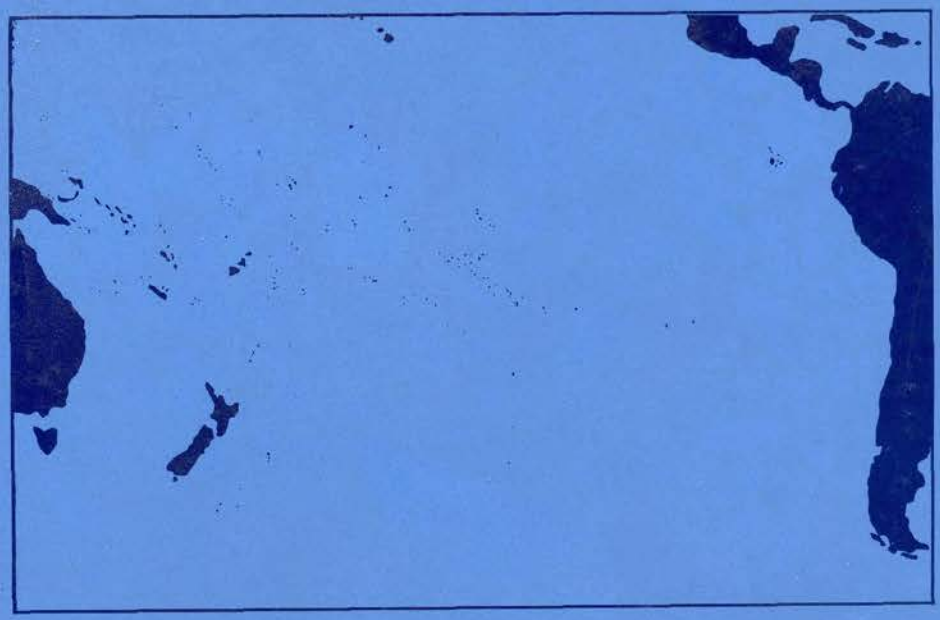
UNITED NATIONS ENVIRONMENT PROGRAMME

REGIONAL SEAS

directories and bibliographies

marine environmental centres:



SOUTH PACIFIC

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS

UNITED NATIONS ENVIRONMENT PROGRAMME

REGIONAL SEAS

directories and bibliographies

marine environmental centres:

SOUTH PACIFIC

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS
Rome 1985

NOTE

This document is not an offical publication but a compilation of information on environmental institutions in the South Pacific region. The designations employed and the presentation of the material in this publication do not imply the expression of any opinion whatever on the part of the Secretariat of UNEP or of CCA concerning the legal status of any state, territory, city as area, or of its authorities, or concerning the delimitations of their frontiers or boundaries.

For bibliographic proposes this document should be cited as follows :

UNEP/FAO: Directory of marine environmental centres in South Pacific. UNEP
1985 Regional Seas Directories and Bibliographies. Rome, FAO, 147 p.

CORRIGENDUM

Due to an oversight, serious errors and omissions occurred during the printing of this Directory. Therefore, the following text should replace the text which appeared on page ii and iii of the original publication.

NOTE: This document is not an official publication but a compilation of information prepared under projects FP/5102-82-14 and FP/5102-84-06 on environmental institutions in the South Pacific region. The designations employed and the presentation of the material in this publication do not imply the expression of any opinion whatsoever on the part of the Secretariats of the United Nations Environment Programme (UNEP), the South Pacific Regional Environment Programme (SPREP) or the Food and Agriculture Organization of the United Nations (FAO) concerning the legal status of any State, territory, city or area, or of its authorities, or concerning the delimitations of their frontiers or bounderies.

For bibliographic purposes this document should be cited as follows:

SPREP/UNEP/FAO: Directory of marine environmental centres in South Pacific. UNEP Regional Seas Directories and Bibliographies. FAO, Rome, 1985, 147 p.

PREFACE

The Regional Seas Programme was initiated by UNEP in 1974. Since then the Governing Council of UNEP has repeatedly endorsed a regional approach to the control of marine pollution and the management of marine and coastal resources and has requested the development of regional action plans.

The Regional Seas Programme at present includes eleven regions* and has over 120 coastal States participating in it. Each regional action plan is formulated according to the needs of the region as perceived by the Governments concerned, and is designed to link assessment of the quality of the marine environment, and of the causes of its deterioration, with activities for the management and development of the marine and coastal environment. The action plans promote the parallel development of regional legal agreements and of action-oriented programme activities**.

This publication is a contribution to the UNEP sponsored regional Action Plan for managing the natural resources and environment of the South Pacific region adopted at the Conference on the Human Environment in the South Pacific (Raratonga, 8-11 March 1982)***.

This Directory, compiled under the auspices of the UNEP financed project (FP/5102-84-06), is a product of the Aquatic Sciences and Fisheries Information System (ASFIS) coordinated by the Food and Agriculture Organization of the United Nations (FAO). FAO circulated questionnaires to marine environment institutes in the States participating in Action Plan for managing the natural resources and environment of the South Pacific Region, collated the replies received and entered them into the Institutions Register of ASFIS, which had been modified to conform with Regional Seas needs.

The secretariats of UNEP and FAO apologize in advance for possible errors and omissions in the publication and do not claim that the directory includes all the relevant marine environmental centres of the South Pacific region. All comments on the present document, as well as suggestions for its expansion, should be addressed to:

The UNEP/FAO Project Coordinator
(Directories and Bibliographies)
Fisheries Department, FAO
Via delle Terme di Caracalla
00100 Roma (Italia)

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* Mediterranean Region, Kuwait Action Plan Region, West and Central African Region, Wider Caribbean Region, East Asian Seas Region, South-East Pacific Region, South Pacific Region, Red Sea and Gulf of Aden Region, East African Region, South-West Altantic Region and South Asian Seas Region.

** UNEP: Achievements and planned development of UNEP's Regional Seas Programme and comparable programmes sponsored by other bodies. UNEP Regional Seas Reports and Studies No. 1. UNEP, 1982.

*** UNEP: Action Plan for managing the natural resources and environment of the South Pacific Region. UNEP Regional Seas Reports and Studies No. 29. UNEP, 1983.

PACIFIC ISLANDS TRUST TERRITORY

PAPUA NEW GUINEA

SOLOMON ISLANDS

UNITED STATES OF AMERICA

Department of Arts, Heritage and Environment (DAHE)

Executive officer: GALVIN, Patrick J.: Secretary

Postal address

Department of Arts, Heritage and Environment (DAHE)
Cnr. University Ave. and Marcus Clarke Street
P.O. Box 1252
CANBERRA, A.C.T. 2601
AUSTRALIA

Telephone: 062-467211
Telex: AA62960

Working languages
English

Nature of institute
Governmental

Main fields of activities
Policy and planning

Objectives and programmes
The Environment Policy Division and the Environment Contaminants Division provide policy advice, develop proposals, administer legislation, implement programs, carry out studies and assessments and co-ordinate the Commonwealth Government's involvement in conservation and management of the environment.
More specifically, sections of the Environment Policy Division are responsible for co-ordinating studies on environment and economics, environment and energy, and environmental statistics; for considering environmental impact statements; for developing policies on the marine and natural land environments; for fostering environmental education; for servicing Commonwealth/State environment councils; and for co-ordinating Australia's international environmental relations.
The various sections of the Environment Contaminants Division are responsible for policies and programs on pollution matters, including control of chemicals, solid waste management, radioactive waste disposal, and air, noise and water pollution.
A separate unit of the Department, the Bureau of Flora and Fauna, is responsible for co-ordinating the collection, identification and recording of Australia's flora and fauna. The Bureau is preparing several major biological publications including Fauna of Australia, Flora of Australia, the Zoological Catalogue of Australia and the Australian Plant Name Index. It is also developing the Australian Biotaxonomic Information System, a computer-based information network with data from major Australian biological collections.
Cooperative programme
The above mentioned Divisions of the Department work closely with four of the statutory authorities included in the Arts, Heritage and Environment portfolio. These are:
- Australian National Parks and Wildlife Service
- Great Barrier Reef Marine Park Authority
- Australian Heritage Commission
- Office of the Supervising Scientist for the Alligator Rivers Region

Institution structure
- Environment Policy Division
- Environment Assessment Branch
- Environment Studies Branch
- Environment Co-ordination Branch
- Environment Strategy Branch
- Environment Contaminants Division
- Environment Contaminants Branch (including Air, Noise and Water Section)
- Bureau of Flora and Fauna
- (Divisions and Branches dealing with Arts and Heritage)

Staff
11 Scientific staff 0 Technical staff 100 Other staff

Information facilities
Monographs and serials titles:
- Publications on environment and conservation (each year on ad hoc basis)

Institution code: 006102 Information received: 01/02/85

Australian Institute of Marine Science (AIMS)

Executive officer: BUNT, John S.: Director

Postal address

Australian Institute of Marine Science (AIMS)
Cape Ferguson
P.O. Box PMB-3
TOWNSVILLE, QUEENSLAND 4810
AUSTRALIA

Telephone: 077-789211
Telex: AA47165
Cable: MARINESCI

Working languages
English

Nature of institute
Governmental

Main fields of activities
Biological sciences
Oceanography
Physical sciences
Meteorology/climatology
Computers/information systems
Ecological sciences
Chemical sciences
Microbiology
Technology transfer

Areas of speciality
Tides/waves
Mangroves ecosystems
Coastal marine waters
Coral ecosystems

Objectives and programmes
- to carry out research in marine science
- to arrange for the carrying out of research in marine science by any other institution or person
- to co-operate with other institutions and persons in carrying out research in marine science
- to provide any other institution or person with facilities for carrying out research in marine science or otherwise assist any other institution or person in carrying out research in marine science
- to collect and disseminate information relating to marine science, and in particular to publish reports, periodicals and other papers relating to marine science
- to do anything incidental or conducive to the performance of any of the foregoing functions

Ongoing research is concerned with:
- mangrove ecosystems
- nearshore environment and productivity
- community metabolism of coral reefs
- ecology of coral reefs
- physical, chemical and biological oceanography of shelf seas
- emphasis throughout our tropical marine environments

The above programs will continue.

Cooperative programme
Institute enters into wide range cooperations and interactions within its sphere of influence including university researchers within Australia and overseas. Also now involved in Australian aid programs and with regional UNESCO and IOC activities.

Training programme
Training programmes are not a regular activity but may be undertaken by arrangement e.g. through UNESCO or in provision of facilities and supervision for graduate students affiliated with and supported by recognized universities.

Institution structure
The Institute is governed by a Council responsible for the Minister for Science. The operational responsibility is carried by Director with support from Institute Secretary (for administration) and two Assistant Directors. Research programs are interdisciplinary and coordinated by research scientists. All services and support provided by specialised groups answerable to Secretary for administrative matters and to Assistant Directors for ongoing research and related activities.

Staff
22 Scientific staff 60 Technical staff 22 Other staff

Professional scientific staff

Name	Degree	Speciality
Bunt, J.S	Ph.D.	Marine ecosystems
Andrews, J.C.	Ph.D.	Physical oceanography
Andrews, T.J.	Ph.D.	Biochemistry of marine photosynthesis
Barnes, D.J.	Ph.D.	Coral calcification, Reef metabolism
Boto, K.G.	Ph.D.	Sediment chemistry
Bradbury, R.H.	Ph.D.	Reef community ecology
Chalker, B.E.	Ph.D.	Reef productivity, Biochemistry
Clough, B.F.	Ph.D.	Mangrove photosynthetic production
Done, T.J.	Ph.D.	Reef community structure
Drew, E.A.	Ph.D.	Benthic algae, Macrophytes
Dunlap, W.C.	Ph.D.	Organic chemistry reef systems
Furnas, M.J.	Ph.D.	Biological oceanography
Gillan, F.T.	Ph.D.	Chemistry of marine microbes, Sediments
Isdale, P.J.	Ph.D.	Growth in corals, Calcification in corals
Kinsey, D.W.	Ph.D.	Biogeochemistry, Energetics of ecosystems
Moran, P.J	Ph.D.	Coral reef ecology
Reichelt, R.E.	Ph.D.	Coral reef ecology
Robertson, A.I.	Ph.D.	Trophodynamics
Sammarco, P.W.	Ph.D.	Reef ecology
Sandstrom, M.W.	Ph.D.	Biogeochemistry (phosphorus)
Vernon, J.E.N.	D.Sc.	Coral taxonomy, Ecology
Wilkinson, C.R.	Ph.D.	Microbiology, Trophodynamics
Williams, D.M.	Ph.D.	Population, Community ecology reef fish
Wolanski, E.J.A	Ph.D.	Physical oceanography

Premises/facilities
Building area: 10000 m
With facilities for:
Visiting scientists: 30

Information facilities
Library holdings:
Number of books, journals, manuscripts, etc.: 6000
Number of periodical subscriptions: 1500

Equipment
Solvent programmable high pressure liquid chromatography with a variety of detectors (including fluorescence, UV/Vis and refractive index), capillary gas chromatograph and mass selective detector with FID and NPD detectors on a second instrument, DC plasma spectrometer, atomic absorption spectrometers, plasma asher, CHN analyser, Coulter counter, DOC analyser, TOC analyser, autoanalyser for nutrients, scintillation counter, gamma counter.

Research craft

Name:	R.V. LADY BASTEN
Length:	24 m.
Date of construction:	1978
Crew:	7
Scientists:	7
Name:	R.V. HARRY MESSEL
Owner:	University of Sydney
Length:	21 m.
Crew:	4
Scientists:	6
Name:	R.V. SIRIUS
Length:	14 m.
Date of construction:	1978
Crew:	2
Scientists:	4
Name:	R.V. GEMINI
Length:	7 m.
Type:	Sharkcat
Date of construction:	1975

Institution code: 006103 Information received: 24/01/85

Great Barrier Reef Marine Park Authority (GBRMPA)

Executive officer: [illegible]HER, Graeme G.; Chairman

Postal address

Great Barrier Reef Marine Park Authority (GBRMPA)
Melton Place, Dennis Street
P.O. Box 1379
TOWNSVILLE, QUEENSLAND 4810
AUSTRALIA

Telephone: 077-712191
Telex: GBRMPA [illegible]
Cable: REEFPARK

Working languages
English

Nature of institute
Governmental

Main fields of activities

Biological sciences	Ecological sciences
Marine fisheries	Resources management
Oceanography	Chemical sciences
Physical sciences	Offshore technology
Pollution	Meteorology/climatology
[illegible]graphy	Geology/sedimentology
Policy and planning	Marketing/economics
Social sciences	Computers/information systems
Education, training or extension	

Areas of speciality

Coastal marine waters	Coral ecosystems

Objectives and programmes

History of institution, its mandate and purpose
The Great Barrier Reef Marine Park Act was passed by the Commonwealth Parliament in 1975. The Great Barrier Reef Marine Park Authority was established in 1979.
The objectives of the institution are:
- to make recommendations to the Minister on the development and care of marine parks
- to carry out by itself in co-operation with other institutions and persons research relevant to the Great Barrier Reef Marine Park
- to prepare zoning plans for marine parks

Research, monitoring and other activities in last three years
The Authority's research role is principally to secure information needed for marine park planning and management. However, it has been also given the responsibility to supervise and report to the Ministerial Council on the programme of short and longer term research into the Great Barrier Reef ecosystem.
In order to minimize duplication and maximize the use of facilities, the Authority has developed close relationship with the Australian Marine Sciences and Technologies Advisory Committee, the Australian Institute of Marine Science, and other marine research bodies.
The Authority has developed a series of documents on the responsibilities, functions, needs, programmes and objectives for research projects undertaken by or for the Authority. Ten research areas have been identified relating to the management of multiple uses consistent with conservation of the Great Barrier Reef. These are:
- oceanography
- marine geosciences and geomorphology
- marine chemistry
- bathymetry and survey
- marine biology
- analysis of use
- management strategies
- environmental design
- Great Barrier Reef [illegible] park
- mechanisms of information transfer

Major current research and other activities
In collaboration with [illegible] of universities Australian

Objectives and programmes (Cont.)

Institute of Marine Sciences, and CSIRO, a number of research projects have been funded by the Authority. These include projects on:
- oceanography, bathymetry and survey
- marine geosciences
- marine biology management strategies
- Great Barrier Reef data bases
- marine chemistry
- socio-economic research
- taxonomy

Under the Augmentative Support Program the Authority provides assistance to graduate and post-graduate students and other research scientists in connection with research on management of the Great Barrier Reef Marine Park. See the Annual Report of Great Barrier Reef Marine Parks Authority for detail. Details of projects are available from the Authority.

Future programmes

The Authority's research role is principally to secure information needed for marine park planning and management in the Great Barrier Reef region, Australia.

In October 1983, the remainder of the Marine Park was declared and will be progressively zoned over the five years to 1988. A significant portion of research is tied to providing inventory information for planning. Other research within the ten program areas is directed to meet longer term planning and management needs. The establishment of a comprehensive marine park monitoring program is a high priority.

Cooperative programme

The Authority has the responsibility of coordinating Great Barrier Reef research and as a result frequently conducts workshops on specific research topics in the Great Barrier Reef region, e.g. oceanography, remote sensing, survey techniques, etc.

Specific research projects involving collaboration are included in the list of research projects in the Authority's Annual Report.

Co-operating institutions include:
- Australian Institute of Marine Science
- Commonwealth Scientific and Industrial Research Organisation
- James Cook University of North Queensland
- Queens Fellowship
- Marine Research Allocations Advisory Committee

Training programme

No formal training programme.
- student vacation work
- staff survey training

Institution structure

The Great Barrier Reef Marine Park Authority has 6 sections:
- Secretariat
- Planning
- Research and Monitoring
- Park Management
- Education and Information
- Technical and Administrative Services

The Great Barrier Reef Marine Park Act also established the Great Barrier Reef Consultative Committee which may make recommendations to the minister, and to the Authority on any matter concerning the operation of the Act and the establishment, zoning and management of the marine park.

Staff

14 Scientific staff 16 Technical staff 33 Other staff

Professional scientific staff

Name	Degree	Speciality
Kelleher, G.	B.E. (civil)	Natural resource Management
Gilmour, A.J.	Ph.D.	
Craik, W.	Ph.D.	Science and technology, Marine management
Driml, S.	M. Reg. Sci.	Resources economics
Dutton, I.	M.Sc.	Environment management
Kenchington, R.	M.Sc.	Resource survey, Reef management
Claasen, D. van R.	M.E. Des (em.sci.)	Resource survey, Land use planning
Baldwin, C.	M.Sc.	Regional planning
O'Dwyer, J.	B.T.R.P.	Regional marine planning/ rural planning
Woodley, S.	B.A.	Coral reef management
Williams, J.	B.Sc. For (Hons.)	Resource management

Staff (Cont.)

Name	Degree	Speciality
Gillies, J.	B.Sc.	Resource management
Speirs, R.	B.App.Sc.	Park management
Wallace, B.	M.Sc.	Computing systems

Premises/facilities
Building area: 1100 m

Information facilities
Library holdings:
Number of books, journals, manuscripts, etc.: 2000
Number of periodical subscriptions: 250

Monographs and serials titles:
- Books
- Technical Memorandum Series
- Workshop Series
- Special Publication Series
- Research Publications
- Annual Reports
- Posters
- Zoning Plan Publications
- Brochures
- Serial Publications
- Maps
- Other publications
- Joint Publications

Equipment
Rubber boats (Zodiacs) outboard boats, general field equipment.

Institution code: 006104 Information received: 18/07/84

The Australian Museum

Executive officer: GRIFFIN, Desmond J.G.: Director

Postal address

The Australian Museum
6-8 College Street
P.O. Box A285
SYDNEY SOUTH, N.S.W. 2000
AUSTRALIA

Telephone: 3398111
Cable: MUSEUM

Working languages
English

Nature of institute
Governmental

Main fields of activities

Biological sciences	Ecological sciences
Geology/sedimentology	Education, training or extension

Areas of speciality

Marine mammals	Demersal fish
Pelagic fish	Other vertebrates
Cephalopods	Lobsters
Shrimps/prawns	Other invertebrates
Benthos	Other minerals
Mangroves ecosystems	Coral ecosystems

Objectives and programmes
History of institution, its mandate and purpose
In 1829, the Colonial Museum was established, and by 1836, became known as the Australian Museum. The Museum performs basic research on Australian geology, palaeontology, fauna and prehistory and material culture of Australian and Papua New Guinea.
The objectives of the institution are to disseminate knowledge, and and to increase understanding and appreciation of the natural environment and cultural heritage, especially in the Australian region. The Museum houses the most extensive natural history and ethnological collection in Australia.
The Australian Museum runs the Lizard Island Research Station at Lizard Island, Great Barrier Reef. A scientific director, Dr. Barry Goldman, is employed, plus a secretary and maintenance officer. The Station is set up for marine and terrestrial field-work, has numerous small boats, diving facilities, library, dry lab, walk in cold room, computer, dark-room facilities, and other laboratory facilities and seawater aquarium. The Station is open to all scientists and graduate students. Daily bench fees are charged. Details regarding the Station and booking information can be obtained by writing directly to The Director, Lizard Island Research Station, PMB 37, Cairns, Queensland, Australia.
Research, monitoring and other activities in last three years
Continuation of current programme
Major current research and other activities
Vertebrate Division:
- Herpetology;
  The Department possesses the largest regional collection of sea snakes, and is carrying out a program of research into the systematics of both hydrophiid and laticaudid sea snakes. The collection of marine turtles is relatively small and no active research is being carried out on these reptiles.
- Ichthyology;
  The research activities of the department involve projects on the systematics, taxonomy and ecology of fishes. The projects include studies on taxonomy and ecology of gobioid fishes, deep sea fishes, estuarine juvenile fishes, coral reef fishes, and preparation of a checklist of Australian fishes. The department maintains a large research collection of Australian and Indo-Pacific fishes.
- Mammalogy;
  The department is responsible for the acquisition and curation of a representative collection of mammals, both from Australia and overseas. It is reponsible for the initiation and implementation of research projects and the publication of results of such research to increase knowledge of all aspects of the biology of mammals. Education of the general galleries and answering public

Objectives and programmes (Cont.)

enquiries is a vital function of the department. Research studies have included projects on large cetaceans off the east coast of Australia, rare mammals including dugong, marsupial mole.

