomposition in bottom waters	Harris, G. P., Griffiths, F. B., Clementson, L. A., Lyne, V., and van-der- Doe, H. (1991)

Region	Location	habitat type	taxa	stage	type of study or results	reference
Tas	St Helens - Eaglehawk Neck	pelagic; cross-shelf	*Trachurus declivis*	eggs, larvae, adults	impact of oceanographic variability on spawning adults and early life-history stages; considering which factors may have influenced interannual variability in egg and larval abundance.	Jordan, A. J. (1992)
Tas	St Helens - Eaglehawk Neck	pelagic; cross-shelf, 0-50m, 70-100m, 150m	*Trachurus declivis*	eggs, larvae	spawns on entire east coast shelf break in summer. La Nina did not affect location or timing of spawning, but may have advected eggs inshore (via EAC), and caused reduced egg production later by lean adults. No evidence of inshore movement for recruitment	Jordan, A., Pullen, G., Marshall, J., and Williams, H. (1995)
Tas	Maatsuyker ridge	seamounts	***	***	recent major seabed mapping project off Tasmania, combined with the discovery of 4 new fish species in the deepwater coral habitat	Koslow, A. and Exon, N. (1995)
Tas	GAB-SE Aust	mid-slope (800-1200 m) demersal	37 families and 111 species	***	biogeographic patterns, consistent with oceanic circulation at intermediate depths is evidence against the recent hypothesis that deepwater fish communities cannot be defined over broad areas and are only random assemblages. Offshore/downslope energy inputs?	Koslow, J. A., Bulman, C. M., and Lyle, J. M. (1994)
Tas	SE Fishery	pelagic, longline grounds	Bramidae	***	A guide to the identification of 8 species of pomfrets that are likely to form the basis of a fledgling fishery off southern Australia	Last, P. and Baron, M. (1994)
Tas	east of Maria-I	surface to the bottom (500 m); demersal and pelagic	54 families; 115 spp ; Myctophidae, Squalidae, Sternoptychidae contributed 25%	juv.-adult	Benthic biomass was relatively low and stable, but derived from many species. Pelagic biomass was high, fluctuated widely and was composed of a few species. Biomass was highest in summer	May, J. L. and Blaber, S. J. M. (1989)
Tas	west coast	***	*Macruronus-novaezelandiae*	larvae	differed consistently in mean size and age between sites; consistent with the hypothesis that larvae are being passively advected by longshore currents from a spawning area on the west coast to habitats along the southeastern and eastern coasts.	Thresher, R. E., Bruce, B. D., Furlani, D. M., and Gunn, J. S. (1989a)
Tas	eastern Tasmanian shelf	pelagic longlining grounds	*Thunnus-maccoyii*	sub-ad.-adult	1) need to determine which of 4 hypotheses explain recent influx of young fish (3-4yr) 2) better understanding of SBT relationship with oceanographic features and events should lead to greater fishing efficiencies	Young, J. and Lyne, V. (1993)

Region	Location	habitat type	taxa	stage	type of study or results	reference
Tas	eastern Tasmania	continental slope waters	*Maurolicus muelleri, Lampanyctodes hectoris and Diaphus danae*	***	*M. muelleri,L. hectoris*, *D. danae* ate euphausiids and secondarily on copepods, although larger *D. danae* fed on other lanternfish. synchronisation of size structure of predator populations and feeding intensity, with seasonal variations in prey	Young, J. W. and Blaber, S. J. M. (1986)
Tas	Maria Island	pelagic	*Nyctiphanes australis, Trachurus declivis*	juv-adult	Survey of krill abundance, jack mackerel stomach contents and hydrology ; absence of krill in 1989 and subsequent failure of the jack mackerel fishery in that year ; influx of subtropical Nthn waters low in nutrients onto the shelf in La Nina event	Young, J. W., Jordan, A. R., Bobbi, C., Johannes, R. E., Haskard, K., and Pullen, G. (1993)
Tas	148-152E; East Aust Current vs Sub-tropical Convergence vs Sub-Antarctic water mass	surface-400m, pelagic	107 taxa from 43 families of midwater fish	post-larvae-adults	The STC is not an area of increased micronekton abundance; does not contain a distinct community during autumn/winter. EAC community. was sign. diff from that of SAW, but not from STC. Thin EAC layer <200m can be distinguished from SAW. Depth important	Young, J. W., Lamb, T. D., and Bradford, R. W. (1996)
temp	Great Australian Bight - Tasman Sea	pelagic	*Jasus edwardsii*	phyllosoma	Research proposal. Emphasises fishery managed as 7 functionally independent. units, yet obvious regional differences in egg production and oceanographic forcing. Proposal to synthesise existing data and hindcast ocean climate to define testable questions, gaps	Bruce, B., Griffin, D., Young, J., and Kennedy, R. B. (1995b unpubl. Research proposal)
temp	Victoria, Tasmania	three areas of the upper continental slope (420-550 m)	*Macruronus-novaezelandiae*	sub-ad.-adults	diel vertical migrations similar to those of its prey to within 50 m of the surface at night -- almost entirely of mesopelagic fauna. The major prey are myctophid fish *Lampanyctodes hectoris* , other fishes, natant decapods, euphausiids and squid.	Bulman, C. M. and Blaber, S. J. M. (1986)
temp	Victoria, Tasmania		*Hoplostethus-atlanticus*	juv.-adult	Juvs. fed on bentho- and meso-pelagic crustaceans, while mature fish consumed predominantly. fish and squid; diet changed significantly with depth, geographical area, and year. Metabolism and body comp. is similar to that of active, migratory mesopelagic fishes	Bulman, C. M. and Koslow, J. A. (1992)
temp	Great Aust. Bight	demersal trawl >400m	***	***	exploratory trawl	Colgan, K., Grieve, C., and Newton, G. (1994)