Invertebrate Division:

- Molluscs;
  The Department is responsible for building and maintaining research collections of molluscs as well as pursuing research on molluscs. Current research projections concentrate on micro-molluscs including freshwater hydrobiids and marine rissoaceans, opisthobranchs including chromodorid and aeolid nudibranchs, and the fauna of the continental shelf.
- Marine Ecology;
  The aim is to conduct marine/estuarine research that will assist in management and also assess the effects of specific human activities. Research areas include the Hawkesbury River Estuary and Lizard Is. Great Barrier Reef. The benthic invertebrate soft-sediment community has been studied in both areas as this community is considered the most reliable indicator of pollution/impact and the sedimentary habitat is of major importance in both areas. Long-term data have been collected in the Hawkesbury River where the effects of dredging and spoil disposal have also been assessed.
- Crustacea and Coelenterata;
  The Department is responsible for increasing and maintaining research collections of crustaceans, coelenterates and bryozoans. The main subjects of research are the pericaridan crustaceans. Current research projects include a revision of the Lysianassoid amphipoda and a checklist of the pericarid crustacea.
- Echinoderms;
  The fundamental aim of the Department is to study the systematics and zoogeography of shallow-water (200m) Indo-West Pacific echinoderms, and particularly the fauna of the Australian coastline. Research projects have included the study of Tasmanian echinoderms, research of seastar genera and comasterid crinoids. Current research projects include the study of the echinoderm fauna of NSW Lord Howe Is. and Norfolk island and a re-evaluation of the Australian echinoderm fauna and its zoogeographical relationships.
- Worms;
  In addition to the general responsibilities of acquiring material, maintaining a collection and public and scientific education the first specific objective of the Department is to describe the polychaete fauna of restricted geographical areas or habitats as material becomes available. Well-illustrated keys for use by non-polychaete specialists are being prepared in conjunction with these taxonomic studies. The second main objective is to study the recruitment and establishment of polychaete communities in coral substrates and their roles in coral reef ecosystems. Research work by the Department has included preparation of a key to estuarine polychaetes; studies of coral substrate communities, N.S.W. estuarine collection of polychaetes, and revisions of several families of polychaetes.
- Directors Research Laboratory;
  The Laboratory is responsible for conducting research of special interest to the Director. The main research project has been a taxonomic and zoogeographic study of the majid spider crabs of the Indo-West Pacific. Current research includes further studies on majid crabs and a study on the midwater and deepwater carids occurring off the coast of N.S.W.

Future programmes
Continuation of current programme

Cooperative programme
Individual scientists work in conjunction with numerous Universites, State and Federal Government Agencies.

Training programme
No formal program, but, a series of informal education programmes for children and adults. Special scientific exhibitions and conferences are also organized.

Institution structure

- Director (Sections report to the Director)
- Deputy Director (Divisional Chairmen report to Deputy Director)
- Divisional Chairman of Vertebrates
- Divisional Chairman of Invertebrates
- Divisional Chairman of Anthropology
- Division Chairman of Earth Sciences

Within each Division are varying numbers of scientific officers and technical staff.

- Education Section
- Exhibitions Section
- Administrative Section

Staff
24 Scientific staff 32 Technical staff 106 Other staff

Professional scientific staff

Name	Degree	Speciality
Griffin, D.J.G.	Ph.D.	Crustaceans
Cogger, H.G.	Ph.D.	Reptiles
Greer, A.	Ph.D.	Reptiles
Recher, H.F.	Ph.D.	Vertebrate ecology
Pyke, G.	Ph.D.	Vertebrate ecology
Ponder, W.F.	Ph.D.	Molluscs
Rudman, W.B.	Ph.D.	Molluscs
Paxton, J.	Ph.D.	Fish
Hoese, D.F.	Ph.D.	Fish
Lowry, J.K.	Ph.D.	Crustaceans
Jones, A.	Ph.D.	Marine ecology
Rowe, F.W.E.	Ph.D.	Echinoderms
Hutchings, P.A.	Ph.D.	Polychaetes
Ritchie, A.	Ph.D.	Palaeontology
Sutherland, L.	Ph.D.	Minerals
McAlpine, D.	Ph.D.	Insects
Smither, C.	Ph.D.	Insects
Gray, M.	M.Sc.	Spiders
Leis, J.	Ph.D.	Larval fish
Specht, J.	Ph.D.	Anthropology
Lampert, R.	Ph.D.	Anthropology
Flannery, T.	Ph.D.	Mammals

Premises/facilities
Building area: 13500 m Laboratory area: 1200 m
With facilities for:
Visiting scientists: 6 Students: 10

Information facilities
Library holdings:
Number of books, journals, manuscripts, etc.: 31000
Number of periodical subscriptions: 4000

Monographs and serials titles:
- Annual Reports 1980/81, 1981/82, 1982/83
- Exhibition Handbooks
- Australian Natural History (quarterly, last issue vol. 21 No. 5 Winter 1984)
- Records of the Australian Museum (3 times per year, last issue vol. 36 Nos. 1 and 2, June 1984)
- Memoirs of the Australian Museum, (4 issues in 1981/82; now ceased publication)
- Speciality reprint libraries on anthropology, earth sciences, and biological areas containing several thousand reprints

Equipment
Various microcomputers and word processors, numerous compound and stereomicroscopes, X-ray facilities, diving gear and collecting gear.

Research craft
Name: R.V. SUNBIRD
Length: 15 m.
Type: Motor/sail catamaran
Date of construction: 1983
Crew: 2
Scientists: 7
Laboratory space: 8 m
Special facilities:
Winch A frame, 240 V AC freezer, satellite navigation, weather tacimale, sonar, radar, v. long range, compressor, shallow draught with ocean going capabilities.

Length: 18 m.
Type: Platform half cover.
Date of construction: 1977
Laboratory space: 18 m
Special facilities:
All equipment transported for duration of experiment from Lizard Island Research Station.

Institution code: 006105 Information received: 22/02/85

State Pollution Control Commission (SPCC)

Executive officer: STANDEN Peter: Director

Postal address

State Pollution Control Commission (SPCC)
G.P.O. 4036
SYDNEY, 2001, N.S.W.
AUSTRALIA

Telephone: 02-2658888
Telex: AA 72234 NSWG

Working languages
English

Nature of institute
Governmental

Main fields of activities
Pollution

Areas of speciality
Coastal marine waters
Inland (fresh) waters
Petroleum hydrocarbons
Nutrients
Brackish waters
Mangroves ecosystems
Metals (pollutants)

Objectives and programmes
History of institution, its mandate and purpose
- control of pollution in New South Wales through State Pollution Control Commission Act
- administration of Clean Air Act, Clean Waters Act, Noise Control Act and the Recreation Vehicles Act
- advisory and co-ordinating character for the prevention, control, abatement, and mitigation of pollution
- control and regulation of the disposal of waste
- the protection of the environment from defacement, defilement or deterioration

Research, monitoring and other activities in last three years
In addition to the studies discussed in current research section, investigations have been carried out in more specific fields of air, water and noise pollution and waste disposal.
Major current research and other activities
The Commission conducts a wide variety of environmental studies and research programmes with the aim of providing a sound scientific and technological basis for its pollution-control and environmental protection programmes.
The Commission's studies include:
- measurement of air and water quality and noise levels in the environment
- research on dispersion and effects of pollutants within air and water bodies and of the attenuation and effects of noise emissiars
- investigations involving selected flora, fauna and ecosystems to indicate the effects of pollutants on the living environment

This research establishes the prevailing conditions in the environment, quantifies the known sources of pollution, and enables the Commission to assess the likely impacts of proposed developments on the environment.
One of the Commission's major functions is to foster awareness of the environment, and of environment problems and their solutions. Therefore, the Commission is involved with development of a comprehensive educational, promotional and publications programme. The Commission maintains liaison with other environmental bodies and provides detailed advice on a wide range of specific environmental problems.
Future programmes
Continuation of current programme
Cooperative programme
State Pollution Control Commission maintains liaison with other environmental bodies such as the Australian Environment Council and other government and voluntary organizations. The Commission provides environmental advice to the Department of Environment and Planning and local government authorities.
Training programme
Some staff teach at universities and technical colleges on an informal basis. Commission has an educational and promotional programme of talks to schools, community any professional groups and produces a variety of publications.

Institution structure

The organization is divided into a pollution control section and an administration, legal and policy section. The pollution control section has three divisions: Air and Motor Vehicles; Water; and Projects and Noise Division. The Air and Motor Vehicles Division has a Clean Air Branch and a Technical Services - Air Branch and Motor Vehicle Control Branch. The Water Division has a Water Branch and a Technical Services Water Branch, and is responsible for regions of the State outside the Sydney area. The Projects and Noise Division has a Noise Branch and a Projects unit. The administration, legal and policy section, under the Deputy Director, contains the Administration Division and the Co-ordination Branch.

Staff

96 Scientific staff 52 Technical staff 98 Other staff

Professional scientific staff

Name	Degree	Speciality
Leece, D.	Ph.D.	Impact of air pollutants on plants
Brown, J.	M.Eng.Sc.,M.App.Sc.	Water pollutants/quality
Thompson, G.	Ph.D.	Effects of pollution on ecosystems
McDonald, R.	Ph.D.	Water pollution
Ferrari, L.	B.Sc.	Air pollution measurement
Goldsack, R.	Ph.D.	Organic chemistry, Mass spectroscopy

Premises/facilities

Building area: 6125 m Laboratory area: 900 m

Information facilities

Library holdings:
Number of books, journals, manuscripts, etc.: 6000
Number of periodical subscriptions: 100

Monographs and serials titles:
- Different guides, guidelines, reviews etc.

Equipment

Alphanumeric printer; analysers for hydrocarbons, nitrogen oxides sulphur, water colour; micro computers; fluormeters; gas chromatograph; ion chromatograph; ozone monitors; oscilloscopes; plotters; spectrophotometers; water/smoke samplers; transmissometer; dynamometers.

Aquarium facilities

Total area: 5 m Number of tanks: 20

Species maintained for experimental purposes:

Heliocideras erythrogramma Centrostephanus rodgersii Haliclone spp.

Research craft

Length: 7 m.
Type: Half cabin runabouts
Date of construction: 1977
Crew: 1

Length: 5 m.
Type: Runabouts
Date of construction: 1981
Crew: 1
Scientists: 2

Length: 3 m.
Type: Punts
Date of construction: 1975

Institution code: 006106 Information received: 28/02/85

Tasmanian Department of the Environment

Executive officer: POTTINGER, John F.: Director of Environmental Control (DEC)

Postal address

Tasmanian Department of the Environment
P.O. Box 1396P
HOBART 7001, TASMANIA
AUSTRALIA

Telephone: 002-302770
Telex: 58155

Working languages
English

Nature of institute
Governmental

Main fields of activities
Pollution

Areas of speciality

Petroleum hydrocarbons	Metals (pollutants)
Halogenated hydrocarbons	Pathogenic micro-organisms
Nutrients	Radionuclides

Objectives and programmes

History of institution, its mandate and purpose

The Department of Environment (DEC) was created by an act of Parliament in 1972. The Departments primary objective was to determine extent and cause of heavy metal pollution in aquatic systems it has evolved to become a more broadly used pollution control agency with expertise in air, noise and water pollution and waste management. Specified industries require from the DEC, a licence to operate, as set down in the Environment Protection Act 1973. This Act also gives the DEC broad responsibilities with respect to protecting the environment of Tasmania.

Research, monitoring and other activities in last three years

During the past three years the Department has undertaken a limited programme of:

- monitoring selected waters and effluents for heavy metals
- air monitoring for heavy metal fallout, particulates, SO2, nitrogen oxides and hydrocarbons industrial stack emission testing
- trace organic analysis of ambient air and water samples
- hydrocarbon identification from oil spills

Major current research and other activities

Research into the effect upon ambient air quality of emissions from wood burning stoves is continuing. Investigation of chlorinated phenolics occurring in wastewater from a paper process is being undertaken.

Future programmes

Continuation of current programme

- further research in the field of trace organic collection and analysis is anticipated

Cooperative programme

The research programme concerning emissions from wood burning stoves is being undertaken in conjunction with the University of Tasmania. The Department is also closely cooperating with the Marine Science Laboratory of the Victorian Department of Conservation, Forests and Lands in an investigation of biological monitoring of heavy metals in an urbanised environment.

Institution structure

The Department is organised into sections dealing with:

- Water Pollution and Waste Management
- Noise and Air Pollution
- Investigations
- Administration

Staff

14 Scientific staff 7 Technical staff 14 Other staff

Professional scientific staff

Name	Degree	Speciality

Staff (Cont.)

Pottinger, J.	M.I. Mech.E.	Air quality
Healey, B.	M.Eng.Sc.	Water pollution, Waste management
Isaac, J.	B.Sc.(Hons.)	Water pollution
O'Brien, R.	B.E.	Waste management
Langford, R.	A.R.M.I.T.	Noise pollution, Air quality
Wilson, W.	B.Sc.(Hons.)	Air quality
Southgate, D.	M.Env.St.	Noise pollution
Woodhouse, L.	Ph.D.	Environmental assessement
McCambridge, J.	Ph.D.	Rehabilitation
Jones, W.	M.Env.St.	Environmental assessment, Aquatic studies
Brown, F.	Dip.App.Chem.	Chemistry (analytical)
Chesterman, R.	M.Sc.	Chemistry (analytical)
Dineen, R.	Dip.App.Chem.	Chemistry (analytical)
Johnson, M.	B.App.Sc.	Chemistry (analytical)

Premises/facilities
Building area: 700 m Laboratory area: 100 m

Information facilities
Library holdings:
Number of books, journals, manuscripts, etc.: 850
Number of periodical subscriptions: 28

Monographs and serials titles:
- The Code of the Standard Method of Sampling and the Standard Method of Analysis (Water Pollution) 1982.
- Emissions from Wood Burning Heaters (Preliminary Report) September 1981.
- Roadside Litter Survey. Report. December 1979-March 1982.
- Survey of Heavy Metals in the Coastal Environment of North-West Tasmania 1981 (1983).
- Tasmania. Department of the Environment. Annual Reports.

Equipment
2 atomic absorption units (one dedicated to Hg analysis), gas chromatograph, sulphur determination apparatus, UV/VIS spectrophotometer, infrared spectrophotometer, 2 microcomputers, 5 ambient air gas analysers, 3 sound level meters, noise measurement and recording equipment.

Research craft

Name:	MONITOR
Length:	3 m.
Type:	Dinghy
Date of construction:	1973
Name:	MONITOR II
Length:	7 m.
Type:	Half-cabin launch
Date of construction:	1977

Institution code: 006107 Information received: 30/05/84

Arthur Rylah Institute for Environmental Research (A.R.I.)

Executive officer: CUMMING, Ian A.: Director

Postal address

Arthur Rylah Institute for Environmental Research (A.R.I.)
123 Brown Street
P.O. Box 137
HEIDELBERG 3084, VICTORIA
AUSTRALIA

Telephone: 4592900

Working languages
English

Nature of institute
Governmental

Main fields of activities

Biological sciences	Ecological sciences
Inland fisheries	Aquaculture
Chemical sciences	Pollution

Areas of speciality

Demersal fish	Other vertebrates
Shrimps/prawns	Other invertebrates
Micro-organisms	Brackish waters
Inland (fresh) waters	Metals (pollutants)
Halogenated hydrocarbons	Nutrients

Objectives and programmes
History of institution, its mandate and purpose
The Institute is under the direction of the Fisheries and Wildlife Division, which is part of the Department of Conservation, Forests and Lands.
Research, monitoring and other activities in last three years
Continuation of current programme
Major current research and other activities
Chemistry and Toxicology Section:
To obtain data as to the effects of toxic materials in indigenous wildlife and aquatic fauna by means of the techniques of acute and chronic bioassay so that criteria can be established for management and protection of terrestrial and aquatic animals and their habitats.
Freshwater Ecology Section:
- distribution of salmonoids in Victoria
- development of artifical breeding and rearing techniques for Macquarie perch, trout cod and Murray cod and to monitor their growth and survival when released
- to determine minimum, optimum and maximum flows for selected rivers and streams in Victoria
- documentation of basic biology and ecology of river blackfish
- documentation of basic biology of eels
- investigation of the feasibility of developing the Victorian Chinook salmon into a viable commercial fish culture industry
- to determine the distribution, abundance and life history patterns of carp in Victoria, their effect on selected rivers and whether carp population can be controlled
- development of a field guide for the identification of Victorian fishes

Wildlife Ecology Section:
- biology of the Australian fur seal
- biology of potoroos in Victoria
- use of nest boxes by forest mammals and birds
- biology of the long-billed corella
- fauna surveys
- birds of prey
- wetlands/waterfowl study
- studies of various aspects of forest habitat

Ecological Inventory and Evaluation Section:
- provision of ecological information for planners
- remote sensing for ecological inventory
- wading-bird resources and habitat of the South Gippsland Region

Future programmes
Continuation of current programme
Cooperative programme
A number of projects under the research programmes are carried out in co-operation with a number of state universities, departments, statutory bodies and CSIRO (CSIRO, Division of Wildlife and

Objectives and programmes (Cont.)

Rangelands Research; Environmental Protection Authority; Australian National Parks and Wildlife Service; N.S.W. Parks and Wildlife Service).

Institution structure

The Institute is divided into six sections:
- Freshwater Ecology
- Wildlife Ecology
- Chemistry and Toxicology
- Ecological Inventory and Evaluation
- Technical
- Administration

Staff

14 Scientific staff 28 Technical staff 14 Other staff

Professional scientific staff

Name	Degree	Speciality
Ashburner, L.D.	B.Agr.Sc.	Fish pathology
Anderson, J.R.	Ph.D.	Freshwater fish biology
Bacher, G.J.	B.Sc.	Aquatic toxicology
Baxter, A.	B.Sc.(Hons.)	Freshwater fish biology
Cadwallader, P.L.	B.A., Ph.D.	Freshwater fish biology
Evans, D.D.	B.Sc., Ph.D.	Chemistry
Frigerio, I.J.	B.Sc.(Hons.)	Chemistry
Gooley, G.	B.Sc.(Hons.)	Freshwater fish biology
Jackson, P.D.	B.Sc.(Hons.), Ph.D.	Native fish biology
Pooley, G.J.	Dip.Ch.,B.App.Sc.	Chemistry
Pribble, H.J.	M.Sc.	Fisheries biology
Tunbridge, B.R.	B.Sc.	Freshwater ecology
Turner, J.	Dip.Agr.Sc.	Chemistry
Watson, L.M.	B.Sc.(Hons.)	Mathematics, Computing

Premises/facilities

Building area: 1080 m *Laboratory area:* 770 m

Information facilities

Library holdings:
Number of books, journals, manuscripts, etc.: 5065
Number of periodical subscriptions: 340

Monographs and serials titles:
- Technical Report Series (1-5)
- Occasional Paper Series (1)
- Technotes (1)

Equipment

Electroshockers, nets, portable generators, portable refrigerators, portable pH meters, portable motors, binoculars, balances, cameras, centrifuges, chromatograph (liquids and gas), computers, dechlorination/filtration unit, electrophoresis equipment, freezers and refrigerators, integrator, spectraphysics, meters (dissolved oxygen/velocity/salinity/conductivity), microscopes, two way radios, spectrophotometers, telescopes and word processor.

Aquarium facilities

Total area: 157 m Number of tanks: 150

Species maintained for experimental purposes:

Galaxias truttaceaus	*Galaxias maculatus*	*Salino trutta*
Salino gairdheri	*Nannoperca australis*	*Paratya australiensis*
Velesumci ambiguus	*Idyridella australis*	*Daphnia sp.*

Institution code: 006109 Information received: 21/05/84

Commonwealth Bureau of Meteorology

Executive officer: ZILLMAN, John W.: Director of Meteorology

Postal address

Commonwealth Bureau of Meteorology
150 Lonsdale Street
P.O. Box 1289K
MELBOURNE, VICTORIA 3001
AUSTRALIA

Telephone: 03-6694000
Telex: AA30664

Working languages
English

Nature of institute
Governmental

Main fields of activities
Oceanography
Meteorology/climatology

Areas of speciality
Thermal
Wind
Tides/waves

Objectives and programmes
History of institution, its mandate and purpose
National Meteorological Service as prescribed in the Meteorology Act 1955.
Research, monitoring and other activities in last three years
- basic and applied research on the meteorology of the southern hemisphere and the Australian region in particular

Major current research and other activities
Same as in the last three years
Future programmes
Same as in the last three years
Training programme
Internal training program for specialists such as Meteorology, Technical Officers, and Observers.

Institution structure
Under the Director there are two divisions, one for Services and one for Research and Systems, with two smaller Branches covering Management and Executive Support. Within the Services Division there are five branches covering the services areas. Within the Research and Systems Division there are branches covering research, facilities, and computing support.

Staff
357 Scientific staff 298 Technical staff 947 Other staff

Information facilities
Library holdings:
Number of periodical subscriptions: 100

Monographs and serials titles:
- Australian Meteorological Magazine (quarterly journal)

Equipment
Large computer and usual range of meteorological observing equipment such as weather watch radars, surface observing equipment and several tide gauges.

Institution code: 006110 Information received: 08/02/85

Environment Protection Authority (EPA)

Executive officer: WRIGHT, Jeffrey J.: Chairman

Postal address

Environment Protection Authority (EPA)
240 Victoria Parade
P.O. Box 315
EAST MELBOURNE 3002, VICTORIA
AUSTRALIA

Telephone: 6514011
Telex: AA151243 EPAVIC

Working languages
English

Nature of institute
Governmental

Main fields of activities

Ecological sciences	Limnology
Pollution	Policy and planning

Areas of speciality

Offshore marine waters	Coastal marine waters
Brackish waters	Inland (fresh) waters
Petroleum hydrocarbons	Metals (pollutants)
Halogenated hydrocarbons	Pathogenic micro-organisms
Nutrients	

Objectives and programmes
History of institution, its mandate and purpose
Originally founded after proclamation of Environment Protection Act (1970). Its basic responsibility is to prevent pollution and to protect and improve the environment by controlling waste discharges and the emission of noise.
Research, monitoring and other activities in last three years
- research on diffuse pollution sources
- state-wide water monitoring
- research on impact of waste discharges
- preparation of environment protection policies

Major current research and other activities
- mercury in gold mining areas
- development of a heavy metal biomonitor state-wide water monitoring network for trends
- measuring the impact of land use on water quality
- investigating Microtox for toxicity screening of effluents

Future programmes
- rest of the State water environment protection policy
- coastal waters policy
- land use/water quality relationships
- criteria development
- biological monitoring
- effluent toxicity testing

Cooperative programme
- Rural Water Supply Commission (Yarra River benthic macro-invertebrate monitoring, Barwon River monitoring and laboratory facilities)
- Marine Science Laboratories (laboratories and eutrophication, biological systems programs)
- Arthur Rylah Institute (bioaccumulation studies, freshwater toxicant criteria)
- State Chemistry Laboratory (organics, pesticides)
- Latrobe Valley Water and Sewerage Board (river monitoring)
- Geelong and District Water Board (river monitoring)
- others

Training programme
- part and occasional full-time study leave (under and post grad.)
- seminars and conferences
- job rotation

Institution structure
The Authority is divided into two Divisions - Air and Noise; Water, Wastes and Chemicals.
Within Water Quality Branch there are three sections:
- Policy (implementation of environment protection policies)
- Control (licencing of point-source discharges, and liaison on appropriate technology with dischargers)

Institution structure (Cont.)

- Water Studies (incorporating laboratory services, research, monitoring and data processing)

Staff
18 Scientific staff 4 Technical staff 3 Other staff

Professional scientific staff

Name	Degree	Speciality
Bales, J.	M.App.Sc.(chem.eng.	Licensing co-ordination
Monahan, D.	M.Eng.Sc.(env.eng.)	Policy coordination
Sutherland, P.	B.A./B.Sc.(Hons.)	Coordination (water research and monitoring)
Bell, C.	B.Sc.(Hons.)	Freshwater toxicity
Regan, W.	M.App.Sc.(chem.)	Industrial discharges
Graham, R.	B.Sc.(Hons.)	Sewerage control
Houghton, B.	B.Agr.Sc.	Sewerage control
Osmers, C.	D.App.Sc.	Industrial/sewage discharge
Atkins, L.	M.Agr.Sc.	Data processing/statistics, Biological monitoring
Rooney, G.	B.App.Sc.	Monitoring, Data processing, Sampling
Swarbrick, A.	M.Sc. (env.tech.)	Policy formulation
Fitzpatrick, C.	M.Env.Sc.	Non-point source pollution
Peck, R.	B.Nat.Res.Mgt.	Data analysis
Prescott, N.	B.Sc.(Hons.)	Statistics, Monitoring
Bell, J.	B.App.Sc.	Water quality investigations
Blutstein, H.	Ph.D., B.A.	Metal speciation, Analytical research
O'Halloran, R.	Ph.D.	Marine analytical chemistry
Symons, R.	Dip.App.Sc.(chem.)	Trace organic analysis

Premises/facilities
Building area: 6000 m Laboratory area: 150 m
With facilities for:
Students: 3

Information facilities
Library holdings:
Number of books, journals, manuscripts, etc.: 6500
Number of periodical subscriptions: 150

Monographs and serials titles:
- Annual Reports 1981/82 and 1982/83 (English)
- Environment Protection Authority 1971-1981 (a report on ten years of operation)

Equipment
Atomic absorption spectrophotometer (Perkin-Elmer), 2 gas chromatographs (Tracor 550), 2 (LDC) liquid chromatographs, ion chromatograph (Dionex Model 10), 12 autosamplers, 3 Martex water quality probes, Interocean water quality probe, 3 microscopes (different types), pH meter, salinometer, oxygen meter, analytical balances, centrifuges (various), photographic equipment (various).

Research craft

Name:	EP 44
Length:	6 m.
Type:	Cabin-cruiser
Date of construction:	1978
Crew:	2
Special facilities:	Depth finder.
Name:	EP 37
Length:	5 m.
Type:	Runabout
Date of construction:	1982
Crew:	2
Length:	4 m.
Type:	Runabout
Date of construction:	1976
Crew:	2

Institution code: 006111 Information received: 08/03/85

Melbourne and Metropolitan Board of Works (MMBW)

Executive officer: INGERSOLL, Russel J.: General Manager

Postal address

Melbourne and Metropolitan Board of Works (MMBW)
625 Little Collins Street
P.O. Box 4342
MELBOURNE 3000, VICTORIA
AUSTRALIA

Telephone: 03-620221
Telex: AA 34220
Cable: METROPOLIS

Working languages
English

Nature of institute
Governmental

Main fields of activities
Biological sciences
Chemical sciences
Microbiology
Engineering
Computers/information systems
Ecological sciences
Physical sciences
Pollution
Policy and planning

Areas of speciality
Other invertebrates
Plankton
Coastal marine waters
Inland (fresh) waters
Halogenated hydrocarbons
Nutrients
Algae
Benthos
Brackish waters
Metals (pollutants)
Pathogenic micro-organisms

Objectives and programmes
The Board was constituted by an act of the Victorian Parliament in 1890, to control and develop the water supply and sewerage systems for Metropolitan Melbourne. The functions of the Board were extended in 1923 to include responsibility for main stormwater drainage and river improvements in the metropolis and again in 1954, when the Board became the urban planning authority in Melbourne.
The scientific activities of the Board are those to be expected of a major urban water and wastewater authority.
Cooperative programme
- State Ministry of Water Supply and Water Resources partially directs and co-ordinates the activities of the Board
- the Board shares information of all kinds with other water supply, sewerage and drainage authorities throught Australia

Training programme
- the Board does not provide external training

Institution structure
The Board consists of a part-time Chairman and two other Government appointed members, and four members appointed by the Government following election to represent groups of the municipalities constituting Greater Melbourne. The Chief Executive is the General Manager, and responsible to him are the Deputy General Manager/ Director of Engineering, and Directors of Administration and Corporate Services, Finance and Planning.

Staff
729 Scientific staff 1000 Technical staff 6000 Other staff

Professional scientific staff

Name	Degree	Speciality
Goss, M.L.	M.Sc.	Microbiology
Parry, I.G.	B.App.Sc.	Chemistry
Evans, K.E.	B.Sc.	Chemistry
Hussainy, S.U.	Ph.D.	Chemistry, Limnology
Sheldon, D.	B.Sc.	Chemistry

Staff (Cont.)

Name	Degree	Speciality
Wisel, D.	B.Sc.	Chemistry
Dean, J.	B.Sc.	Freshwater biology
Gregory, D.	B.Sc.	Chemistry
Cramond, D.	Ph.D.	Chemistry
Synnot, R.N.	Ph.D.	Marine zoology
Brown, V.B.	M.Sc.	Marine botany
Davies, S.	B.Sc.	Marine biology

Premises/facilities
Building area: 3500 m Laboratory area: 2000 m

Information facilities
Library holdings:
Number of books, journals, manuscripts, etc.: 42000
Number of periodical subscriptions: 700

Monographs and serials titles:
- MMBW Monographs
- Planning Guidelines
- Progress Reports
- Final Reports
- Bibliographies

Equipment
GC/MS system, 4 gas chromatographs, UV/VIS/IR spectrophotometers, atomic absorption spectrophotometers, hydraulic model testing facility.

Research craft
Name: EXPLORER
Length: 10 m.
Type: Fishing vessel
Date of construction: 1970
Crew: 2
Scientists: 4

Institution code: 006112 Information received: 21/02/85

ASPECT Consultant Group (ASPECT)

Executive officer: BUCKLEY, Ralf C.: Environmental coodinator

Postal address

ASPECT Consultant Group (ASPECT)
Flemington St., Frewville
P.O. Box 114
EASTWOOD, S.A. 5063
AUSTRALIA

Telephone: 08 791662
Telex: AA 82520
Cable: AMDEL ADELAIDE

Working languages
English

Nature of institute
Governmental

Main fields of activities

Biological sciences	Ecological sciences
Resources management	Chemical sciences
Microbiology	Pollution
Geography	Geology/sedimentology
Mineral resources (incl. Oil)	Policy and planning
Technology transfer	Education, training or extension

Areas of speciality

Demersal fish	Other vertebrates
Other invertebrates	Algae
Micro-organisms	Plankton
Benthos	Mineral oil
Other minerals	Coastal marine waters
Brackish waters	Inland (fresh) waters
Mangroves ecosystems	Coral ecosystems
Petroleum hydrocarbons	Metals (pollutants)
Halogenated hydrocarbons	Pathogenic micro-organisms
Nutrients	Radionuclides

Objectives and programmes
History of institution, its mandate and purpose
Environmental consulting in all fields. Applied research on all aspects of environmental science throughout the South Pacific and adjacent regions. Tropical and temperate marine terrestrial research specializing in: mangroves, seagrasses and other intertidal plant communities; flora and fauna of coastal sands including beaches, islands and dunes; coral reefs and reef islands; terrain and vegetation mapping; and environmental constraints on and impacts of coastal development, including urban construction, beach sand mining, limestone extraction, industrial processing operations at coastal sites, effluent discharge, etc.
Research, monitoring and other activities in last three years
Environmental research and consulting worldwide, including, e.g., Great Barrier Reef area, Papua New Guinea, Indonesia, Central Pacific (Tuvalu), China and East Africa.
Major current research and other activities
- continuing work in Tuvalu and GBR
- particular interests in resource management
- environmental planning
- baseline and impact assessments
- natural environment (flora and fauna)
- pollution measurement, etc.

Future programmes
Continuation of current programme
Cooperative programme
A range of cooperative programmes, but as of July 1984 none in fisheries. Contacts are maintained e.g. Vict. Marine Sciences, Aust. Inst. Mar. Sci., Smithsonian Institution and various universities.

Institution structure
ASPECT is a subsiduary of AMDEL, which is a statutory body of the South Australian State Government. It is financially self-supporting - i.e. it provides services at cost. ASPECT is a consultant group with particular expertise in environmental science.

Staff

Professional scientific staff

Name	Degree	Speciality
Buckley, Ralf	Ph.D.	Environmental science (coastal/nearshore)

Information facilities

Monographs and serials titles:
- Annual Reports, promotional literature, etc.
- 29 Monographs

Equipment

Over 3 million A. dollars worth of scientific equipment/ particularly analytical equipment (GCMS/ICPAES etc).

Institution code: 006114 Information received: 19/07/84

The New South Wales Institute of Technology (NSWIT)

Executive officer: WERNER A.M., Ronald L.: President

Postal address

The New South Wales Institute of Technology (NSWIT)
15-73 Broadway
P.O. Box 123
BROADWAY 2007, N.S.W.
AUSTRALIA

Telephone: 02-20930
Cable: INSTECH

Working languages
English

Nature of institute
Academic

Main fields of activities
Biological sciences
Resources management
Chemical sciences
Microbiology
Engineering
Marketing/economics
Education, training or extension
Ecological sciences
Limnology
Physical sciences
Pollution
Geology/sedimentology
Computers/information systems

Areas of speciality
Demersal fish
Algae
Plankton
Coastal marine waters
Mangroves ecosystems
Pathogenic micro-organisms
Shrimps/prawns
Micro-organisms
Wind
Brackish waters
Metals (pollutants)
Nutrients

Objectives and programmes
The New South Wales Institute of Technology has been established to provide opportunities for vocational higher education by offering a wide range of courses for those entering or already employed in industry and commerce.
Training programme
Courses provided as required.

Institution structure
The Institute is comprised of the President's Unit, three Administrative Units (Bursar, Registrar and Estates). Teaching and Research is undertaken in eight faculties comprising seventeen schools. Other primary structural units are the Computer Centre and the Information Resources Service.
The Governing Body of the Institute is the Council, comprising the Chancellor, Deputy Chancellor, President, two Praelectors nominated by Academic Board, elected student and staff representatives and members nominated by the Minister for Education representative of the community generally.
The chief executive officer is the President.
The eight faculties are:
- Faculty of Architecture and Building
- Faculty of Business
- Faculty of Mathematical and Computing Sciences
- Faculty of Engineering
- Faculty of Humanities and Social Sciences
- Faculty of Law
- Faculty of Science
- Faculty of Life Sciences

Institution code: 006116 Information received: 08/02/85

School of Biological Sciences, Macquarie University

Executive officer: COOPER, Desmond W.: Head of School

Postal address

School of Biological Sciences,
Macquarie University
NORTH RYDE 2113, NEW SOUTH WALES
AUSTRALIA

Telephone: 889483

Working languages
English

Nature of institute
Academic

Main fields of activities
Biological sciences — Ecological sciences
Marine fisheries — Inland fisheries
Microbiology

Areas of speciality
Demersal fish — Other vertebrates

Objectives and programmes
History of institution, its mandate and purpose
Typical teaching University, with no special mandate of mission as far as to research refers.
Research, monitoring and other activities in last three years
Systematics and taxonomy of fishes, estuarine and marine ecology of fishes, freshwater fish reproductive biology. Polychaeta physiology, systematics and taxonomy.
Major current research and other activities
Same as in the last three years
Future programmes
Same as in the last three years
Cooperative programme
- Murdoch University, Western Australia (ecology of estuarine fishes)
- South Australian Museum (taxonomy of fishes)
- Academy of Sciences, Philadelphia (taxonomy of fishes)
- Office of the Supervising Scientist, Sydney (reproductive biology of fishes)
- Western Australian Museum, Western Australia (taxonomy of fishes)

Training programme
- Postgraduate studies by research, leading to M.Sc. and Ph.D.
- Undergraduate course in biology of fishes
- General undergraduate course in vertebrates and invertebrates incorporating marine species

Institution structure
This centre operates as a single unit: School of Biological Sciences.

Staff
3 Scientific staff 41 Technical staff 4 Other staff

Professional scientific staff

Name	Degree	Speciality
Ivantsoff, W.	Ph.D.	Systematics, Taxonomy of fishes
Tait, N.	Ph.D.	Physiology (polychaetes)
Joss, J.	Ph.D.	Physiology (fishes)

Premises/facilities
Building area: 3700 m — Laboratory area: 1900 m
With facilities for:
Visiting scientists: 6 — Students: 700

Information facilities
Library holdings:
Number of books, journals, manuscripts, etc.: 600000
Number of periodical subscriptions: 4000

Equipment
Aquarium room with all the required facilities; X-ray machine; microscopes; photographing facilities; electron microscopes; scanning and transmission; facilities for electrophoretic studies; diving equipment; salinity and oxygen meters; freeze drying equipment; deep freezers (one to -70 degrees C); analytical balances; Vax and Datamax computers; centrifuges; runabout and dinghy.

Aquarium facilities
Total area: 100 m Number of tanks: 30

Organisms maintained:
Demersal fish Other vertebrates

Species maintained for experimental purposes:

Melanotaenia spp. *Craterocephalus spp.* *Pseudomugil spp.*
Iriatherina werneri *Neoceratodus forsteri*

Institution code: 006117 Information received: 14/06/84

Department of Zoology, University of New England (UNE)

Executive officer: ROHDE Klaus: Acting Head

Postal address

Department of Zoology,
University of New England (UNE)
ARMIDALE 2351, N.S.W.
AUSTRALIA

Telephone: 067-732888
Telex: 66050

Working languages
English

Nature of institute
Governmental Academic

Main fields of activities
Biological sciences
Ecological sciences
Marine fisheries
Pollution
Education, training or extension

Areas of speciality
Demersal fish
Pelagic fish
Shrimps/prawns
Other invertebrates
Plankton
Benthos
Offshore marine waters
Coastal marine waters
Coral ecosystems
Radionuclides

Objectives and programmes
Initially, established as a New England University College: 1938-
History of institution, its mandate and purpose
1954, but in 1956 was established as an independent University.
Research, monitoring and other activities in last three years
- research on marine parasites
- reproductive ecology of marine invertebrates including krill and sea snakes

Major current research and other activities
Same as in the last three years
Future programmes
Same as in the last three years
Cooperative programme
- FAO
- Australian Antartic Division

Training programme
- Undergraduate course in Marine Biology
- Postgraduate research projects (marine parasites, reproductive ecology of marine invertebrates, sea snakes)

Staff
8 Scientific staff 8 Technical staff 6 Other staff

Professional scientific staff

Name	Degree	Speciality
Heatwole, H.	D.Sc. (assoc.prof.)	Biology (sea snakes)
Rohde, K.	D.Sc. (assoc.prof.)	Ecology, Zoogeography, Ultrastructure (marine parasites)
Simpson, R.	Ph.D.	Reproductive biology (marine invertebrates)
Woodland, D.	Ph.D.	Taxonomy (marine fishes)

Premises/facilities
Building area: 2300 m Laboratory area: 765 m
With facilities for:
Visiting scientists: 3 Students: 100

Information facilities
Library holdings:
Number of books, journals, manuscripts, etc.: 530000
Number of periodical subscriptions: 3200

Information facilities **(Cont.)**

Monographs and serials titles:
- Ecology of Marine Parasites, K. Rohde (University of Queensland Press, Brisbane, 1982)
- Helminth Diseases of Marine Fishes, K. Rohde, in Diseases of Marine Animals vol. IV Kinne, O. (Ed.) Biol. Anstalt Helgoland.
- A Coral Island, H. Heatwole (William Collins Pty Ltd., Sydney)

Equipment
Research microscopes, access to transmission and scanning electron microscopes, analytical balances, freeze drying equipment, deep freezers, access to computer, photographic laboratory, etc.

Aquarium facilities
Total area: 40 m Number of tanks: 30

Research craft
Name: ZOEA
Length: 5 m.

Institution code: 006118 Information received: 10/07/84

Department of Environmental Physics, School of Physics, University of Sydney

Executive officer: MUSSELL, Harry: Head of School of Physics

Postal address

Department of Environmental Physics,
School of Physics,
University of Sydney
SYDNEY 2006, N.S.W.
AUSTRALIA

Telephone: 6922537/6923383
Telex: FISHLIB AA 20056
Cable: UNIVSYD

Working languages
English

Nature of institute
Academic

Main fields of activities
Biological sciences
Physical sciences
Ecological sciences
Education, training or extension

Areas of speciality
Other vertebrates
Coastal marine waters
Mangroves ecosystems
Thermal
Brackish waters

Objectives and programmes
The School of Physics is a normal teaching and research school within the University of Sydney. The School has 6 research departments and the Department of Environmental Physics is one of these. This Department is concerned with the exploration and survey of the tidal river systems of northern Australia and their *Crocodylus porosus* populations. The project is ongoing and has been in effect for the past 13 years.
Cooperative programme
- School of Biological Sciences within the University of Sydney cooperates with the School of Physics in our northern Australian marine research

Training programme
- Post-graduate only in the School of Physics
- Undergraduate and postgraduate in the School of Biological Sciences

Institution structure
The School of Physics is one of a number of Schools in the University of Sydney. It has six research departments as follows:
- Theoretical
- Faikiner Nuclear
- Wills Plasma Physics
- Chatterton Astronomy
- Astrophysics
- Environmental Physics

Staff
40 Scientific staff 80 Technical staff 10 Other staff

Professional scientific staff

Name	Degree	Speciality
McInnes, B.A.	Ph.D.	
Davis, J.	Ph.D.	
Derrick, G.H.	Ph.D.	
Large, M.I.	Ph.D.	
Lehane, J.A.	Assoc. Prof.	
Little, A.G.	Assoc. Prof.	
Murdoch, H.S.	Ph.D.	
Peak, L.S.	Assoc. Prof.	
Robinson, L.C.	Ph.D.	
Millar, D.D.	Assoc. Prof.	

Staff (Cont.)

Name	Degree	Speciality
Winn, M.M.	Assoc. Prof.	
Allen, L.R.	Ph.D.	
Bassett, I.M.	Ph.D.	
Cramer, N.F.	Ph.D.	
Crawford, D.F.	Ph.D.	
Falconer, I.S.	Ph.D.	
Guest, P.G.	Ph.D.	
Hewitt, R.G.	Ph.D.	
James, B.W.	Ph.D.	
Johnston, I.D.S.	Ph.D.	
McAdam, W.B.	Ph.D.	
Shobbrook, R.R.	Ph.D.	
Smith, W.I.B.	Ph.D.	
Turtle, A.J.	Ph.D.	
Window, B.	Ph.D.	
Cross, R.C.	Ph.D.	
Gordon, C.J.		
Harding, G.L.	Ph.D.	
Hunstead, R.W.	Ph.D.	
McCaughan, J.B.T.	Ph.D.	
McKenzie, D.R.	Ph.D.	
Sefton, I.M.		
Ulrichs, J.	Ph.D.	
Yerbury, M.J.	Ph.D.	
Fisher, A.J.	Ph.D.	
Bakich, A.M.		
Bennis, H.		
Brand, G.F.	Ph.D.	
Collins, A.R.	Ph.D.	
Durdin, J.M.	Ph.D.	
Horton, L.		
Vorlicek, G.C.	Ph.D.	
Zybert, J.	Ph.D.	
Bighel, L.	Ph.D.	
McPhedran, R.C.	Ph.D.	
Tango, W.J.	Ph.D.	
Thompson, R.J.	Ph.D.	
Biggs, J.D.		
Crane, C.R.		
Krug, P.A.		
Law, A.R.		
Riley, P.A.		
Schmidt-Harms, C.		
Guth, Oscar		
Messel, Harry	Prof.	
Melrose, D.B.	Prof.	
McCusker, C.B.A.	Prof.	
Watson-Munro, C.N.	Prof.	
Nanbury Brown, R.	Prof.	
Mills, B.Y.	Prof.	

Premises/facilities

With facilities for: Laboratory area: 10000 m

Students: 2000

Information facilities

Monographs and serials titles:
- Monographs (18)

Equipment

The School of Physics has a very large array of facilities for research and teaching.

Research craft

Name:	THE HARRY MESSEL
Owner:	University of Sydney
Length:	21 m.
Type:	Research vessel
Date of construction:	1974
Crew:	3
Scientists:	9
Laboratory space:	20 m

Special facilities:
Specially designed for working in tidal estuaries.

Institution code: 006119 Information received: 30/07/84

School of Biological Sciences, James Cook University (JCUNQ)

Executive officer: BURDON-JONES Cyril: Head of School

Postal address

School of Biological Sciences,
James Cook University (JCUNQ)
TOWNSVILLE, QUEENSLAND 4811
AUSTRALIA

Telephone: 077-814530/814111
Telex: AA47009
Cable: UNITOWN, TOWNSVILLE

Working languages
English

Nature of institute
Governmental Academic

Main fields of activities

Biological sciences	Ecological sciences
Marine fisheries	Resources management
Aquaculture	Oceanography
Limnology	Pollution

Areas of speciality

Marine mammals	Demersal fish
Pelagic fish	Other vertebrates
Lobsters	Shrimps/prawns
Other invertebrates	Algae
Micro-organisms	Plankton
Benthos	Coastal marine waters
Brackish waters	Inland (fresh) waters
Mangroves ecosystems	Coral ecosystems
Metals (pollutants)	Nutrients

Objectives and programmes
History of institution, its mandate and purpose
Established by Act of Queensland Parliament, proclaimed by Her Majesty Queen Elizabeth II, 20 April, 1970, as a tertiary institution for North Queensland, offering degrees, post-graduate training and special research facilities for tropical Australia, terrestial, freshwater and especially marine.
Research, monitoring and other activities in last three years
Major emphasis is on marine research with particular reference to the Great Barrier Reef Province, mangroves, estuaries and coastal waters and their resources.
Major current research and other activities
Coral reef ecology, energy budgets, environmental quality management, heavy metal monitoring: coastal fisheries, fish ecology, coral larval biology, taxonomy and community structure, mariculture of Tridacnidae, benthic ecology and community studies: taxonomy, trophodynamics, and life histories of marine invertebrates and vertebrates; dugong ecology, growth, reproduction, population dynamics and conservation; aspects of marine park management, studies on macro and micro-algae.
Future programmes
Continuation of current programme
Cooperative programme
Collaborative programmes are maintained in several of the areas cited in current research, with:
- Australian Institute of Marine Science
- CSIRO Division of Fisheries
- Queensland State Fisheries Laboratories
- Queensland National Parks and Wildlife
- Great Barrier Reef Marine Park Authority
- Queensland Department of Local Government
- Commonwealth Department of Home Affairs and Environment
- Commonwealth Department of Science and Technology
- other Australian Universities and unis. abroad
- Various industrial organisations
- various Australian State Museums

Training programme
Graduate (B.Sc) and post-graduate (M.Sc. & Ph.D.) courses for national and non-national students. Participation in development programmes with universities in Southeast Asian countries (AUIDP, UNESCO, ACIAR, etc.)