Region	Location	habitat type	taxa	stage	type of study or results	reference
temp	entire Aust range of pilchard	pelagic	*Sardinops neopilchardus*	***	genetic criteria were used to identify 4 contiguous, quasi-independent pilchard sub-populations. Complex patterns of segregation are evident and homing to different spawning areas cannot be discounted on existing evidence	Dixon, P. I., Worland, L. J., and Chan, B. H. Y. (undated) FRDC#89/25
temp	review	mid-slope community.	*Hoplostethus atlanticus, Oreosomatidae*	***	By trophic modelling, shown that sedimentation from the surface would provide very little of the energetic requirements of this community.; likely that there is a significant lateral flux of energy into the mid-slope community.	Koslow, J. A. (1994)
temp	review of information	mid-slope	*Hoplostethus atlanticus*	***	distributed over the mid-continental slope waters of southern Australia, the Tasman Rise and Cascade Plateau. Size compositions tend to be bimodal with a major mode of fish measuring about 40 cm (caudal fork length) and a minor mode between about 21-29	Lyle, J. M., Evans, K. R., and Wilson, M. A. (1989)
temp	*South-Eastern Aust.*	surface waters, shelf	Nototodarus-gouldi	***	biology of Gould's squid off south-eastern Australia	O'Sullivan, D. (1980)
temp	Southeast (NSW, Vic, Tas)	demersal trawl	*Nemadactylus macropterus, Platycephalus richardsoni, Centroberyx affinis, Sillago bassensis*	sub-ad-adult	(SET) is the largest established demersal fishery in Australia. More than 80 species have been recorded from it, but 9 contributed about 80% by weight ; major inshore species are jackass morwong, tiger flathead, redfish and school whiting.	Smith, D. (1991)
temp	South East shelf	SE Trawl	80 species with 19 comprising 92% of catch	***	Need (a) basic biology, biomass and distribution of major species at least; (b) assessments of sustainable yields; (c) catch, effort, and target-bycatch ratios. Progress on these is reviewed	Tilzey, R. D. J. and Klaer, N. L. (1991)
temp	South East shelf	SE Trawl	*Neoplatycephalus-richardsoni, Sillago-bassensis flindersi, Nemadactylus-macropterus, Rexea-solandri, Centroberyx-affinis, Macruronus-novaezelandiae, Hoplostethus-atlanticus*	***	A review is presented of the distributions of the major commercial fish species involved in the Australian South East trawl fishery; catch/effort was used as an indication of comparative abundance.	Tilzey, R. D. J., Zann-Schuster, M., Klaer, N. L., and Williams, M. J. (1990)

Region	Location	habitat type	taxa	stage	type of study or results	reference
Vic	Victoria	demersal and pelagic	52 fish spp	***	Arrow squid most widely consumed, being found in the diets of eight species and over the whole geographical range; Cephalopods (octopus very imp.), gastropods and bivalves were found in the diets of 21, 6, 5 spp respectively	Coleman, N. (1984)
Vic	Bass Strait and Western Port nr Phillip Island	inshore bay and shelf to 10km offshore	*Engraulis australis, Sardinops neopilchardus*	eggs, larvae	Survey of spatial and temporal dsn and abundance. Anchovy eggs and spawning adults varied greatly between years (adults shift) and both spp had considerable spatial variability in Bass Strait. Bay entrance especially important spawning ground	Hoedt, F. E. and Dimmlich, W. F. (1995)
Vic	eastern Bass Strait	SE demersal trawl	*Sillago bassensis, Platycephalus richardsoni, Nemadactylus macropterus*	***	maximum sustainable yields are presented for school whiting (Sillago bassensis), tiger flathead (Platycephalus richardsoni) and jackass morwong (Nemadactylus macropterus). Only the tiger flathead is found to be at any risk of over-exploitation	Wankowski, J. W. J. (1987)
Vic	eastern Bass Strait	SE demersal trawl	37 taxa	***	Of the 37 species, 20 had high potential catch rates; of the 20, there were no substantial commercial landings. Seasonal variation in biomass and standing stock was large, both within the area as a whole and between depth zones.	Wankowski, J. W. J. and Moulton, P. L. (1986)
WA	entire austral range of species	pelagic	*Sardinops neopilchardus*	adults	review of knowledge on history of exploitation and fisheries biology until 1990	Fletcher, W. J. (1991)
WA	Great Australian Bight	30-240m	*Nelusetta ayraudi*	juv.-adult	Juveniles 6-10cm found in midwater school in 74m. Fish size increased with depth. Diet; fish, salps, gastropods, crustaceans, algae.	Lindholm, R. (1984)