Institution structure
The School of Biological Sciences comprises three departments, viz.:
- Department of Botany
- Department of Marine Biology
- Department of Zoology

Staff
25 Scientific staff 13 Technical staff 3 Other staff

Professional scientific staff

Name	Degree	Speciality
Burdon-Jones, C.	Ph.D.	Trace element distribution (biotic/abiotic components)
Pichon, M.	D.Sc.	Coral taxonomy
Alexander, C.G.	Ph.D.	Anatomy (invertebrate sense organs)
Hartwick, R.F.	Ph.D.	Ecology/behaviour (coelenterates)
Collins, J.D.	Ph.D.	Surface current patterns
Birtles, R.A.	M.A.	Distributions of epibenthos (soft sediments)
Denton, G.W.	Ph.D.	Trace element distribution (biotic/abiotic components)
Wallace, C.C.	Ph.D.	Reproduction (scleractinian corals)
Arnold, P.W.	Ph.D.	Distributions of epibenthic organisms (soft sediments)
Morrissey, J.	Ph.D.	Pathways of carbon flow (coral reef macroalgae)
Barnett, B.	M.Sc.	Systematics/ecology (larval and post larval)
Bull, G.D.	M.Sc.	Larval dispersal (scleratinian corals)
Kenny, R.	Ph.D.	Physiology/ecology (Cellana and Siphonaria)
Lucas, J.S.	Ph.D.	Aquaculture (giant clams)
Milward, N.E.	Ph.D.	Taxonomy/ecology (fishes) Physiology (fishes)
Pearson, R.G.	Ph.D.	Ecology (tropical streams)
Marsh, H.	Ph.D.	Life history/ecology/ physiology (dugongs)
Bade, T.	M.Sc.	Biology (grunters)
Garnett, S.	Ph.D.	Crocodile/turtle (pathology-nutrition-husbandry)
Reid, D.	B.A.(Hons.)	Systematics/ecology (Littorina)
Willis, B.	B.Sc.(Hons.)	Phenotypic variation (reef corals)
Griffiths, D.J.	Ph.D.	Physiology (plant/algal), Biochemistry (algal)
Birch, W.R.	B.Sc.	Plant ecology, Systematics
Price, I.R.	Ph.D.	Algology, Marine ecology, Estuarine ecology
Luong-Van, T.	Ph.D.	Physiology (plant/algal), Biochemistry (algal), Microbiology, Genetics

Premises/facilities
Building area: 5500 m Laboratory area: 4000 m
With facilities for:
Visiting scientists: 2 Students: 255

Information facilities
Library holdings:
Number of books, journals, manuscripts, etc.: 5000
Number of periodical subscriptions: 250

Monographs and serials titles:
- JCUNQ annual listing of research publications available on request from Registrar.

Equipment
Siemens Elmiskop 102 transmission electron microscope, ETEC Autoscan with energy-dispersive probes, plus a range of associated equipment and dark room facilities, constant temperature rooms, algal culture room, histology and histochemistry, radioisotope, chromatography, plankton sorting, neurophysiology, and heavy metal assay laboratories, DEC-10 central computer system accessed through 3 laboratories, DEC-10 central computer system accessed through 3

Equipment (Cont.)

terminals, photomicrography and video recording facilities, atomic absorption spectrophotometer, scintillation counter, landing craft, 3 speed boats, 3 runabouts, inflatable.

Aquarium facilities

Total area: 120 m

Organisms maintained:

Demersal fish	Pelagic fish	Molluscs
Crustaceans	Other invertebrates	Algae
Micro-organisms		

Species maintained for experimental purposes:

Acanthaster planci *Tridacna sp.*

Research craft

Name: R.V. JAMES KIRBY
Length: 17 m.
Type: Stern trawler(steel)
Date of construction: 1972
Crew: 3
Scientists: 5
Laboratory space: 10 m
Special facilities:
Hydraulic winch and A frame, hydrographic winch, echosounders (vertical/forward), satellite and trisponder navigation, radar, VHF radio equipment, comprehensive range of instruments and gear for fishing, dredging, plankton sampling, water sampling, temperature, depth, pH, oxygen, salinity, turbidity measurement.

Institution code: 006120 Information received: 14/02/85

Department of Botany,
University of Queensland

Executive officer: ROGERS, Roderick W.: Head of Department

Postal address

Department of Botany,
University of Queensland
ST. LUCIA, QUEENSLAND 4067
AUSTRALIA

Telephone: 3772731

Working languages
English

Nature of institute
Academic

Main fields of activities
Biological sciences
Education, training or extension

Areas of speciality
Algae
Coral ecosystems

Objectives and programmes
History of institution, its mandate and purpose
- teaching and research
Research, monitoring and other activities in last three years
- systematics of marine algae, especially of the Great Barrier Reef
Major current research and other activities
Same as in the last three years
Future programmes
Same as in the last three years
Training programme
- Bachelor of Science programme
- Master of Science and Doctor or Philosophy by research

Institution structure
The Botany Department is an academic teaching and research unit within the University of Queensland with a heavy emphasis on terrestrial systems.

Staff

Professional scientific staff

Name	Degree	Speciality
Cribb, A.B.	Ph.D.	Algae (Great Barrier Reef)

Information facilities
Library holdings:
Number of books, journals, manuscripts, etc.: 102000
Number of periodical subscriptions: 3000

Equipment
Transmission electron microscope, analytical and physiological equipment including ultracentrifuge, computing facilities, algal culture facility, controlled environment cabinets.

Institution code: 006122 Information received: 10/05/84

Department of Zoology, University of Queensland

Executive officer: KIKKAWA Jiro: Head of Department

Postal address

Department of Zoology,
University of Queensland
ST. LUCIA, QUEENSLAND 4067
AUSTRALIA

Telephone: 07-3772471

Working languages
English

Nature of institute
Academic

Main fields of activities

Biological sciences	Ecological sciences
Marine fisheries	Inland fisheries
Resources management	Aquaculture
Pollution	

Areas of speciality

Demersal fish	Pelagic fish
Other vertebrates	Cephalopods
Lobsters	Shrimps/prawns
Other invertebrates	Plankton
Benthos	Offshore marine waters
Coastal marine waters	Brackish waters
Inland (fresh) waters	Mangroves ecosystems
Coral ecosystems	Metals (pollutants)

Objectives and programmes

History of institution, its mandate and purpose
Professor Goddard founded the Department of Biology in 1923, and Professor Stephenson was appointed as Foundation Chair for the Department of Zoology which grew out of the Department of Biology, in 1949. Environmental research in the marine field has been carried out since that time. For the terrestrial environment both basic and applied research started in 1965. The objectives of the Department are to teach first year zoology subjects to science, medicine, veterinary science, agriculture and other faculty students, and to further train zoology students in the Faculty of Science to B.Sc., M.Sc., Ph.D. and D.Sc. levels. A large number of research projects involving both marine and terrestrial environments are also carried out by the staff of the department.
Research, monitoring and other activities in last three years
Main areas of research include:
- distribution and population dynamics of vertebrates
- invertebrate biology and ecology
- estuarine ecology
- ichthyology
- ornithology
- human ecology
- ecology of mammals
- taxonomy of oligochaetes, mollusca and crustaceans
- marine toxins
- ultrastructure

Major current research and other activities
Same as in the last three years
Future programmes
Same as in the last three years
Cooperative programme
Many programmes are carried out jointly with the State Departments of Fisheries, National Parks and Wildlife Service, Water Boards and South East Queensland Electricity Board; also CSIRO, Griffith University. International co-operation in the fields of fisheries, forestry and UNESCO-MAB.
Training programme
- ADAB postgraduate training in marine biology
- on job training programmes for overseas students under some agreements

Staff
14 Scientific staff 18 Technical staff 15 Other staff

Professional scientific staff

Name	Degree	Speciality
Cameron, A.M.	Ph.D.	Biotoxinology
Mc Cullum, H.	Ph.D.	Biostatistics
Dwyer, P.D.	Ph.D.	Ecology of mammals
Endean, R.	Ph.D.	Blood cells of ascidians
Fielder, D.R.	Ph.D.	Ecology (crustacea)
Greenwood, J.G.	Ph.D.	Crustacean biology
Hailstone, T.S.	Ph.D.	Ecology of benthos
Hamieson, B.G.M.	D.Sc.	Invertebrate ultrastructure
Kikkawa, J.	D.Sc.	Distribution behaviour, Population dynamics (vertebrates)
Mather, W.B.	Ph.D.	Cytogenetics (genus Drosophila)
Thomson, J.M.	D.Sc.	Estuarine ecology
Thorne, M.J.	Ph.D.	Invertebrate behaviour
Thulborn, R.A.	Ph.D.	Biology/evolution (mesozoic reptiles)
Warburton, K.	Ph.D.	Fish energetics, Population dynamics
Willan, R.C.	Ph.D.	Systematics/ecology (mollusca)

Premises/facilities
Building area: 3397 m Laboratory area: 756 m
With facilities for:
Visiting scientists: 5 Students: 65

Equipment
A total value of about £500,000 which includes Hitachi H-300 electron-microscope and other high quality laboratory equipment.

Aquarium facilities
Total area: 58 m Number of tanks: 60

Organisms maintained:
Demersal fish Other vertebrates Molluscs
Crustaceans Other invertebrates

Research craft
Name: SEA WANDERER
Owner: University of Queensland
Length: 15 m.
Type: Trawler
Crew: 2

Name: SCYLLA
Owner: University of Queensland
Type: Speedboat

Institution code: 006123 Information received: 08/02/85

School of Earth Sciences,
The Flinders University of South Australia

Executive officer: von der BORCH, Chris C.: Chairman

Postal address

School of Earth Sciences,
The Flinders University of South Australia
BEDFORD PARK 5042, S.A.
AUSTRALIA

Telephone: 08-2752213

Working languages
English

Nature of institute
Academic

Main fields of activities

Oceanography	Limnology
Meteorology/climatology	Geology/sedimentology
Mineral resources (incl. Oil)	

Areas of speciality

Offshore marine waters	Coastal marine waters
Brackish waters	Inland (fresh) waters

Objectives and programmes
History of institution, its mandate and purpose
The School of Earth Sciences, Flinders University began teaching and research in 1970. It prepares students for the B.Sc. and B.Sc. (Hons.) degrees, by course work. It also enables post-graduate students to proceed to the M.Sc. and Ph.D. degrees by research and thesis. There have been 121 graduates with B.Sc. (Hons.), 14 higher degree graduates with M.Sc. and 29 higher degree graduates with the Ph.D. degree, in the period 1970 to 1983.
Research, monitoring and other activities in last three years
The research during 1981-1984 has included:
- physical oceanography and tides
- micro-meteorology
- radiation budgets
- evapotranspiration
- limnology
- geochemistry of uranium for geochronology
- sedimentology
- structural geology
- hydrocarbon dynamics
- seismology
- geomagnetism
- hydrogeology

Major current research and other activities
Same as in the last three years
Training programme
The School of Earth Sciences provides training as described above under objectives and programes.

Institution structure
The Flinders University of South Australia consists of the following schools:
- Physical Sciences
- Biological Sciences
- Earth Sciences
  (Meteorology and Oceanography; Marine Geology and Geophysics)
- Mathematical Sciences
- Humanities
- Social Sciences
- Education
- Medicine

Staff
20 Scientific staff 13 Technical staff 4 Other staff

Professional scientific staff

Name	Degree	Speciality
von der Borch, C.C.	Ph.D.	Sedimentary geology, Geological oceanography

Staff (Cont.)

Name	Degree	Speciality
Grady, A.E.	Ph.D.	Structural geology
Abbott, M.J.	Ph.D.	Petrology, Igneous geology
Veeh, H.H.	Ph.D.	Geochemistry, Chemical oceanography
Chamalaun, F.H.	Ph.D.	Geomagnetism
Russ, P.	B.Sc.	General geology
Bowers, D.	Ph.D.	Oceanography
Lennon, G.W.	M.Sc.	Oceanography
Bye, J.A.T.	Ph.D.	Oceanography
Schwerdtfeger, P.	Ph.D.	Meteorology, Micrometeorology
Byron-Scott, R.A.D.	Ph.D.	Meteorology
Bennett, J.M.	Ph.D.	Meteorology, Oceanography
Nunes, R.A.	Ph.D.	Oceanography
Shields, B.	Ph.D.	Hydrology
Norman, T.	B.Sc.	Computer applications
Gordon, A.H.	M.Sc.	Meteorology
Hacker, J.M.	Ph.D.	Meteorology
Hacker-Thomae, S.	Ph.D.	Meteorology
Greenhalgh, S.A.	Ph.D.	Seismology
White, A.	Ph.D.	Geomagnetism

Premises/facilities

Building area: 3700 m Laboratory area: 724 m
With facilities for:
Visiting scientists: 2

Equipment

Inductively-coupled plasma spectrometer, atomic absorption spectrometer, X-ray diffraction apparatus, Spinner magnetometer, magnetic-array magnetometers, neutron moisture meter and density-probe, short-wave and all-wave length radiometers, data-loggers for field use, temperature-salinity depth profilers, tide gauges, atmospheric sounders, powered-glider, precise radiation calibration facility, Nova- and other minicomputers.

Research craft

Name: DAN DAILY
Length: 8 m.
Type: Twin-engine catamar.
Special facilities:
Suitable only for near-shore waters.

Institution code: 006125 Information received: 12/02/85

Chemistry Department, University of Tasmania

Executive officer: LARKINS, Frank P.: Head of Department

Postal address

Chemistry Department,
University of Tasmania
P.O. Box 252C
HOBART, TASMANIA 7001
AUSTRALIA

Telephone: 002-202179
Telex: 58150 UNTAS
Cable: TASUNI

Working languages
English

Nature of institute
Academic

Main fields of activities
Chemical sciences
Education, training or extension

Objectives and programmes
- both basic and applied research on terrestrial and marine natural products using sources from Tasmania, mainland Australia and the South Pacific
- environmental chemistry with particular reference to Tasmania
- biological chemistry of mercury

Cooperative programme
Co-operative programmes have been developed with:
- US National Cancer Institute
- Upjohn Company
- Diamond Shamrock Company

Work is also undertaken with:
- Tasmanian Department of Environment
- local industries
- Monash University
- CSIRO, Division of Oceanography

Training programme
Undergraduate and graduate courses in chemistry leading to B.Sc., B.Sc. (Hons.), M.Sc. and Ph.D.

Institution structure
The Department is divided into:
- First Year Studies
- Inorganic Chemistry
- Physical Chemistry
- Organic Chemistry

Staff
13 Scientific staff 8 Technical staff 4 Other staff

Professional scientific staff

Name	Degree	Speciality
Larkins, F.P.	D.Phil.	Theoretical/energy chemistry
Blackman, A.J.	Ph.D.	Organic chemistry
Bremner, J.B.	Ph.D.	Organic chemistry
Browne, E.J.	Ph.D.	Organic chemistry
Canty, A.J.	Ph.D.	Inorganic chemistry
Dunn, L.A.	Ph.D.	Physical chemistry
Finney, A.J.	Ph.D.	Physical chemistry
Hitchman, M.A.	Ph.D.	Inorganic chemistry
O'Grady, B.V.	Ph.D.	Physical chemistry
Roberts, N.K.	Ph.D.	Physical chemistry
Smith, P.W.	Ph.D.	Inorganic chemistry
Thomas, R.	Ph.D.	Physical chemistry
Arnold, A.P.	Ph.D.	Inorganic chemistry

Premises/facilities
Building area: 4000 m Laboratory area: 2000 m
With facilities for:
Visiting scientists: 5 Students: 500

Information facilities
Library holdings:
Number of books, journals, manuscripts, etc.: 4548
Number of periodical subscriptions: 196

Equipment
NMR, FTIR, ESR, GC/MS.

Institution code: 006127 Information received: 12/02/85

Inland Fisheries Commission

Executive officer: SLOANE, Robert D.: Commissioner

Postal address

Inland Fisheries Commission
127 Davey Street
HOBART 7000, TASMANIA
AUSTRALIA

Telephone: 236622/237878

Working languages
English

Nature of institute
Governmental

Main fields of activities

Inland fisheries	Resources management

Areas of speciality

Pelagic fish	Other vertebrates
Benthos	Brackish waters
Inland (fresh) waters	Metals (pollutants)
Halogenated hydrocarbons	Nutrients

Objectives and programmes

History of institution, its mandate and purpose
- the management, control, protection and regulation of salmonid fisheries and fisheries in inland waters
- the collection, publication and dissemination of information with regard to freshwater fish and inland waters of Tasmania

Research, monitoring and other activities in last three years
- benthic invertebrate studies
- taxonomic and ecological studies of native freshwater fish
- research on the life history of Tasmanian freshwater eels
- studies of brown trout and rainbow trout populations, age, growth, diet and spawning success

Major current research and other activities
Same as in the last three years

Future programmes
Same as in the last three years

Cooperative programme
Some co-operative research is conducted in association with the Zoology Department, University of Tasmania (native fish and crustacea); the Botany Department, University of Tasmania (limnological), the Tasmanian Fisheries Development Authority (aquaculture - marine) and the Tasmanian College of Advanced Education (freshwater aquaculture).

Training programme
The Commission has no specific training programme.

Institution structure

The Inland Fisheries Commission is headed by a Commissioner (Chairman of the Commission). There are three Associate Commissioners (representatives of freshwater angling associations), two scientific officers and one assistant are responsible for research.
In addition, there is an administrative staff of four headed by the Secretary of Inland Fisheries, two hatchery staff (a hatchery manager and assistant) and eight enforcement staff, headed by a Senior Fisheries Inspector.

Staff

3 Scientific staff	1 Technical staff	15 Other staff

Professional scientific staff

Name	Degree	Speciality
Sloane, Robert D.	Ph.D.	Biology of salmonids
Fulton, Wayne	M.Sc.	Benthic invertebrates, Galaxiid taxonomy
Davies, Peter E.	Ph.D.	Environmental chemistry, Pesticides

Premises/facilities

Building area: 250 m Laboratory area: 30 m

Information facilities

Library holdings:
Number of books, journals, manuscripts, etc.: 150
Number of periodical subscriptions: 30

Monographs and serials titles:
- Annual Report (each year)
- Fisheries Newsletter (four times per year)
- A list of published papers is available on request from the Commission

Equipment

Hatchery facilities (2 salmonid hatcheries), constant temperature laboratory facilities, four electrofishing machines (including backpack set), compound and stereo microscopes, scale reader (age determination), chemical and flat pan balances, normal laboratory equipment and field equipment, the Commission maintains fish ladders, fish traps and artificial spawning channels for research.

Aquarium facilities

Total area: 5 m Number of tanks: 30

Organisms maintained:
Other vertebrates Molluscs Crustaceans

Species maintained for experimental purposes:

Anguilla australis *Anguilla reinhardtii* *Salmo trutta*
Salmo gairdneri *Galaxias spp.*

Institution code: 006128 Information received: 06/02/85

School of Applied Geology, University of New South Wales

Executive officer: GOVETT, Gerry J.S.: Head of School

Postal address

School of Applied Geology,
University of New South Wales
Barker St.
P.O. Box 1
KENSINGTON 2033, NEW SOUTH WALES
AUSTRALIA

Telephone: 6630351
Telex: AA 26054
Cable: UNITECH SYDNEY

Working languages
English

Nature of institute
Academic

Main fields of activities

Ecological sciences	Oceanography
Offshore technology	Pollution
Geography	Geology/sedimentology
Mineral resources (incl. Oil)	Education, training or extension

Areas of speciality

Micro-organisms	Plankton
Benthos	Mineral oil
Other minerals	Sea-bed nodules
Offshore marine waters	Coastal marine waters
Brackish waters	Metals (pollutants)

Objectives and programmes
The School has maintained active marine research since 1965, with past, current and future work in:
- micropalaeontology
- sedimentology
- palaeoecology
- seafloor topography
- seismic reflection
- seismic refraction
- beach and coastal geology
- petrology
- petroleum
- seafloor minerals

Cooperative programme
- Tripartite Marine Geoscience Programme

Training programme
University undergraduate subjects: Marine geology I and II; Estuarine geology; Hydrological surveying; Marine mineral deposits; Seismic methods; Marine resources.
Postgraduate: M.Sc., Ph.D.

Staff
6 Scientific staff 0 Technical staff 0 Other staff

Professional scientific staff

Name	Degree	Speciality
Carter, A.N.	Ph.D.	Micropalaeontology
Albani, A.D.	Ph.D.	Micropalaeontology
Hawkins, L.V.	M.Sc.	Geophysics
Whiteley, R.	M.Sc.	Geophysics
Neef, G.	Ph.D.	Sedimentology
Rickwood, P.C.	Ph.D.	Petrology
Evans, P.R.	Ph.D.	Reflection, Seismic

Premises/facilities
Building area: 500 m Laboratory area: 20 m
With facilities for:
Visiting scientists: 1 Students: 20

Information facilities

Library holdings:
Number of books, journals, manuscripts, etc.: 2000
Number of periodical subscriptions: 100

Research craft

Name:	NAUPLIUS
Owner:	Univ. N.S.W.
Length:	6 m.
Type:	Alumin. open launch
Date of construction:	1968

Institution code: 006129 Information received: 14/02/85

Zoology Department, University of Tasmania

Executive officer: WILSON, Ian S.: Head of Department

Postal address

Zoology Department,
University of Tasmania
P.O. Box 252C
HOBART 7001, TASMANIA
AUSTRALIA

Telephone: 202613
Telex: 58150 UNTAS
Cable: TASUNI

Working languages
English

Nature of institute
Academic

Main fields of activities
Biological sciences — Ecological sciences
Marine fisheries — Inland fisheries
Pollution

Areas of speciality
Demersal fish — Pelagic fish
Shrimps/prawns — Plankton

Objectives and programmes
- teaching and research in zoology

Cooperative programme
- Antarctic Division (krill research)
- CSIRO Fisheries (marine fisheries)

Training programme
Undergraduate, Honours, M.Sc., Ph.D.

Staff
10 Scientific staff 11 Technical staff 1 Other staff

Professional scientific staff

Name	Degree	Speciality
Stoddart, D.M.	Ph.D.	Olfaction
Hickman, J.L.	Ph.D.	Parasitology
Richardson, A.M.M.	Ph.D.	Ecology
Ritz, D.A.	Ph.D.	Marine biology
Swain, R.	Ph.D.	Physiology
White, R.W.G.	Ph.D.	Fisheries
Wilson, I.S.	Ph.D.	Neurobiology
Buchmann, O.L.K.A.	B.Sc.(Hons.)	Behaviour
Rose, R.W.	B.Sc.(Hons.)	Reproductive biology
Lim, K.H.	M.Sc.	Freshwater biology

Premises/facilities
Building area: 2000 m — Laboratory area: 700 m
With facilities for:
Visiting scientists: 1

Equipment
There are adequate holding and storage facilities: constant temperature rooms, aquaria, analytical equipment including a range of balances, AA and UV spectrophotmeters, gas chromatograph, various salinometers, oxygen and carbon dioxide electrodes, two Gilson respirometers; for specimen preparation there is the usual histochemical apparatus, also a freeze-drier, vacuum and muffle furnace; there is a full range of microscopes; computing facilities include: a Hewlett-Packard micro-computer and terminals to the University main frame.

Aquarium facilities
Total area: 15 m — Number of tanks: 20

Research craft

Length:	7 m.
Type:	Sharkcat
Date of construction:	1984

Institution code: 006130 Information received: 03/08/84

CSIRO, Division of Fisheries Research (CSIRO-DFR)

Executive officer: HARDEN JONES, Roy F.: Chief

Postal address

CSIRO, Division of Fisheries Research (CSIRO-DFR)
Castray Esplanade
P.O. Box 1538
HOBART, TASMANIA 7001
AUSTRALIA

Telephone: 002-206222
Telex: AA 57182
Cable: MAR LAB

Working languages
English

Nature of institute
Governmental

Main fields of activities
- Biological sciences
- Ecological sciences
- Marine fisheries
- Resources management
- Aquaculture
- Oceanography
- Microbiology

Areas of speciality
- Demersal fish
- Pelagic fish
- Other vertebrates
- Cephalopods
- Lobsters
- Shrimps/prawns
- Other invertebrates
- Algae
- Micro-organisms
- Plankton
- Benthos
- Offshore marine waters
- Coastal marine waters

Objectives and programmes

History of institution, its mandate and purpose
The Fisheries Section of the Council for Scientific and Industrial Research, was established in 1936. Under CSIRO this Section became Fisheries Research Division in 1981. The function of the Division of Fisheries Research is to undertake research in marine biology and fisheries, directed particularly to the study of population dynamics of commercial and potentially commercial fish, aimed towards fishery management, especially in the Australian Fishing Zone (AFZ). The research includes both strategic work and resource oriented studies.

Research, monitoring and other activities in last three years
- study the population dynamics and biology of adult fish stocks, and the food webs which support them
- communication of scientific results to industry, particularly tuna, prawn and rock lobster, for the purpose of management

Major current research and other activities
Same as in the last three years

Future programmes
Same as in the last three years

Cooperative programme
Within Ministerial portfolio of Science and Technology:
- Australian Institute of Marine Science (AIMS)
- Great Barrier Reef Marine Park Authority (GBRMPA)
- Antarctic Division

Within Ministerial portfolio of Primary Industry:
- Fisheries Division
- Australian Fisheries Council
  - Standing Committee on Fisheries (SCF)
  - Sub-Committees of SCF
  - Fishing Industry Research Committee
  - Australian Fishing Zone Committee

State Fisheries Departments:
- NSW Department of Agriculture, Division of Fisheries
- WA Department of Fisheries and Wildlife
- Vic. Department of Conservation, Forests and Lands, Division of Fisheries and Wildlife
- Tasmanian Fisheries Development Authority
- SA Department of Fisheries
- Queensland Department of Primary Production, Division of Dairying and Fisheries
- NT Department of Primary Production, Fisheries Division

Objectives and programmes (Cont.)

Universities:
- University of Sydney
- University of NSW
- University of Queensland
- University of Tasmania
- James Cook University of N. Queensland
- Murdoch University
- University of Wollongong

CSIRO Divisions:
- Division of Oceanography
- Division of Food Research
- Division of Human Nutrition

Training programme
- on the job training only

Institution structure
CSIRO, Division of Fisheries Research's work is divided in the following programmes:
- Algal Physiology and Ecology
- Fisheries Resources
- Prawn Ecology
- Rock Lobster Ecology
- Biological Oceanography

Staff
87 Scientific staff 30 Technical staff 38 Other staff

Professional scientific staff

Name	Degree	Speciality
Alder, J.S.	B.Sc.	Programming
Allen, K.R.	Sc.D.	
Bell, R.S.	B.Sc.	Rock lobster ecology
Blaber, S.J.M.	Ph.D.	Tropical fish ecology
Blackburn, S.I.	Ph.D.	Algal culture
Bruce, B.D.	M.Sc.	Larval fish taxonomy, Ecology
Bulleid, N.C.	M.Sc.	Inorganic nutrients
Bulman, C.M.	B.Sc.	Fish biology
Channells, P.W.	B.Sc.	Rock lobster ecology
Church, A.G.	B.Sc.	Logistic coordinator
Chrystal, J.	B.Sc.	Biochemistry
Collins, A.D.	B.Sc.	Algal pigments
Cowper, T.R.	B.Sc.	Fish biology
Crocos, P.J.	M.Sc.	Prawn biology
Crossland, C.J.	Ph.D.	Plant physiology
Dall, W.	Ph.D.	Crustacean physiology
Davenport, S.R.	B.Sc.	Fish biology
Davis, T.L.O.	Ph.D.	Fish biology
Griffiths, F.B.	B.Sc.	Euphausiid biology
Gunn, J.S.	B.Sc.	Ecology (Carangidae), Systematics (Carangidae)
Hallegraeff, G.M.	Ph.D.	Phytoplankton taxonomy, Ecology
Hampton, J.W.	B.Sc.	Programming Population modelling
Harden Jones, F.R.	Ph.D.	Fish guidance mechanisms
Harris, A.N.	B.Sc.	Fish biology
Harris, G.P.	Ph.D.	Biological oceanography
Hausfeld, H.F.	B.Sc.	Taxonomy (larval fish)
Hearn, C.J.	Ph.D.	Oceanography
Hearn, W.S.	B.Sc.	Fish population dynamics
Heron, A.C.	Ph.D.	Population dynamics, Zooplankton biology
Hill, B.J.	Ph.D.	Crustacean behaviour, Ecology
Howard, R.K.	Ph.D.	Rock lobster ecology
Jackson, C.J.	B.Sc.	Prawn larval ecology
Jeffrey, S.W.	Ph.D.	Algal physiology, Phytoplankton ecology, Algal culture
Jernakoff, P.	Ph.D.	Rock lobster ecology
Johannes, R.E.	Ph.D.	Reef ecology
Jones, G.B.	B.Sc.	Fish taxonomy, Fish feeding
Kelly, G.J.	Ph.D.	Photosynthesis
Kenchington, T.J.	Ph.D.	Morphometrics, Population dynamics
Kirkman, H.	Ph.D.	Seagrass, Seaweed biology

Staff (Cont.)

Name	Degree	Speciality
Kirkwood, G.P.	Ph.D.	Statistics, Fish population dynamics
Kitchener, J.A.	B.Sc.	Fish biology
Lavery, S.D.	B.Sc.	Biochemical genetics
Leyland, G.G.	B.Sc.	Fish taxonomy
Lindholm, R.Y.	Fil.Kand.	Fish biology
MacFarlane, J.W.	B.Sc.	Artisanal fisheries
MacLulich, U.L.	B.Sc.	Macrobenthos ecology
Majkowski, J.	Ph.D.	Population dynamics, Population modelling
Major, G.A.	M.App.Sc.	Seawater chemistry
Martin, R.B.	M.Sc.	Reproductive biology (fish)
McLoughlin, R.J.	B.Sc.	Marine sedimentology
McWilliam, P.S.	M.Sc.	Zooplankton taxonomy, Biology
Moriarty, D.J.W.	Ph.D.	Microbial ecology
Morris, G.B.	B.Sc.	Programming (fish. data base)
Munro, I.S.R.	M.Sc.	Fish taxonomy
Nissink, H.F.	B.E.	Electronics
Otway, N.M.	B.Sc.	Fish biology
Phillips, B.F.	Ph.D.	Rock lobster ecology
Poiner, I.R.	Ph.D.	Biology (seagrasses/fish)
Pollard, P.C.	M.Sc.	Microbial ecology
Rainer, S.F.	Ph.D.	Macrobenthos ecology
Richards, P.G.	Ph.D.	Programming
Ridgway, N.W.	B.Sc.	Programming
Rimmer, D.W.	B.Sc.	Reef ecology
Rintoul, G.B.	B.Sc.	Biochemical genetics
Roberts, D.G.	B.Sc.	Microbial ecology
Rothlisberg, P.C.	Ph.D.	Prawn larval taxonomy, Biology, Ecology
Sainsbury, K.J.	Ph.D.	Population dynamics (tropical fish)
Salini, J.P.	M.Sc.	Biochemical genetics
Shaklee, J.B.	Ph.D.	Fish biochemical genetics
Smith, D.F.	Ph.D.	Primary/secondary production
Smith, D.M.	B.App.Sc.	Prawn physiology
Somers, I.F.	M.Sc.	Population dynamics
Stanley, C.A.	Ph.D.	Fish biology
Staples, D.J.	Ph.D.	Prawn ecology
Stevens, J.D.	Ph.D.	Shark biology Ecology
Stokes, R.A.	B.E.	Electronics
Thresher, R.E.	Ph.D.	Reproductive ecology, Behaviour (marine fishes)
Titterton, M.P.	B.Sc.	Fish taxonomy
Tranter, D.J.	D.Sc.	Biological oceanography
Vance, D.J.	B.Sc.	Ecology of prawns
Wadley, V.A.	M.Sc.	Community ecology
Ward, T.J.	Ph.D.	Macrobenthos ecology
West, G.J.	B.Sc.	Fish biology
Whitelaw, A.W.	B.Sc.	Fish biology
Williams, K.F.	B.Sc.	Fish biology
Young, J.W.	B.Sc.	Fish biology
Young, P.C.	Ph.D.	Fish biology, Reproductive physiology

Premises/facilities

Building area: 12292 m Laboratory area: 9032 m

Information facilities

Library holdings:
Number of books, journals, manuscripts, etc.: 7000
Number of periodical subscriptions: 195

Monographs and serials titles:
- Monographs
- Current Serials Titles (Circular, CSIRO Marine Laboratories/ Fishery Situation Report/Microfiche Report/Report, CSIRO Marine Laboratories/Research Report, CSIRO Marine Laboratories)

Equipment

Autoclave (Athena MSEC 2024), calculator (Hewlett Packard 9825), Photosea System camera, centrifuge (Sorvall RC5), computer (Apple 2E), computer (DEC PDP11/04), computer (DEC PDP11/34A), computer (Intellec 230), Microfile computer, particle counter (BIAC PC320) scintillation counter (LKB 1217-001), microscope (Leitz Orthoplan W/ACs), computer node (DEC PDP11/10), word processor (NBI 3000 Remington), pencil follower recorder (D-MAC), spectrophotometer (Cary 17), datacard terminal (TAB501), thermosalinograph (Grundy 6620), thermosalinograph (Plessey MOD 6600T).

Aquarium facilities

Organisms maintained:
Algae Micro-organisms

Species maintained for experimental purposes:

Amphiprora hyalina	*Amphora sp.*	*Asterionella glacialis*
Cylindrotheca fusiformis	*Delphineis sp.*	*Fragilaria pinnata*
Grammatophora oceanica	*Navicula sp.*	*Nitzschia bilobata*
Nitzschia closterium	*Nitzschia frustulum*	*Nitzschia sp.*
Phaeodactylum tricornutum	*Pleurosigma delicatulum*	*Thalassionema nitzechiodes*
Thalassiothrix delicatula	*Chaetoceros affinis*	*Chaetoceros calcitrans*
Minutocellus polymorphus	*Chaetoceros didymus*	*Chaetoceros gracilis*
Chaetoceros mitra	*Chaetoceros radians*	*Chaetoceros sp.*
Coscinodiscus sp.	*Detonula pumila*	*Ditylum brightwellii*
Eucampia zodiacus	*Extubocellulus spinifer*	*Lauderia annulata*
Odontella aurita	*Odontella mobiliensis*	*Rhizosolenia setigera*
Skeletonema costatum	*Stephanopyxis turris*	*Streptotheca tamesis*
Thalassiosira eccentrica	*Thalassiosira oceanica*	*Thalassiosira pseudonana*
Thalassiosira rotula	*Thalassiosira stellaris*	*Amphidinium carterae*
Amphidinium klebsii	*Amphidinium sp.*	*Sybiodinium microadriaticu*
Gymnodinium sanguineum	*Heterocapsa niei*	*Kryptoperidinium foliaceum*
Peridinium balticum	*Prorocentrum gracile*	*Prorocentrum micans*
Scrippsiella sp.	*Chattonella japonica*	*Heterosigma inlandica*
Olisthodiscus luteus	*Chloromonad*	*Pelagococcus subviridis*
Cricosphaera carterae	*Emiliania huxleyi*	*Isochrysis galbana*
Pavlova lutheri	*Pavlova salina*	*Pavlova sp.*
Phaeocystis pouchetii	*Prymnesiophyte*	*Coccolithophorid*
Chroomonas sp.	*Cryptomonas maculata*	*Cryptomonad*
Porphyridium purpureum	*Chlamydomonas reinhardii*	*Chlorella pyrenoidosa*
Chlorella vulgaris	*Chlorella sp.*	*Dunaliella tertiolecta*
Stichococcus sp.	*Micromonas pusilla*	*Pyramimonas cordata*
Pyramimonas gelidicola	*Tetraselmis chui*	*Tetraselmis suecica*
Tetraselmis sp.	*Euglena gracilis*	*Anabaena cylindrica*
Oscillatoria woronichinii	*Synechococcus sp.*	*Pleurochloris communata*
Polyedriella helvetica	*Vischeria punctata*	

Research craft

Name: FRV SOELA
Owner: Soela Marine Research Pty. Ltd.
Length: 53 m.
Type: Stern trawler
Date of construction: 1965
Crew: 16
Scientists: 11
Laboratory space: 95 m
Special facilities:
Fishing/biological oceanography.

Name: RV SPRIGHTLY
Owner: Korevaar Marine Group Ltd.
Length: 43 m.
Type: Ex-salvage tug
Date of construction: 1943
Crew: 11
Scientists: 8
Laboratory space: 41 m
Special facilities:
Physical/chemical oceanography.

Institution code: 006136 Information received: 12/02/85

CSIRO, Division of Environmental Mechanics

Executive officer: PHILIP, John R.: Chief

Postal address

CSIRO, Division of Environmental Mechanics
Clunies Ross Street
P.O. Box 821
CANBERRA, A.C.T. 2601
AUSTRALIA

Telephone: 062-465615
Telex 62861
Cable ENMECH, CANBERRA

Working languages
English

Nature of institute
Governmental

Main fields of activities
Ecological sciences — Physical sciences
Meteorology/climatology

Areas of speciality
Wind — Coastal marine waters

Objectives and programmes

History of institution, its mandate and purpose
The Division was founded in 1971, to conduct physical investigations of energy exchange and the movement of natural and introduced substances (e.g. water and carbon dioxide, salts, fertilizers) in the environment, with special reference to plants, soils and the lower layers of the atmosphere.

Research, monitoring and other activities in last three years
The Division supports an ongoing research effort in many aspects of the physics of the biosphere, including:
- photosynthesis and evaporation in crops and forests
- water uptake from soils and its movement in plants
- radiation exchange and the microclimate within plant canopies
- CO2 and nitrogenous gas exchanges between soils, plants, and the atmosphere
- turbulent transfer of heat, mass, and momentum in the atmospheric surface layer, and above and within plant canopies, with special reference to the effects of surface heterogeneities
- the physical properties of soils and other porous media, in particular their interaction with water
- free convection in porous media
- capillary condensation and adsorption

Major current research and other activities
Same as in the last three years

Future programmes
Same as in the last three years

Cooperative programme
Divisional scientists collaborate extensively with their colleagues in other CSIRO Divsions, in academic institutions, and in other governmental research laboratories and extension services.

Training programme
The Division has no formal training program but participates in the CSIRO Postdoctoral Fellowship scheme and provides educational and training opportunities for tertiary students on a short-term basis.

Institution structure
The Division's research is divided into four programmes.
- Soil Physics
- Physical Ecology
- Micrometeorology
- Applied Mechanics

Staff
17 Scientific staff — 6 Technical staff — 6 Other staff

Professional scientific staff

Name	Degree	Speciality

Staff (Cont.)

Aldis, G.K.	Ph.D.	Applied mathematics
Bradley, E.F.	Ph.D.	Boundary-layer meteorology
Broadbridge, P.	Ph.D.	Applied mathematics
Coppin, P.A.	Ph.D.	Boundary-layer meteorology
Denmead, O.T.	Ph.D.	Physical ecology
Finnigan, J.J.	Ph.D.	Boundary-layer meteorology
Knight, J.H.	Ph.D.	Applied mathematics
Lang, A.R.G.	Ph.D.	Physical ecology
Millar, B.D.	Ph.D.	Plant-water relations
Perroux, K.M.	B.Sc.	Porous media physics
Philip, J.R.	Ph.D.	Porous media physics, Fluid dynamics, Applied mathematics
Raupach, M.R.	Ph.D.	Boundary-layer meteorology
White, I.	Ph.D.	Porous media physics
Huang, C.H.	Ph.D.	Porous media physics
Katen, P.C.	Ph.D.	Boundary-layer meteorlogy
Sully, M.	Ph.D.	Porous media physics
Zegelin, S.J.	M.Sc.	Porous media physics

Premises/facilities

Building area: 1700 m Laboratory area: 600 m
With facilities for:
Visiting scientists: 2

Information facilities

Library holdings:
Number of books, journals, manuscripts, etc.: 11000
Number of periodical subscriptions: 11

Monographs and serials titles:
- Divisional Reports 1979-1980, 1981-1982, 1983-1984
- Divisional Publications List

Equipment

Boundary-layer wind tunnel, with 16m working section.

Institution code: 006138 Information received: 12/02/85

CSIRO, Divsion of Oceanography (DO)

Executive officer: McEWAN, Angus D.: Chief

Postal address

CSIRO, Divsion of Oceanography (DO)
Castray Esplanade
P.O. Box 1538
HOBART 7001, TASMANIA
AUSTRALIA

Telephone: 02-206222
Telex: AA57182

Working languages
English

Nature of institute
Governmental

Main fields of activities
Oceanography
Engineering
Chemical sciences
Meteorology/climatology

Areas of speciality
Tides/waves
Offshore marine waters
Petroleum hydrocarbons
Nutrients
Wind
Coastal marine waters
Metals (pollutants)

Objectives and programmes
History of institution, its mandate and purpose
CSIRO Division of Fisheries and Oceanography (DFO) has undertaken oceanographic research for the past 40 years. In 1981, DFO split into two separate Divisions, namely CSIRO Division of Oceanography and CSIRO Division of Fisheries Research. These two divisions are housed in a new laboratory complex in Hobart, Tasmania. They share support facilities such as workshops, and are known jointly as the CSIRO Marine Laboratories.
Research, monitoring and other activities in last three years
- research on east and west Australian current systems
- physical oceanography related to World Climate Program
- continental shelf dynamics
- marine chemistry
- satellite oceanography
- oceanographic instrumentation

Major current research and other activities
Same as in the last three years
Future programmes
Same as in the last three years
Cooperative programme
Collaboration in various areas of oceanography with numerous national and international organisations, including:
- Australian Institute of Marine Science (AIMS)
- Woods Hole Oceanographic Institution (WHOI)
- Scripps Insitution of Oceanography
- Oregon State University (USA)
- Institute of Ocean Sciences (Canada)

Training programme
No formal training courses, but competitive, post-doctoral fellowships. Staff may undertake some teaching duties at tertiary institutions.

Institution structure
The Division of Oceanography's work is divided in:
- Scientific Programs (Physical Oceanography and Ocean characterisation
- Oceanographic Equipment Development
- Ocean Monitoring Services
- Central Administration
- Support Facilities (computing, electronics, workshop)

Staff
29 Scientific staff 22 Technical staff 18 Other staff

Professional scientific staff

Name	Degree	Speciality
McEwan, A.D.	Ph.D.	Fluid dynamics
Cresswell, G.R.	Ph.D.	Ocean dynamics, Satellite drifters, Eddies
Church, J.A.	Ph.D.	Ocean modelling
Godfrey, J.S.	Ph.D.	Large scale ocean dynamics, Climate
Lindstrom, E.J.	Ph.D.	Mesoscale eddy dynamics, Water property distributions
McDougall, T.J.	Ph.D.	Small scale ocean processes
Meyers, G.A.	Ph.D.	Oceanic circulation, Heat storage and climate
Nilsson, C.S.	Ph.D.	Ocean remote sensing, Eddy evolution
Mackey, D.J.	Ph.D.	Trace metal chemistry
Volkman, J.K.	Ph.D.	Marine lipid chemistry
Edwards, R.J.	B.Sc.	Hydrology
Forbes, A.M.	M.Sc.	Marine meteorology
Petersen, J.L.	B.A.	Computerised data analysis
Pearce, A.F.	M.Sc.	Shelf oceanography (satellite)
Airey, D.	Ph.D.	Environmental mercury
Clift, S.H.	M.Sc.	Scientific computing
Giles, A.B.	Ph.D.	Scientific computing, Instrumentation
Ridgway, D.R.	M.Sc.	Computerized data analysis, Large scale oceanography
Reid, J.	Ph.D.	Numerical modelling
Tildesley, P.C.	Ph.D.	Scientific computing, Statistics
White, N.J.	Ph.D.	Scien. computer programming
Everitt, D.A.	M.Sc.	Scanning electron microscopy
Higgins, H.W.	B.Sc.	Trace metals, Macroalgae
Lingard, P.S.	Ph.D.	Two-phase fluid flow
Boland, F.M.	B.Sc.	Oceanographic equipment development
Leinasars, V.E.	B.E. (mech.)	Oceanographic engineering applications
Pragnell, J.M.	M.Sc.	Hydrological data analysis
Vaudrey, D.J.	B.Sc.	Experimental oceanography

Premises/facilities
Building area: 7800 m
With facilities for:
Visiting scientists: 6

Information facilities
Library holdings:
Number of books, journals, manuscripts, etc.: 7000
Number of periodical subscriptions: 196

Monographs and serials titles:
- Circular - CSIRO Marine Laboratories
- Microfiche Report
- Report - CSIRO Marine Laboratories
- Research Report - CSIRO Marine Laboratories

Equipment
VAX 11/750 computer system, Technicon auto analyser system, Class 100 clean room, Waters high preformance liquid chromatograph (coupled to a multi-channel atomic fluorescence detector), Perkin-Elmer Zeeman 5000 atomic absorption spectrophotometer, Hewlett-Packard and Shimadzu capillary gas chromatographs, Iatroscan TH10 analyser, NOAA-HRPT satellite image reception and processing equipment, wide variety of standard oceanographic equipment including CTD's/current meters/etc.

Research craft

Name:	FRANKLIN
Owner:	Nat. Fac. owned by Australian Gov't
Length:	55 m.
Type:	Research ship 1590KW
Date of construction:	1984
Crew:	13
Scientists:	12
Laboratory space:	116 m

Special facilities:

Variable pitch propellor, fixed transverse stern thruster, fully retractable and steerable bowthruster, all controlled by single joystick control, Satnav and Inmarsat connumication system, Transducer well for interchanging transducers, provision for two special purpose containers, wet/chemistry/general purpose biological laboratories, and operations, computer electronics sonar and photographic rooms, VAX 11/750 computer linked by Ethernet to DEC Micro 11 microcomputers, sounders, thermosalinograph, CTD, Rosette samplers, XBT's, acoustic releases, auto analyser, particle size analyser, scintillation counter, doppler current profiler, programmable towed body, balloon launching equipment.

Institution code: 006139 Information received: 30/07/84

Heron Island Research Station, University of Queensland (HIRS)

Executive officer: LAWN, Ian D.: Director

Postal address

Heron Island Research Station,
University of Queensland (HIRS)
VIA GLADSTONE, QUEENSLAND 4680
AUSTRALIA

Telephone: 079-781399

Working languages
English

Nature of institute
Academic

Main fields of activities

Biological sciences	Ecological sciences
Marine fisheries	Resources management
Fishing technology	Oceanography
Chemical sciences	Physical sciences
Offshore technology	Microbiology
Pollution	Engineering
Medicine	Veterinary medicine
Meteorology/climatology	Geography
Geology/sedimentology	Policy and planning
Social sciences	Education, training or extension

Areas of speciality

Demersal fish	Pelagic fish
Other vertebrates	Cephalopods
Shrimps/prawns	Other invertebrates
Algae	Micro-organisms
Plankton	Benthos
Other minerals	Offshore marine waters
Coral ecosystems	Metals (pollutants)

Objectives and programmes

History of institution, its mandate and purpose

The Station was established in 1951 as the first permanent, land-based centre for coral reef studies on the Great Barrier Reef, and is the largest and most developed coral island research facility in Australia. Its facilities are available to scientists and students throughout the world to pursue independent studies in any discipline and on any subject pertaining to coral reefs. It is also the major base on the Great Barrier Reef for educational studies on coral reefs at both secondary and tertiary levels.

Research, monitoring and other activities in last three years

The research activities carried out at the Station are extremely diverse and reflect the independent interests of its users. The Station can support both field studies and sophisticated laboratory work. Station staff monitor oceanographical and meteorological data on a daily basis. Many educational groups use the Station for coral reef studies, and a number of tertiary level specialist courses are undertaken.

Major current research and other activities

The Director's research is involved with the electrophysiology and behaviour of marine invertebrates, with special reference to the origin and evolution of nervous systems. Other major studies involve:

- behavioural ecology of silvereyes
- coral reef ecology
- blood chemistry of ascidians
- biochemistry of muscle metabolism in marine organisms
- toxinology of marine organisms
- chemistry of heavy metals in reef organisms
- turtle biology
- reproductive biology of marine organisms
- biology of reef fishes
- taxonomy of marine organisms
- population biology of gastropods
- microfauna of reefal lagoons
- biogeography of shearwaters
- osmoregulation of plants on coral cays

Objectives and programmes (Cont.)

- sedimentology of reef tops
- carbon dating of coral reefs
- biochemistry of calcium deposition in corals
- socio-economic factors affecting coral reefs and cays
- water movements around reefs
- mathematical modelling of reef systems
- fisheries management
- larval dispersion and recruitment of reef fish
- vertebrate and invertebrate neurobiology
- parasitology of marine organisms
- taxonomy and ecology of marine algae
- insect ecology on coral cays
- geology of reefs and cays
- geomorphology of coral cays
- paleontology of coral cays

The University of Queensland also runs an interdisciplinary undergraduate course entitled 'Coral Reef Biology and Geology', and a number of Departments within the University run their own courses at Heron Island.

Future programmes

The Station plans to continue its policy of accepting independent researchers to follow their own lines of study. It also plans to establish its own undergraduate and post-graduate courses on special subjects relating to coral reefs.

Cooperative programme

- Great Barrier Reef Marine Park Authority (monitoring of coral trout population)
- Bureau of Meteorology (monitoring of climatological data)
- Commonwealth Scientific and Industrial Research Organization (monitoring of oceanographic data)

Training programme

- Undergraduate courses in coral reef biology, geology and geography, run by the University of Queensland
- Future plans to provide undergraduate and postgraduate courses on special subjects relating to coral reefs

Institution structure

The Station is organized into four sections:

- Research
- Teaching
- Administration
- Support Services

Staff

2 Scientific staff 2 Technical staff 6 Other staff

Professional scientific staff

Name	Degree	Speciality
Lawn, I.D.	Ph.D.	Electrophysiology, Behaviour(lower invertebrates)
Preker, V.M.	B.Sc.	Taxonomy (ophiuroids/hydrozoa)

Premises/facilities

Building area: 2364 m Laboratory area: 868 m

With facilities for:

Visiting scientists: 40 Students: 30

Information facilities

Library holdings:

Number of books, journals, manuscripts, etc.: 5000

Number of periodical subscriptions: 12

Monographs and serials titles:

- Report for 1981-1983

Equipment

Beckman LS 6800 liquid scintillation counter, Varian DMS 90 UV-VIS spectrophotometer, Damon/IEC CRU-5000 refrigerated centrifuge, portable swing-arm centrifuge, Edwards Modulyo EF4 freeze dryer, Atherton Athena 300 1E autoclave, glass still, 2 Millepore filter systems, Sartorius 1203 MP top-loading electronic balance, Mettler analytical balance, Mettler P3 top-loading balance, 2 Laboro gravity convection ovens, 2 portable gravity convection ovens, lapidary table, Digital Data Systems 300 pH meter, Yeo-Kal 601 MKIV induction salinometer, Hewlett-Packard 7015B X-Y recorder, Reichert OmE sledge microtome, Wild M400 photomacroscope, Wild MPS55 photo-automat control system, 3 Wild M5 stereomicroscopes, Wild M20 phase-contrast compound microscope, Olympus BHS compound microscope with Nomarski DIC and automatic photomicrography, Olympus BHS compound microscope, a range of general purpose laboratory stereo-microscopes and illuminators, two 35 mm slide projectors, overhead

Equipment **(Cont.)**

projector, Remington FT4700 dry-paper photocopier, DEC micro-computer system, set of plankton nets, biological dredge, 2 Petersen's grabs, sieve series, set of surveying equipment, aluminium V-hull crafts and aluminium punts, SCUBA tanks and weights, a range of basic chemicals, laboratory ware and darkroom equipment.

Aquarium facilities

Total area: 150 m Number of tanks: 70

Organisms maintained:

Demersal fish	Pelagic fish	Other vertebrates
Molluscs	Crustaceans	Other invertebrates
Micro-organisms		

Research craft

Name: HALCYON
Length: 8 m.
Type: Catamaran 400 HP
Date of construction: 1981
Crew: 1
Scientists: 7
Special facilities:
Echosounder, winch, SSB radio equipment, sink, refrigerator, stove, bunks, portable SCUBA compressor, inflatable tender (4HP), toilet, shower.

Institution code: 006140 Information received: 12/02/85

Fisheries Division,
Ministry for Primary Industries

Executive officer: SWAMY Krishna: Environmental Officer

Postal address

Fisheries Division,
Ministry for Primary Industries
P.O. Box 358
SUVA
FIJI

Telephone: 361122
Telex: FJ 2290 FIJIFISH

Working languages
English

Nature of institute
Governmental

Main fields of activities
Resources management
Aquaculture
Fishing technology

Areas of speciality
Coastal marine waters
Inland (fresh) waters
Coral ecosystems
Pathogenic micro-organisms
Brackish waters
Mangroves ecosystems
Metals (pollutants)
Nutrients

Objectives and programmes
History of institution, its mandate and purpose
The main objectives are: to increase fish production, to satisfy local demand for fish and fish products for export and to increase local value added in the fisheries sector. The specific fisheries objectives are to encourage rural fisheries development, technology of commercial inshore fisheries, industrial fisheries and agriculture.
Research, monitoring and other activities in last three years
Past research undertaken are baitfishery, deepwater snapper studies, deepwater shrimp trials, squid resource assessment, oyster and mussel culture trials and market research surveys.
Major current research and other activities
Continuation of the research projects of oyster and mussel culture, fresh water prawn culture, grass carp culture, mangrove resource assessment, deep water snapper fishing, deployment of fish aggregating devices, biological study on *Lithnidae*.
Cooperative programme
Co-operative projects include projects funded by UNDP, SPC, JICA and France Aquaculture.

Institution structure
The Department is divided into:
- Extension Services
- Resource Assessment/Development
- Aquaculture Development

Staff
8 Scientific staff 64 Technical staff 40 Other staff

Professional scientific staff

Name	Degree	Speciality
Hunt, P.C.	Ph.D.	
Cavuilati, Tui	B.Sc.	Extension services
Lewis, A.D.	Ph.D.	Tuna, Baitfish
Kunatuba, Peniasi	B.Sc.	Aquaculture
Lagibalavu, Maciu	B.Sc.	Aquaculture
Sewak, Surendra	B.Sc.	Extension
Tuilaucala, S.	B.Sc.	Extension
Baleivanualala, M.B.	B.Sc.	Extension

Premises/facilities
Facilities for:
Visiting scientists: 2

Information facilities

Monographs and serials titles:
- Annual report 1981 (95pp.), 1982 (91pp.)
- Survey of walu and other large coastal and pelagic species. 5/1/81-4/1/82 UNDP/MAF, Chapman, L.B. and A.D. Lewis
- Mangrove Resource Management I
- Proceedings of an Interdepartmental Workshop
- Fisheries Division
- Fisheries Resources of Rotuma
- The Fiji bait fishery. Lewis, A.D., S. Sharma, J. Prakash, B. Tikomainiusiladi

Equipment

microscopes both dissecting and high power, pH meter, HP9836 micro-computer, deep freezer, analytical balance, diving equipment, drying oven, slide projectors, video equipment for filming and editing, water samplers, current meter.

Aquarium facilities

Species maintained for experimental purposes:

Macrobrachium rosenbergii *Ctenopharyngodon idella* *Penaeus monodon*
Crassostrea echinata *Perna viridis*

Research craft

Name:	TUI NI WASABULA
Length:	20 m.
Type:	Vessel
Date of construction:	1981
Crew:	6
Scientists:	2
Laboratory space:	4 m

Special facilities:
Line hauler, Bouke ami nets, ice holds.

Name:	FLAGTAIL
Length:	9 m.
Type:	Plyboard 20 HP
Date of construction:	1981
Crew:	3

Special facilities:
Ice hold, trawling gears.

Institution code: 006012 Information received: 27/04/84

Mineral Resources Department (M.R.D.)

Executive officer: RAHIMAN Abdul: Director

Postal address

Mineral Resources Department (M.R.D.)
Private Mail Bag
SUVA
FIJI

Telephone: 381611
Telex: 2330 SOPACPRO FJ
Cable: GEOLOGY

Working languages
English

Nature of institute
Governmental

Main fields of activities
Pollution
Geology/sedimentology
Mineral resources (incl. Oil)

Areas of speciality
Mineral oil
Other minerals
Sea-bed nodules
Petroleum hydrocarbons
Metals (pollutants)

Objectives and programmes
History of institution, its mandate and purpose
The Fiji Mines Section of the Department of Lands, Mines and Survey is responsible for mines administration and geology from the turn of the century until 1951, when the Geological Survey Department was formed. Geological Survey Department amalgamated with Mines Section in 1972 to form the Mineral Resources Department to undertake geological and hydrogeological investigations and mineral development to ensure maximum benefits to Fiji people obtained from mining developments with environmentally minimal impacts.
Research, monitoring and other activities in last three years
The activities of the Department include:
- mines, oil, quarries and explosives acts administration
- general monitoring of mineral and oil exploration activity
- economic investigation studies, regional geochemical surveys: nearshore detrital mineral investigation
- Fiji regional geological mapping at 1:50 000 scale:
- hydrogeological and stratigraphic drilling in various areas in Fiji
- establishment of seismological network
- establishment of geological/mining and oil exploration data bank, OTEC investigations

Major current research and other activities
- revising existing mining regulations in regards to better mining health and safety (Rahiman/Bills)
- geological mapping of Yasawa islands at 1:50000 scale (Rodda)
- continuation of hydrogeological investigations (Simpson/Pauu)
- continuation of monitoring mineral and oil exploration activity in Fiji (onshore and offshore) (Lum/Holmes)
- completion of seismological network throughout Fiji islands (Everingham)
- geological engineering investigations (Shorten/Rao/Whippy)
- monitoring effluent discharge from gold mine (Lum/Patel)
- compilation and publication of bibliography of the geology of Fiji (Rodda/Komaibulu)

Future programmes
- investigations on the hydrogeological resources and offshore geological resources
- constant addition to existing geological information
- assessment studies of specific areas

Cooperative programme
- environmental monitoring in gold mine (work carried out in conjunction with Health Department)
- very close liaison with all Fiji Governmental Departments

Training programme
- inservice training administered by the Fiji Public Service Commission

Institution structure

The Department is divided into the following sections:
- Administration
- Offshore, Seismology, Electronics
- Mapping, Hydrogeology, Engineering
- Information services, Economic Geology, Environmental
- Laboratory (Chemistry)
- Drilling
- Mines

Staff

20 Scientific staff 44 Technical staff 30 Other staff

Professional scientific staff

Name	Degree	Speciality
Rahiman, A.	M.Sc.	Geology (economic)
Simpson, A.	M.Sc.	Hydrogeology
Rao, B.	M.Sc.	Geology (mapping)
Rodda, P.	B.Sc.	Geology (mapping)
Patel, C.	B.Sc.	Chemistry
Bills, L.	B.Sc.	Mining engineering
Holmes, R.	B.Sc.(Hons.)	Geology (marine)
Everingham, I.	M.Sc.	Seismology
Singh, R.	B.Sc.	Seismology
Prasad, A.	B.Sc.(Hons.)	Electronics
Shorten, G.	B.Sc.	Geology (engineering)
Lum, J.	M.Sc.	Geochemistry (economic/ environmental)
Ebsworth, N.	B.Sc.(Hons.)	Mining engineering
Smith, R.	B.Sc.	Geology (marine/petroleum)
Vuibau, T.	B.Sc.	Geology (marine)
Prasad, G.	B.Sc.	Seismology
Prasad, V.	M.Sc.	Geophysics
Nand, N.	B.Sc.	Chemistry
Whippy, F.	B.Sc.	Geology (engineering)

Premises/facilities

Building area: 1784 m Laboratory area: 158 m

Information facilities

Library holdings:
Number of books, journals, manuscripts, etc.: 3200
Number of periodical subscriptions: 5

Monographs and serials titles:
- Introduction to marine geology (Shwe Kyaw, 1981)
- MRD Bulletins
- MRD Memoirs
- MRD Economic Investigations
- MRD Annual Reports
- MRD Geothermal Reports
- MRD Reports
- Bibliography of the geology of Fiji
- Fiji as a petroleum prospect (Eden & Smith, 1984)

Equipment

Atomic absorption spectrometer, spectrophotometer, flame photometer, pH meter, magnetic stirrer, ultrasonic cleaner, 4 hot plates, 2 sandbaths, 3 furnaces, 3 drying ovens, rock splitter, jaw crusher, pulverizer, ballmill, magnetic separator, 3 analytic balances, centrifuge, 6 drilling machines (various capacities) with auxiliary equipment, thin section machine, 4 petrological microscopes, borehole logging equipment (caliper, resistivity), resistivity equipment (Abem), magnetometer, seismic refraction gear, 12 channel water level recorder, research geophysical vessel, complete shallow to medium depth seismic system, shallow to deep seabed sampling equipment, aluminium punt, 2 sets of diving equipment, portable spot check multigas detector, portable water quality checker (pH/Turb/SS/Cond/Temp/Dis.02), 9 seismic systems (consisting of seismometers/amplifiers/VCOS/VNF transmitters/ receivers/antennas/discriminators), 5 seismic systems (as above), 5 portable microearthquake drum-recording systems, 4 relay stations (consisting of transmitter/receiver/antennas), 2 3-channel ink drum-recorders, multichannel inkless chart recorder with digital delay, multichannel continuous operation film recorder, HP-45 digital computer.

Research craft

Name:	HMFS LATUI
Owner:	Royal Fiji Navy (Joint user)
Length:	20 m.
Type:	Research vessel
Date of construction:	1977
Crew:	7
Scientists:	3
Laboratory space:	18 m

Special facilities:
Geoscientific vessel with 30 KVA generator.

Institution code: 006014 Information received: 17/05/84

Committee for Co-ordination of Joint Prospecting for Mineral Resources in South Pacific Offshore Areas (CCOP/SOPAC)

Executive officer: MATOS, Cruz A.: Acting Director

Postal address

Committee for Co-ordination of Joint Prospecting for Mineral Resources in South Pacific Offshore Areas (CCOP/SOPAC)
Tech.Secretariat, c/o Mineral Res.Dept.,Private Mail Bag
GPO SUVA
FIJI

Telephone: 381139/381377
Telex: 2330 SOPACPRO FJ
Cable: SOPACPRO FJ

Working languages
English

Nature of institute
Inter-governmental

Main fields of activities
Geology/sedimentology
Mineral resources (incl. Oil)

Areas of speciality
Mineral oil
Offshore marine waters
Other minerals
Coastal marine waters

Objectives and programmes
History of institution, its mandate and purpose
The scope of the Committee is applied and development research in marine geology and coastal zone, plus deep-sea and inshore resources in South Pacific. The objectives are to locate marine minerals and assist in coastal zone development.
Research, monitoring and other activities in last three years
Deep-sea survey cruises (6 months duration each) in South Pacific.
Data gathering and monitoring activities related to developments in coastal zone.
Major current research and other activities
- data gathering and monitoring activities in coastal zones
- research cruise to investigate marine geological spreading centers
- survey cruise to define marine hydrocarbon potential

Future programmes
Continuation of current programme
Cooperative programme
Data, library and personal exchange worldwide with institutions and organizations with similar interests.
Training programme
In co-operation with the University of the South Pacific and Victoria University of Wellington, CCOP/SOPAC is involved with annual basic and advanced earth science courses. In co-operation with U.S. Geological Service, CCOP/SOPAC gives annual training programme in coastal mapping. In co-operation with Government of Australia, CCOP/SOPAC gives 2 month courses on scheduled basis in bathymetric drafting.

Staff
7 Scientific staff 3 Technical staff 6 Other staff

Professional scientific staff

Name	Degree	Speciality
Matos, Cruz	Ph.D.	Acting director
Tiffin, Don	Ph.D.	Marine geophysics
Carter, Ralph	Ph.D.	Marine science
Richmond, Bruce	Ph.D.	Marine geology (engineering)
Radke, Bruce	Ph.D.	Marine geology
D'Ozouville, Laurent	Ph.D.	Marine geology

Premises/facilities
Laboratory area: 650 m
With facilities for:
Visiting scientists: 2 Students: 2

Information facilities

Library holdings:
Number of books, journals, manuscripts, etc.: 1000
Number of periodical subscriptions: 12

Monographs and serials titles:
- Quarterly Newsletter
- South Pacific Marine Geological Notes
- Technical Bulletins

Equipment

US£760,000 worth of equipment available. The principal items are: Klein side-scan sonar system, Barringer marine magnetometer system, Decca trisponder survey system, multi-parameter oceanographic probe and recording system, current direction and velocity meters, gravity corer, benthos free-fall cameras and grabs, 2 Raytheon echosounders, seismic reflection profiling system complete with pneumatic sound source and 2000 psi compressor, 2 Magnavox satellite navigators, 3 EPC dry paper recorder system, electronic testing/maintenance equipment, monopulse acoustic generator complete with hydrophone array, microfilm reader-printer, Sonobuoy refraction system, Scuba diving equipment, thermistor chain, two computer systems, digital tape reader, audio-visual equipment, a portable AC generator, vibracoring system, lightfoot rotary drill, 2 Zodiac rubber dinghy, various outboard motors.

Institution code: 006015 Information received: 07/05/84

Fiji Museum

Executive officer: CLUNIE, Fergus G.A.U.: Director

Postal address

Fiji Museum
P.O. Box 2023
SUVA
FIJI

Telephone: 23226

Working languages
English

Nature of institute
Academic

Main fields of activities
Biological sciences
Social sciences
Education, training or extension

Areas of speciality
Other vertebrates

Objectives and programmes
History of institution, its mandate and purpose
Ethnological and historical museum with a natural history capacity.
Research, monitoring and other activities in last three years
- survey of Fiji seabird nesting colonies
Major current research and other activities
Same as in the last three years

Staff
2 Scientific staff 2 Technical staff 5 Other staff

Professional scientific staff

Name	Degree	Speciality
Clunie, F.G.A.U.	B.Sc.	Ornithology
Chen, Gladys M.	Dipl.mater.conserv.	Ethnology, Conservator

Information facilities
Monographs and serials titles:
- Domodomo (quarterly journal, founded 1983, includes biological articles).
- Birds of the Fiji Bush by F. Clunie. 160 page guide, 1984.

Institution code: 006016 Information received: 18/05/84

Institute of Natural Resources, University of the South Pacific (INR)

Executive officer: MORRISON, Robert J.: Director

Postal address

Institute of Natural Resources,
University of the South Pacific (INR)
Laucala Bay Road
P.O. Box 1168
SUVA
FIJI

Telephone: 313900
Telex: FJ 2276
Cable: UNIVERSITY, SUVA

Working languages
English

Nature of institute
Academic

Main fields of activities

Biological sciences	Ecological sciences
Resources management	Food science/technology
Limnology	Chemical sciences
Physical sciences	Microbiology
Pollution	Engineering
Meteorology/climatology	Geography
Mineral resources (incl. Oil)	Technology transfer
Education, training or extension	

Areas of speciality

Other invertebrates	Other minerals
Wind	Coastal marine waters
Brackish waters	Inland (fresh) waters
Mangroves ecosystems	Metals (pollutants)
Halogenated hydrocarbons	Pathogenic micro-organisms
Nutrients	

Objectives and programmes
History of institution, its mandate and purpose
The Institute of Natural Resources, established in 1977, has two major objectives. It seeks to enrich the teaching resources and scholarly research components of the University, primarily in the fields of biological sciences, chemistry and physics; and equally significantly, it tries to bring about a greater awareness, and understanding of the natural resources of the region and at the same time increase the capacity of the region's peoples to exploit and control these resources for their long-term benefit.
The Institute focuses its attention on five significant areas; energy, soils, timber resources, water quality, and earth science. In exploring these areas, it sponsors short-term training courses, workshops and seminars, presents radio programmes, and engages in consultancy and research assignments.
Research, monitoring and other activities in last three years
- environmental effects of sewage discharges

Major current research and other activities
- limnology of inland lakes
- environmental effects of hydroelectric schemes
- bacteria and heavy metal content of shellfish
- domestic and industrial energy use surveys
- wind energy investigations
- bore hole water quality in Pacific States
- Pacific Island flora
- environmental impact of exotic pine plantations
- environmental impact of intensive agriculture on soils
- nutritional aspects of traditional food preservation methods
- soil resource evaluation in areas of Kiribati, Tuvalu, Nauru, Solomon Islands, W. Samoa and Fiji

Future programmes
- environmental problems in coastal areas
- pesticide residues in soil, water and foodstuffs
- drinking water quality in the Pacific

Objectives and programmes (Cont.)

Cooperative programme
- Fiji Pine Commission and Fiji Public Works Department:
  investigation of the environmental impact of large scale pine plantations on Viti Levu
- Fiji Sugar Corporation:
  investigation of the environmental impact of the Seaqaqa sugar development
- Department of Commerce and Natural Resources, Tuvalu:
  investigation of the chemistry of pits used for food production
- Ministry of Home Affairs and National Development, Solomon Is.
  evaluation of soil resources and classification of important agricultural soils
- Tonga Water Board:
  testing locally assembled reverse osmosis desalination units
- with UPNG, UNITECH, UOG:
  cooperation within SPREP on inland water quality, coastal water quality, coastal ecosystems management and watershed management

Training programme
- INR runs short training courses in areas such as basic laboratory techniques, microbiology, soil classification and resource management
- In-service training for staff from regional governments or industries in quality control analytical techniques, electronics, energy auditing and environmental analysis

Institution structure
- Director
- Analytical Services Laboratory
- Energy Studies Unit
- Environmental Studies Section
- Regional Herbarium

Staff
6 Scientific staff 5 Technical staff 2 Other staff

Professional scientific staff

Name	Degree	Speciality
Morrison, R.J.	Ph.D.	Resource evaluation, Soil classification/analysis
Brodie, J.E.	M.Sc.	Water analysis, Environment pollution
Prasad, Regina A.	B.Sc.	Soil and water analysis, Phytochemistry
Vodonaivalu, S.		Fijian flora
Gangaiya, Philomena	M.Sc.	Soil chemistry, Water analysis
Tukana, S.	B.Eng.	Electronics, Energy auditing
Ash, Wendy	B.Sc.	Quarternary vegetation changes
Parkinson, Susan	B.Sc.	Food and nutrition

Premises/facilities
Building area: 550 m Laboratory area: 420 m
With facilities for:
Visiting scientists: 4 Students: 4

Information facilities
Monographs and serials titles:
- Proceedings of South Pacific Forum on Soil Taxonomy
- The Nadi-Lautoka Energy Survey Report
- South Pacific Journal of Natural Science Vols 3-6
- Annual Report 1981, 1982, 1983, 1984.

Equipment
Perkin Elmer Sigma 3P GLC with ECD/NPD/FID, Perkin Elmer 2380 AAS, Varian 175 AAS, Varian 634 UV/VIS spectrophotometer, Pye Unicam SP6 UV/VIS spectrophotometer, 4 pH meters (research grade) with ISE's, bacteriological testing equipment (lab and field operation), 2 analytical balances and semi-micro-balance, 3 BBC microcomputers, 2 centrifuges, deep freeze, 3 ovens, 3 incubators, muffle furnace, field and laboratory SCT and dissolved oxygen meters.

Institution code: 006017 Information received: 21/02/85

Institute of Marine Resources, University of the South Pacific

Executive officer: RAJ Uday: Director

Postal address

Institute of Marine Resources,
University of the South Pacific
Laucala Bay Road
P.O. Box 1168
SUVA, U.S.P.
FIJI

Telephone: 27491
Telex: FJ 2276
Cable: UNIVERSITY SUVA

Working languages
English

Nature of institute
Inter-governmental

Main fields of activities

Biological sciences	Ecological sciences
Marine fisheries	Inland fisheries
Resources management	Fishing technology
Food science/technology	Quality control (fishery products)
Aquaculture	Oceanography
Pollution	Geology/sedimentology
Policy and planning	Technology transfer
Education, training or extension	

Areas of speciality

Demersal fish	Pelagic fish
Other vertebrates	Cephalopods
Lobsters	Shrimps/prawns
Other invertebrates	Algae
Plankton	Benthos
Other minerals	Tides/waves
Offshore marine waters	Coastal marine waters
Brackish waters	Inland (fresh) waters
Mangroves ecosystems	Coral ecosystems
Metals (pollutants)	Nutrients

Objectives and programmes
History of institution, its mandate and purpose
The Institute was established in 1978 with the following broad objectives:
- research into regional marine resources, including fish stocks and stocks of other kinds of marine life, undersea minerals and exploration of the seabed
- the development of consultancy services for regional governments (including Fiji, 11 countries of U.S.P.)
- development of educational programmes in marine sciences
- dissemination of information on tropical marine environment

Research, monitoring and other activities in last three years
- research on outbreaks of fish poisoning
- fish kills
- preparation of environmental impact statements for foreshore development, oil drilling, sand dredging, reef blasting, course-way construction
- lagoonal, mangrove, reef and outer reef slope research

Major current research and other activities
- ecology of mangroves, lagoons, coral reefs and outer reef slopes
- deepsea shrimp and fish studies
- fish, shellfish and crab poisoning
- lobster biology
- freshwater fish and shellfish studies

Future programmes
Same as in the last three years
Continuation of current programme
- demands from member governments

Cooperative programme
- Hawaii Institute of Marine Biology - International Seagrants Programme
- (South Pacific) Forum Fisheries Agency (management of 200 mile EEZ)

Objectives and programmes (Cont.)

- Victoria University, Wellington, N.Z. (basic earth science and marine geology)
- Kagoshima Research Centre for South Pacific (productivity)
- Faculty of Agriculture, Tohoku University (fish poisoning study)
- Stirling University, U.K. (*Nautilus* study)
- ORSTOM, Noumea (oceanography)

Training programme
- diploma in tropical fisheries
- certificate in earth science and marine geology
- short inservice training courses
- marine biology and fisheries biology courses for B.Sc. students
- post graduate courses and thesis supervision leading to M.Sc. and Ph D.

Institution structure
Owing to the limited level of staffing, the Institute is not divided into sections but research is done on a team basis and short term experts recruited for specific projects. The Institute has also a field laboratory in Dravuni Station.

Staff
6 Scientific staff 8 Technical staff 10 Other staff

Professional scientific staff

Name	Degree	Speciality
Raj, U.	Ph.D.	Marine/fisheries biology Tropical seafood poisoning
Zann, L.P.	Ph.D.	Marine/fisheries biology
Seeto, J.	B.Sc.	Fisheries biology
Chandra, S.	B.Sc.	Chemical/biological oceanography
Southwick, G.	Mar.Eng.(1st.G.)	Fisheries gear technology
Singh, S.	FTC (C&G) MIST	Electronics, Microscopy, Photography

Premises/facilities
Building area: 1810 m Laboratory area: 223 m
With facilities for:
Visiting scientists: 10 Students: 40

Information facilities
Monographs and serials titles:
- Technical and Consultancy Reports
- Thesis

Equipment
2 current meters, salinity and temperature meter, 2 bathythermographs, Nansen water bottles with reversing thermometers, Phleger corer, assorted plankton nets, Clarke Bumpus net, flowmeter, snatch block meter wheel, hand winch, Van Vecan dredges, quadrants, sieves with shaker, pH meter, dissolved oxygen meter, inverted microscope, flamephotometer, electronic balances, oven, muffle furnace, compound microscopes, microtome, water still, petrographic thin sectioning and grinding wheel rock collection and field equipment, Bouke Ami net, purse seine net, tiger brand hydraulic reels, net haulers, trawls, gillnets and traps, deepwater floats, bouys, surface and bottom long lines, freezers, refrigerated incubator, bathy rotary evaporators, blender with fumehood, mice colony, Durst enlargers, deepsea cameras and housing underwater cameras (Nichonos), underwater movie camera, SCR cameras with macro lenses, 16mm sound projector, super 8 projector, overhead projector, 85mm slide projector, drawing table with assorted pens, 2 air compressors, 10 complete Scuba tanks with regulators, depth gauze backpack, etc., and underwater torches, metal lathe, woodlathe, sandblaster and compressor, Landrover and Datsun panel van, 3 rubber rafts and 2 aluminium dinghies.

Aquarium facilities
Total area: 70 m Number of tanks: 20

Organisms maintained:
Demersal fish Pelagic fish Other vertebrates
Molluscs Crustaceans Other invertebrates
Algae

Species maintained for experimental purposes:

Batissa violacea *Panulirus versicolor* *Nautilus pompilius*

Research craft

Name: R.V. APHAREUS
Length: 14 m.
Type: Steel GM471 diesel
Date of construction: 1982
Crew: 4
Special facilities:
Hydraulic capstan, hauler and fishing reels, radar, echosounder, radio VHF and SSB, recirculating water system for holding live fish and other specimens, sleeping for 6.

Name: R.V. NAUTILUS
Length: 13 m.
Type: Fibreglass CAT3208
Date of construction: 1976
Crew: 4
Special facilities:
Hydraulic winch, pot haulers, fishing reels, radar, echosounder, radio VHF and SSB, sleeping bunks for 4.

Name: FAI
Length: 9 m.
Type: Outboard 25HP wooden

Name: QIO
Length: 6 m.
Type: Outboard 25HP wooden

Name: TAEKOKONA
Length: 6 m.
Type: Outboard 25HP wooden

Institution code: 006018 Information received: 11/03/85

School of Natural Resources, University of the South Pacific

Executive officer: LASSAK E.V.: Head

Postal address

School of Natural Resources,
University of the South Pacific
P.O. Box 1168
SUVA
FIJI

Telephone: 313900
Telex: FJ2276
Cable: UNIVERSITY, SUVA

Working languages
English

Main fields of activities

Biological sciences	Ecological sciences
Chemical sciences	Physical sciences
Microbiology	Pollution
Geology/sedimentology	Education, training or extension

Areas of speciality

Pelagic fish	Shrimps/prawns
Other invertebrates	Benthos
Wind	Inland (fresh) waters
Mangroves ecosystems	Coral ecosystems
Radionuclides	

Objectives and programmes

Major current research and other activities
- marine and freshwater biology (molluscs, crustaceans, fish, reptiles, mangroves)
- tropical forest ecology (vegetation, insects, amphibia, reptiles, birds)
- soil chemistry and taxonomy (soil-fertilizer interactions, mineralogy, weathering, impact of crops on soil)
- natural products chemistry and pharmacology (medicinal plants, essential oils, phenolic compounds, carbohydrates, lipids, alkaloids, kava)
- renewable energy resources (solar, bio-energy, wind, geothermal, alternative fuels)
- environmental and ionospheric physics (crop micrometeorology, ionospheric dynamics, solar radiation)
- geophysics (plate tectonics and crust and mantle structure of the South Pacific Region)
- materials science (rice husk ash cement, coir reinforced concrete, local building materials)

Cooperative programme

Various cooperative programmes with IMR, INR and the Fiji Sugar Corporation.

Training programme

Train and educate students for the following degrees and qualifications:
- certificate of attainment in foundation science (pre-degree science)
- B.Sc.
- B.Sc. and G.C.E. (graduate certificate of education)
- B.Ed.
- Dip. Ed.
- MBBS (service teaching)
- DTA (Fiji College of Agriculture - service teaching)
- M.Sc.
- M. Phil.
- Ph.D.
- post-graduate certificate in applied science

Staff

45 Scientific staff 26 Technical staff 9 Other staff

Professional scientific staff

Name	Degree	Speciality

Staff (Cont.)

Lassak, E.V.	Ph.D.	Head, Reader
Beaver, R.A.	D. Phil.	Professor
Raj, U.	Ph.D.	Reader
Kenchington, W.	Ph.D.	Reader
Singh, Y.N.	Ph.D.	Senior lecturer
Bourne, P.K.	Ph.D.	Lecturer
Gibbons, J.R.H.	Ph.D.	Lecturer
Ryan, P.A.	Ph.D.	Lecturer
Ash, J.E.	Ph.D.	Senior lecturer
Webb, C.J.	Ph.D.	Lecturer
Haynes, A.	Ph.D.	Associate lecturer
Maybin, J.A.	B.Sc.	Associate lecturer
Pillai, G.	M.Sc.	Senior lecturer
Choy, S.C.	M.Sc.	Lecturer
Va'a, R.	B.Sc.	Lecturer
Kang, F.	B.Sc.	Demonstrator
Nagasima, M.	B.Sc.	Demonstrator
Morrison, R.J.	Ph.D.	Reader
Headridge, J.B.	Ph.D.	Professor
Fuavao, V.	Ph.D.	Lecturer
Bonato, J.A.	B.Sc.	Lecturer
Jogia, M.K.	Ph.D.	Lecturer
Wimmer, F.L.	Ph.D.	Lecturer
Aalbersberg, W.G.L.	Ph.D.	Lecturer
Naidu, R.	M.Sc.	Lecturer
Ali, S.	M.Sc.	Lecturer
Moffett, J.H.	B.Sc.	Lecturer
Lal, A.R.	M.Sc.	Lecturer
Singh, N.K.	M.Sc.	Lecturer
Chand, V.	Ph.D.	Demonstrator
Khan, M.H.	B.Sc.	Demonstrator
Wright, R.W.H.	Ph.D.	Professor
Sundaralingam, K.	Ph.D.	Senior lecturer
Lloyd, C.R.	Ph.D.	Senior lecturer
Dougherty, G.	Ph.D.	Senior lecturer
Buonsanto, M.J.	Ph.D.	Lecturer
Kumar, M.	Ph.D.	Lecturer
Sharma, M.	B.Sc.	Demonstrator
Northcott, R.L.	B.Sc.	Lecturer
Srivastava, R.N.	Ph.D.	Lecturer
Goodrich, J.	B.Sc.	Lecturer
Prasad, U.W.	B.Sc.	Lecturer (preliminary)
Prasad, S.	B.Sc.	Lecturer
Singh, A.	M.Sc.	Lecturer
Yee, C.W.	B.Sc.	Lecturer
Pineda, R.	DEA	Lecturer

Premises/facilities

Building area: 4440 m Laboratory area: 2540 m
With facilities for:
Visiting scientists: 3 Students: 750

Equipment

IR spectrophotometer (Model 781), x-ray diffraction system, AA spectrometer (Model 2380), UV/Visible spectrophotometer (Model 5505), UV/Visible spectrophotometer (Model SP6-450), Zeiss research photo-microscope (Model 4998655-1470).

Aquarium facilities

Total area: 38 m Number of tanks: 4

Organisms maintained:
Pelagic fish

Species maintained for experimental purposes:

Tilapia sp.

Institution code: 006019 Information received: 08/03/85

School of Social and Economic Development
University of the South Pacific (SSED)

Executive officer: THAMAN, Randolph R.: Head

Postal address

School of Social and Economic Development
University of the South Pacific (SSED)
Laucala Bay Road
P.O. Box 1168
SUVA, U.S.P.
FIJI

Telephone: 313900
Telex: FJ 2276
Cable: UNIVERSITY, SUVA

Working languages
English,Fijian, French,Spanish, Melanesian Pidg., Tongan

Nature of institute
Academic

Main fields of activities

Ecological sciences	Marine fisheries
Inland fisheries	Resources management
Fishing technology	Food science/technology
Geography	Geology/sedimentology
Policy and planning	Technology transfer
Marketing/economics	Social sciences
Computers/information systems	Education, training or extension

Areas of speciality

Algae	Offshore marine waters
Coastal marine waters	Brackish waters
Inland (fresh) waters	Mangroves ecosystems
Coral ecosystems	Halogenated hydrocarbons
Radionuclides	

Objectives and programmes
- major research on artisanal fisheries technology, exploitation and social importance in Tonga
- wild marine foods
- coastal vegetation
- island and Pacific Ocean ecology (geography)
- exclusive economic zone and maritime law
- late cenozoic sea-level change in SW Pacific

Training programme
- training programme for environmental management (for small island states, November 1982; for SPREP of SPC and SPEC).

Staff
7 Scientific staff 0 Technical staff 0 Other staff

Professional scientific staff

Name	Degree	Speciality
Clarke, W.C.	Ph.D.	Coastal vegetation, Island ecology
Thaman, R.R.	Ph.D.	Coastal vegetation, Marine food sources, Nuclear pollution, Island ecology
Manner, H.I.	Ph.D.	Coastal vegetation, Island ecology
Bryant, J.	Ph.D.	Island ecology
Halapua, S.	M.A.	Artisanal fisheries, Economics
Durutalo, S.	B.A.	Fisheries exploitation, Nuclear free Pacific
Nunn, P.D.	Ph.D.	Coastal geomorphology, Island genesis, Sea-level change

Institution code: 006020 Information received: 08/03/85

Institut français de recherche scientifique pour le développement en coopération (O.R.S.T.O.M.)

Fonctionnaire exécutif: MONNET Claude: Directeur

Adresse postale

Institut français de recherche scientifique pour le développement en coopération (O.R.S.T.O.M.)
Chemin de l'Arahiri - ARUE
Boite Postale 529
PAPEETE, TAHITI
FRENCH POLYNESIA

Téléphone: 39887/25245
Télex: 332 FP

Langues de travail
Français

Catégorie de l'institution
Gouvernementale

Principaux domaines d'activité

Biologie	Ecologie
Pêche maritime	Aménagement des ressources
Océanographie	Chimie
Physique	Météorologie/climatologie
Géographie	Sciences sociales
Ordinateurs/systèmes informatiques	Education, formation ou vulgarisation

Domaines de spécialisation

Poissons démersaux	Poissons pélagiques
Autres invertébrés	Plancton
Benthos	Eaux marines du large
Eaux marines côtières	Ecosystèmes coralliens

Les objectifs et les programmes
L'histoire de l'institution, son mandat et ses objectifs
Histoire: scientifiques résidents depuis 1976.
Les activités de recherche, de contrôle continu & autres menées au cours des trois dernières années
Connaissance hydroclimatique de la zone polynésienne.
Richesse et fertilité de la zone: nutrients, phytoplancton, habitats, biomasse exploitée.
Principales activités de recherche et autres activités en cours
La recherche conduite sur les milieux marins est subdivisée en 4 programmes essentiels:
- SURTROPOL: Hydroclimat de la zone polynésienne
- HYDROPROD: Production des eaux côtières
- POLYTHON: Biologie, dynamique et halieutique des thonidés
- ATOLL: ENVAT: milieu
  MOPAT: matière organique particulaire
  HALIAT: poissons de lagons
  NACRAT: huitres nacrières
  HABAT: habitats et peuplements
  SOCAT: socio-économie de la pêche

Contrôle continu:
- statistiques de pêches: thonides, poissons lagernaires, huitres perlières
- mesures hydrologiques dans la zone

Les programmes futurs
- dispositif de concentration du poisson (thonidés)
- télédétection (écosystèmes récifaux)

Programme du coopération
- Autres organismes et instituts du territoire
- IATTC-ICCAT (thonidés)
- C.P.S. (général)
- Université Hawaï (climatologie)
- Scripps Institut (général)
- C.S.I.R.O. (général)
- Berkeley University (général)

Programme de formation
- accueil de stagiaires à la demande.

Structure de l'institution
Le centre est pluridisciplinaire: Entolomologie, Botanique, Pédologie, Sciences humaines, Géophysique.

Personnel
9 Personnel scient. 4 Personnel technique 4 Autre personnel

Personnel scientifique

Nom	Diplôme Universitaire	Principale Discipline
Blanchet, Gilles	Maîtrise	Economiste
Chabanne, Jacques	Maîtrise	Halieutique (pélagique)
Charpy, Loïc	Maîtrise	Phytoplancton
Intes, André	Docteur d'Etat	Biologie invertébrés
Laboute, Pierre		Technicien plongeur
Marec, Louis		Technicien biologiste
Morize, Eric	Maîtrise	Dynamique des populations
Rougerie, Francis	Maîtrise	Climatologie
Wauthy, Bruno	Maîtrise	Chimie de l'eau de mer

Locaux/installations
Superficie construite: 1000 m Superficie des laboratoires: 80 m

Services d'information
Bibliothèque:
Nombre de livres, revues, manuscrits, etc.: 2500
Nombre d'abonnements périodiques: 25

Les titres des monographies et des séries:
- Travaux et documents (Service de documentation, route d'Aulnay - Bondy)
- Cartes (Service de documentation, route d'Aulnay - Bondy)
- Mémoires (Service de documentation, route d'Aulnay - Bondy)
- Faunes tropicales (Service de documentation, route d'Aulnay - Bondy)
- Initiation - documentation technique (Service de documentation, route d'Aulnay - Bondy)
- Thèses (Service de documentation, route d'Aulnay - Bondy)
- Notes et Documents d'océanographie (B.P. 529 - Papeete)

Matériel
5 embarcations de lagon (entre 4 et 6m).

Le code de l'institution 006031 Information reçue: 22/02/85

Laboratoire d'étude et de surveillance de l'environnement (L.E.S.E.)

Fonctionnaire exécutif: SARBACH, Jean C.: Chargé de Mission

Adresse postale

Laboratoire d'étude et de surveillance de l'environnement (L.E.S.E.)
Boite Postale 519
MAHINA, PAPEETE, TAHITI
FRENCH POLYNESIA

Téléphone: 430231
Télex: R F H
Télégramme: DIRAM/PACIFIQUE PAPEETE RFH/WD

Langues de travail
Français

Catégorie de l'institution
Gouvernementale

Principaux domaines d'activité
Ecologie
Chimie
Pollution
Océanographie
Physique

Domaines de spécialisation
Eaux marines côtières
Eaux intérieures (douces)
Hydrocarbures du pétrole
Hydrocarbures contenant des halogènes
Eléments nutritifs
Eaux saumâtres
Ecosystèmes coralliens
Métaux (polluants)
Micro-organismes pathogènes
Radionucléides

Les objectifs et les programmes
L'histoire de l'institution, son mandat et ses objectifs
Création en 1962 d'une station de prélèvement du réseau mondial pour la mesure de radioactivité. 1979 actualisation du nom du laboratoire (LESE) en fonction de l'évolution des missions.
Les activités de recherche, de contrôle continu & autres menées au cours des trois dernières années
- contrôle radiobiologique des denrées alimentaires
- écologie des milieux lagunaires
- études prévisionnelles d'impact d'installations industrielles

Principales activités de recherche et autres activités en cours
- suivi de la qualité des eaux lagunaires - bilans de pollution
- étude océanographique de zones de pêche côtières et d'aquaculture

Les programmes futurs
- suivi des résidus de pesticides dans l'environnement et les produits alimentaires végétaux
- étude de la qualité des eaux des lentilles d'eau douce des atolls de l'archipel des Tuamotu
- dosage du fluor dans des produits alimentaires, étude de fixation au niveau dentaire
- état référentiel écologique des lagons des îles sous-le-Vent

Programme du coopération
- gestion des stocks de poissons récifs-lagunaires/établissement pour la valorisation des activités aquacoles et maritimes (EVAAM)
- étude de la qualité des eaux des lentilles d'eau douce des atolls de l'archipel des Tuamotu (C.P.S./PROE)
- étude du devenir des pesticides dans l'environnement (CPS/PROE)
- suivi de la qualité des eaux côtières (CPS/PROE)
- océanographie chimique des lagons de Tahiti et Moorea (UNESCO/ Programme Man and Biosphere)

Programme de formation
- accueil des stagiaires de fin d'études supérieures - applications pratiques à leur formation

Structure de l'institution
- Station de prélèvement et d'analyse du réseau mondial du contrôle de la radioactivité
- Laboratoire de mesure de la radioactivité
- Groupe d'assistance au Territoire de la Polynésie française (activités de diversification concernant l'environnement)

Personnel
6 Personnel scient. 14 Personnel technique 6 Autre personnel

Personnel scientifique

Nom	Diplôme Universitaire	Principale Discipline
Sarbach, Jean	Docteur en médecine	Médecin du travail, Radioprotection
Dufour, Henri	Doc.ing.-génie atom	Chef du LESE
Fraizier, Albert	Docteur en sci.nat.	Radioécologie
Jouen, Richard	D.U.T.	Techniques de la mer
Charlente, Olivier	Ingénieur	Chimie V.A.T.

Locaux/installations
Superficie construite: 1500 m Superficie des laboratoires: 1000 m

Services d'information
Bibliothèque:
Nombre de livres, revues, manuscrits, etc.: 500
Nombre d'abonnements périodiques: 13

Les titres des monographies et des séries:
- Rapports CEA

Matériel
2 calculateurs (Hewlett Packard HP 9825B), calculateur (Hewlett Packard HP 9826A), 2 imprimantes thermiques, 4 chambres à grille (Intertechnique) pour spectrométrie alpha, ordinateur (Cosinus 62 Nuclear Data) pour acquisition en spectrométrie alpha, 2 compteurs proportionnels (Numelec type NU 15B) pour comptage béta et mesure alpha globale, 3 chaînes de mesures en spectrométrie gamma (2 sondes à cristal d'iodure de sodium dopé au thallium 1 jonction intrinsèque au germanium hyperpur), ordinateur (Intertechnique IN 96), pour acquisition en spectrométrie gamma, 4 imprimantes périphériq (ZIP 30), autoanalyseur (Technicon),2 spectrophotomètres d absorption atomique avec flamme et sans flamme/four graphite (Perkin Elmer Type 403 et 238), chromatographe en phase gazeuse (Varian 1400) équipé de détecteurs à capture d'électrons et thermoioniques pour analyse de pesticides organochlorés et organophosphorés et d'un détecteur à ionisation de flamme pour analyse d'hydrocarbures et autres produits organiques, spectrophotomètre (UV/Visible) pour analyse colorimétrique, fluorimètre, 2 pH mètre-millivoltmètre pouvant être utilisés avec des électrodes spécifiques, matériel classique de laboratoire (fours à moufle), centrifugeuses, extracteur (Rotavapor), étuves, etc.

Bâtiments de recherche
Nom: RAI MOANA (ALIENOR)
Longueur: 8 m.
Type: Vedette Pontée
Année de construction: 1980
Equipage: 2
Personnel scientifique: 4
Aménagements spéciaux:
Sondeur, treuil électrique, liaison radiophonique, cabine.

Nom: BOSTON WHEELER
Longueur: 6 m.
Type: Vedette fond plat
Année de construction: 1979
Equipage: 1
Personnel scientifique: 3

Le code de l'institution 006032 Information reçue: 22/02/85

Antenne Muséum/Ephe en Polynésie française,
Branche polynésienne du Muséum d'histoire naturelle
et de l'Ecole pratique des hautes études

Fonctionnaire exécutif: SALVAT, Bernard M.: Professeur

Adresse postale

Antenne Muséum/Ephe en Polynésie française,
Branche polynésienne du Muséum d'histoire naturelle
et de l'Ecole pratique des hautes études
Domaine d'Opunohu, Centre de l'environnement
Boite Postale 12
OPUNOHU, ILE DE MOOREA
FRENCH POLYNESIA

Téléphone: 689-61345
Télégramme: BP 12 MOOREA, POLYNESIE FRANCAISE

Langues de travail
Français, Anglais

Catégorie de l'institution
Universitaire

Principaux domaines d'activité

Biologie	Ecologie
Pêche dans les eaux intérieures	Aménagement des ressources
Océanographie	Limnologie
Microbiologie	Pollution
Géographie	Géologie/sédimentologie
Transfert de technologie	Education, formation ou vulgarisation

Domaines de spécialisation

Mammifères marins	Autres vertébrés
Autres invertébrés	Algues
Plancton	Benthos
Thermiques	Eaux marines côtières
Eaux saumâtres	Eaux intérieures (douces)
Ecosystèmes de mangroves	Ecosystèmes coralliens
Métaux (polluants)	Eléments nutritifs
Radionucléides	

Les objectifs et les programmes
L'histoire de l'institution, son mandat et ses objectifs
Centre de recherche établi en 1971 dans l'île de Moorea et se consacrant à la recherche fondamentale (80%) et appliquée (20%) des divers écosystèmes de Polynésie et du Pacifique tropical sud.
Les activités de recherche, de contrôle continu & autres menées au cours des trois dernières années
Recherches en:
- hydrologie
- biologie marine
- écologie
- géologie et volcanologie
- limnologie
- biologie terrestre
- environnement-enseignement et transfert de technologie

Principales activités de recherche et autres activités en cours
- hydrologie
- biologie marine
- limnologie
- effets des cyclones
- ichtyologie
- métabolisme et plancton
- environnement et pollution
- biologie terrestre

Les programmes futurs
- algologie
- métabolisme
- limnologie
- ichtyologie
- environnement et pollution
- océanographie biologique

Programme du coopération
- Programme commun de recherche sur le zooplankton et les algues benthiques avec l'Université de Guam
- Programme de recherche avec le New South Wales, State Fisheries of Australia sur la dynamique des poissons de récif
- Etude de la production du phytoplankton avec l'Universite de

Les objectifs et les programmes (Cont.)

Québec
- Métabolisme des récifs avec l'Université de Queensland, Australia

Programme de formation

Programme de formation à trois niveaux:
- formation de techniciens d'organismes territoriaux aux techniques d'études de l'environnement
- formation des professeurs des classes secondaires de Polynesie à l'écologie, la fauristique et la floristique des écosystèmes récifaux
- enseignement et stages de haut niveau pour des étudiants en thèse de 3ème cycle.

Personnel

13 Personnel scient. 2 Personnel technique 2 Autre personnel

Personnel scientifique

Nom	Diplôme Universitaire	Principale Discipline
Salvat, Bernard	Docteur ès sciences	Benthos, Géomorphologie
Ricard, Michel	Docteur ès sciences	Hydrologie, Plancton, Limnologie
Denizot, Michel	Docteur ès sciences	Géomorphologie, Algues benthiques
Humbert, Louis	Docteur ès sciences	Hydrogéologie
Montaggioni, Lucien	Docteur ès sciences	Géologie
Pirrazoli, Paolo	Docteur ès sciences	Géologie, Télédétection
Richard, Georges	Docteur ès sciences	Malacologie
Delesalle, Bruno	Docteur 3ème cycle	Phytoplancton, Production primaire
Galzin, René	Docteur 3ème cycle	Ichtyologie
Gabrie, Catherine	Docteur 3ème cycle	Sédimentologie
Payri, Claude	Docteur 3ème cycle	Algues benthiques
Faissolles, Frederic	Maîtrise ès science	Hydrogéologie
Marquet, Gerard	Maîtrise ès science	Ichtyologie

Locaux/installations

Superficie construite: 600 m Superficie des laboratoires: 460 m

Installations prévues pour:

Des chercheurs de l'extérieur: 12 Des étudiants: 12

Services d'information

Bibliothèque:

Nombre de livres, revues, manuscrits, etc.: 650

Nombre d'abonnements périodiques: 15

Les titres des monographies et des séries:
- Ouvrages scientifiques
- Rapports
- Thèses réalisées sur des sujets traitant des écosystèmes coralliens
- Reprints concernant les travaux des chercheurs à l'Antenne
- Bulletin semestriel OFA; paraissant depuis 1981 et rapportant les activités des chercheurs de l'Antenne

Matériel

3 balances, 2 fluorimètres, 2 spectrophotomètres, 3 loupes binoculaires, 4 microscopes, 2 étuves, appareil à eau distillée, tamiseur de sédimentologie, équipement de prélèvement hydrologique (treuils/bouteilles), équipement de prélèvement planctonologique (filets), équipement de prélèvement sédimentologique (drague/suceuse), équipement de photographie sous-marine (3 appareils) et de plongée sous-marine, centrifugeuse, 2 congélateurs.

Aquarium d'expérimentation

Superficie totale: 2 m Nombre de réservoirs: 4

Organismes entretenus:

Mollusques Crustacés Autres invertébrés

Algues

Bâtiments de recherche

Nom: MUSEUM 1
Longueur: 7 m.
Type: Speed boat
Année de construction: 1982
Aménagements spéciaux:
Treuil hydrologie, équipement pour plongée en bouteilles.

Nom: MUSEUM 2
Longueur: 3 m.
Type: Speed boat
Année de construction: 1980

Nom: CORIOLIS
Propriétaire: CNEXO
Longueur: 18 m.
Type: B.R.O.
Equipage: 12
Superficie des lab.: 50 m
Aménagements spéciaux:
Bateau conçu pour l'océanographie.

Nom: CYANA
Propriétaire: CNEXO
Longueur: 8 m.
Type: Soucoupe plongeante
Année de construction: 1980
Equipage: 1
Personnel scientifique: 1
Aménagements spéciaux:
Recherche scientifique profonde.

Le code de l'institution 006033 Information reçue: 07/08/84

Institut français de recherche pour l'exploitation de la mer, Centre océanologique du Pacifique (IFREMER/COP)

Fonctionnaire exécutif: CHOMEL DE VARAGNES Bruno: Directeur

Adresse postale

Institut français de recherche pour l'exploitation de la mer, Centre océanologique du Pacifique (IFREMER/COP)
Boîte Postale 7004
TARAVAO, TAHITI
FRENCH POLYNESIA

Telephone: 71274
Télex: OCEANEX 294 FP

Langues de travail
Français, Anglais

Catégorie de l'institution
Gouvernementale

Principaux domaines d'activité

Biologie	Science/technologie des aliments
Aquaculture	Ingénierie
Médecine vétérinaire	Transfert de technologie
Ordinateurs/systèmes informatiques	Education, formation ou vulgarisation

Domaines de spécialisation

Poissons démersaux	Crevettes
Autres invertébrés	Micro-organismes
Plancton	Thermiques
Eaux marines côtières	Eaux intérieures (douces)

Les objectifs et les programmes
Création du Centre océanologique du Pacifique en 1972 ayant pour mission de promouvoir l'aquaculture dans la zone du Pacifique. Les activités principales des trois dernières années ont porté sur la crevette de mer et d'eau douce, les poissons tempérés et tropicaux et le transfert des techniques de production des crevettes de mer et d'eau douce à la Polynésie française et aux pays en voie de développement.
Programme du coopération
- C.P.S.: Aquaculture (Commission pour le Pacifique Sud)
- E.V.A.A.M.: Aquaculture - Pêche (Etablissement pour la valorisation des activités aquacoles et maritimes)
- O.R.S.T.O.M.: Recherche (Office de la recherche scientifique et la technique d'outre-mer)

Programme de formation
Formation pratique et informelle:
- les personnes avec lesquelles l'organisme a passé contrat pour une opération de développement
- les étrangers envoyés dans le cadre d'un accord de coopération entre leur pays et le gouvernement français

Structure de l'institution
Direction des ressources vivantes
stratégie d'aménagement des pêches et des cultures marines
gestion des pêches
gestion des cultures marines
Technologie de production
valorisation des produits de la mer
contrôle des produits
études-environnement
- Département aquaculture tropicale
- Administration

Personnel
35 Personnel scient. 21 Personnel technique 10 Autre personnel

Personnel scientifique

Nom	Diplôme Universitaire	Principale Discipline
[illegible]lt, P.	Ing.	
[illegible]e, D.	Doc. 3ème cycle	Océanologie biologique
[illegible] A	Doc. 3ème cycle	Océanologie biologique

Personnel (Cont.)

Nom	Diplôme Universitaire	Principale Discipline
Weppe, M.	Doc. en médecine	Pathologie
Coatanea, D.	Doc. 3ème cycle	Océanologie biologique, Algues-mollusques
Cuzon, G.	Doc. 3ème cycle	Alimentation, Nutrition
Fuchs, J.	Doc. 3ème cycle	Aquaculture (poissons)
Goguenheim, J.	D.E.A.	Océanologie biologique, Crustacés
Mazurie, J.	Ing. agr.	Aquaculture
Virmaux, J.F.	Ing.	Ingénieur aquacole
Patrois, J.	Ing. aquacole	Aquaculture
Bedier, E.	Ing.	Ecochimie
Antoine, L.	Doc. 3ème cycle	Aquaculture
Lebeau, A.	D.E.A.	Aquaculture
Barret, J.	Maîtrise	Aquaculture
Martin, J.L.	Doc. 3ème cycle	Aquaculture

Locaux/installations
Superficie construite: 7050 m Superficie des laboratoires: 600 m

Services d'information
Bibliothèque:
Nombre de livres, revues, manuscrits, etc.: 2500
Nombre d'abonnements périodiques: 40

Les titres des monographies et des séries:
- Publication scientifiques 'Aquacop'

Matériel
Une chaîne (Technicon).

Aquarium d'expérimentation
Superficie totale: 21000 m

Les espèces entretenues à des fins expérimentales:

Penaeus monodon	*Penaeus vannamei*	*Penaeus indicus*
Penaeus stylirostris	*Macrobrachium rosenbergii*	*Chelonia mydas*
Mytilus viridis	*Venerupus semidecussata*	*Crassostrea echinata*
Pinctada margaritifera	*Spirulina platensis*	*Isochrysis galbana*
Platymonas suesica	*Chaetoceros gracilis*	*Cylindrotheca sp.*
Dicentrarchus labrax	*Sparus auratus*	*Caranx ignobilis*
Siganus argenteus	*Tilapia mossambica*	*Epinephelus tauvina*

Bâtiments de recherche
Nom: CORIOLIS
Longueur: 38 m.
Type: N.O.
Année de construction: 1963

Le code de l'institution 006034 Information reçue: 31/07/84

Division of Aquatic and Wildlife Resources,
Department of Agriculture, (DAWR)

Executive officer: KAMI, Harry T.: Director

Postal address

Division of Aquatic and Wildlife Resources,
Department of Agriculture, (DAWR)
Government of Guam
P.O. Box 23367
GUAM 96921
GUAM

Telephone: 7343944/7343945

Working languages
English

Nature of institute
Governmental

Main fields of activities

Biological sciences	Ecological sciences
Marine fisheries	Inland fisheries
Resources management	Fishing technology
Aquaculture	

Areas of speciality

Demersal fish	Pelagic fish
Offshore marine waters	Coastal marine waters
Brackish waters	Inland (fresh) waters
Mangroves ecosystems	Coral ecosystems

Objectives and programmes
History of institution, its mandate and purpose
Established in 1954, to conserve, manage and protect the aquatic and wildlife resources of the Territory.
Research, monitoring and other activities in last three years
Fisheries:
- biological and ecological studies of important food and game fish research
- monitoring of fishing pressure on coastal and reef fish populations

Wildlife:
- biological and ecological studies of game birds and mammals
- biological and ecological studies of native forest birds

Major current research and other activities
Same as in the last three years
- development of polyculture fish farming

Future programmes
Same as in the last three years
Continuation of current programme

Cooperative programme
U.S. Fish and Wildlife Service, National Marine Fisheries Service; FAO; SPC; Pacific Tuna Development Foundation.

Institution structure
The Division is composed of:
- Wildlife Section
- Law Enforcement Section

Staff
13 Scientific staff 4 Technical staff 12 Other staff

Professional scientific staff

Name	Degree	Speciality
Anderson, Robert D.	M.Sc.	Wildlife biology
Aguon, Clestino F.	B.A.	Ornithology
Beck, Robert E.	M.Sc.	Ornithology
Charfauros, Evangeline	B.A.	Wildlife biology
Conry, Paul J.	M.Sc.	
Davis, Gerald B.	B.A.	Fishery biology
Grimm, Grethen	M.Sc.	Fishery biology
Kruckenberg, Wayne	B.A.	Aquaculture
Molina, Micheal E.	M.Sc.	Fishery biology
Myers, Robert F.	M.Sc.	Fishery biology

Staff (Cont.)

Name	Degree	Speciality
Rinehart, Robert	B.A.	Fishery biology
Savidge, Julie	M.Sc.	Ornithology
Wiles, Gary J.	M.Sc.	Wildlife biology

Premises/facilities
Building area: 259 m

Information facilities
Library holdings:
Number of books, journals, manuscripts, etc.: 100

Monographs and serials titles:
- Annual Report (since 1960)
- Technical Report (irregularly)

Equipment
Fiberglass boat (6m), rubber boat (4m).

Aquarium facilities
Number of tanks: 27

Organisms maintained:
Other vertebrates

Species maintained for experimental purposes:

Pangasius sutchi

Institution code: 006051 Information received: 07/05/84

Guam Environmental Protection Agency (GEPA)

Executive officer: BRANCH, James B.: Administrator

Postal address

Guam Environmental Protection Agency (GEPA)
P.O. Box 2999
AGANA, 96910
GUAM

Telephone: 671-6468863/6468864/6468865

Working languages
English

Nature of institute
Governmental

Main fields of activities

Biological sciences	Ecological sciences
Resources management	Oceanography
Limnology	Chemical sciences
Microbiology	Pollution
Engineering	Geology/sedimentology
Policy and planning	Computers/information systems
Education, training or extension	

Areas of speciality

Demersal fish	Pelagic fish
Shrimps/prawns	Other invertebrates
Algae	Micro-organisms
Plankton	Benthos
Thermal	Tides/waves
Wind	Coastal marine waters
Brackish waters	Inland (fresh) waters
Mangroves ecosystems	Coral ecosystems
Petroleum hydrocarbons	Metals (pollutants)
Halogenated hydrocarbons	Pathogenic micro-organisms
Nutrients	Radionuclides

Objectives and programmes
History of institution, its mandate and purpose
Established in 1973, to conserve and protect the environment.
Research, monitoring and other activities in last three years
- northern Guam lens study
- NPDES monitoring
- islandwide monitoring strategy
- recreational area monitoring
- air quality monitoring
- drinking water quality monitoring

Major current research and other activities
- northern district sewage plant effluent study

Future programmes
Same as in the last three years
Continuation of current programme
Co-operative programme
- College of Agriculture and Life Sciences (pesticide applicator training) University of Guam
- Guam Community College (water system operator and wastewater system operators training program)

Training programme
- environmental impact statement preparation workshop (every 2-3 years)
- pesticide applicator training provided to the commonwealth of the N. Marianas
- certification of pesticide applicators
- certification of water system operators and wastewater system operators
- certification of water quality laboratories

Institution structure
The Agency is divided into three divisions.
- Water Division
- Air and Land Division
- Monitoring Services Division

In addition there are Administrative and External Relations Sections.

Staff
13 Scientific staff 12 Technical staff 9 Other staff

Professional scientific staff

Name	Degree	Speciality
Branch, James B.	M.S., R.S.	Marine biology
Stillberger, Gary L.	B.S., R.S.	Fisheries biology, Environmental impact studies
Morphew, Kenneth	M.S., R.S.	Wastewater treatment
Pador, Mila	B.S.	Chemistry
Hardina, Carmen	B.S.	Chemistry
Borja, Melvin	M.P.H., R.S.	Bacteriological contamination
Custodio, Narcisco	B.S.	Engineering
Acojido, Arnold	B.S.	Engineering
Cabusao, Domingo	B.S.	Engineering
Calimlim, Ernesto	B.S.	Engineering
Marquez, Angel B.	B.S.	Engineering
Canto, James	M.P.H., R.S.	Vector control
Obias, Virgilio	B.S., R.S.	Pesticides

Premises/facilities
Building area: 1070 m Laboratory area: 135 m

Information facilities
Library holdings:
Number of books, journals, manuscripts, etc.: 19300
Number of periodical subscriptions: 21

Monographs and serials titles:
- 1983 Annual Report (11th Report)
- 1984 Territory of Guam Water Quality Report, 305(b)
- GEPA Reports (occasionally)

Equipment
Gas chromatograph (Perkin Elmer), atomic absorption spectrophotometer (P-E), turbidimeter (Hach), spectrophotometer, salinometer, ph meters, nitrogen (Kjeldahl) apparatus, membrane filter apparatus, autoclave, lab incubators, drying oven, lab balances, compound microscope, dissecting microscope, dissolved oxygen meter, (YSI Model 33) meter, water distillation unit, freezers, (Van Dorn or Nansen) water sampler, drift dragues, hand bearing compass, Scuba equipment (4 sets), underwater camera (lenses/flash), photographic developing lab (darkroom), (IBM PC XT) computer system, (Wang) word processor, Boston whaler (5.4m), Zodiac (4.5m).

Aquarium facilities
Total area: 2 m Number of tanks: 11

Institution code: 006052 Information received: 28/02/85

Marine Laboratory,
University of Guam

Executive officer: NELSON, Stephen G.: Director

Postal address

Marine Laboratory,
University of Guam
University of Guam Station
MANGILAO, 96913
GUAM

Telephone: 671-7342421
Telex: 721-6275
Cable: UNIVGUAM

Working languages
English

Nature of institute
Academic

Main fields of activities
Biological sciences
Ecological sciences
Marine fisheries
Aquaculture
Education, training or extension

Areas of speciality
Demersal fish
Pelagic fish
Other invertebrates
Algae
Mangroves ecosystems
Coral ecosystems

Objectives and programmes
History of institution, its mandate and purpose
The University of Guam, Marine Laboratory was established as a research unit of the University in 1970 and serves the needs of the geographic area of Micronesia.
Research, monitoring and other activities in last three years
The focus of basic research has been on the structure and function of coral reef ecosystems. Applied research programs in the areas of tropical fisheries management and aquaculture have also been established.
Major current research and other activities
Trophic biology of coral reef fishes introduced species traditional fisheries methods; nitrogen budgets in tropical aquaculture systems, coral biology; the role of cell adhesion in morphogenesis in sea urchins and corals.
Future programmes
Continuation of current programme
Cooperative programme
The Marine Laboratory of the University of Guam has cooperative research programs with National Taiwan University and with the Ecole pratique des hautes études (Paris and French Polynesia). The Laboratory has current cooperative training programs with the University of Washington, the National Institute of Oceanology of Indonesia, and Pattimura University (Ambon, Indonesia). The Laboratory is also involved in a cooperative research program with the South Pacific Regional Environmental Program. Our Sea Grant Program is a cooperative program with the University of Hawaii and a program on Marine Resource Assessment with the National Marine Fisheries Service.
Training programme
The faculty of the Marine Laboratory are primarily responsible for the graduate program (M.S. level) in biology which emphasizes coral reef ecology.

Staff
9 Scientific staff 3 Technical staff 2 Other staff

Professional scientific staff

Name	Degree	Speciality
Amesbury, Steven S.	Ph.D.	Ichthyology, Population biology of fishes
Birkeland, Charles E.	Ph.D.	Marine community ecology, Species interaction

Staff (Cont.)

Name	Degree	Speciality
Eldredge, Lucius G.	Ph.D.	Marine invertebrate, Taxonomy, Biogeography
Matson, Ernest	Ph.D.	Microbiology
Marsh, James A.	Ph.D.	Primary productivity, Energy/nutrient flow, Coral reef ecosystems
Nelson, Stephen G.	Ph.D.	Aquatic ecology, Aquaculture
Randall, Richard H.	M.S.	Coral taxonomy, Ecology
Tsuda, Roy T.	Ph.D.	Algal taxonomy, Ecology
Smith, Barry D.	M.S.	Marine advisory services

Premises/facilities
Building area: 2500 m Laboratory area: 2100 m
With facilities for:
Visiting scientists: 3 Students: 12

Information facilities
Monographs and serials titles:
- Micronesica
- Coral Reef Newsletter

Equipment
(IBM 3276-7) computer terminal linked by telephone line to the main computer (IBM 4331-J) on campus, (IBM) personal computer (XT) with printer, (NEC) personal computer with high speed printer, (Culligan Aqua Summa Reagent) grade water system, (Beckman Beta-Mate II) scintillation counter, (Phillipson Microbomb) calorimeter, Inter Ocean System (INC 34) current meter, (Bausch and Lomb) spectronic 710 spectrophotometer, (Licor) integrating quantum meter with underwater sensors and a deck to sea switch, (Cahn) electro-balance, (Orion) microprocessor ionalysers (2) with specific ion probes, (Stathkelvin) oxygen meter with radiometer oxygen electrode, electrophoresis and electrofocusing equipment, (YSI) dissolved oxygen meters and electrodes, column chromatography equipment, lyophilizer, refrigerated centrifuge, environmental chamber, micro (Kjeldahl) apparatus, darkroom facilities, 2 run about boats and 2 inflatables.

Aquarium facilities
Total area: 25 m Number of tanks: 15

Organisms maintained:
Demersal fish Algae

Species maintained for experimental purposes:

Chanos chanos *Gracilaria edulis* *Tridacna squamosa*
Trochus niloticus *Echinometra mathei* *Siganus argenteus*

Research craft
Name: R/V PESCADOT
Length: 13 m.
Type: Research vessel
Date of construction: 1983
Special facilities:
Hydraulic winch, pot hauler, live bait well, satellite navigation system, depth finder.

Name: OUTRAGE
Length: 7 m.
Type: Boston whaler

Institution code: 006054 Information received: 23/02/85

Botakin Akawa

(Fisheries Division of the Ministry of Natural Resource Development (F.D.))

Executive officer: ONORIO Barerei: Chief Fisheries Officer

Postal address

Botakin Akawa
P.O. Box 276
BIKENIBEU, TARAWA
KIRIBATI

Telephone: 244
Telex: K1039 ACCESS SYDNEY 761
Cable: FISHERIES TARAWA

Working languages
English, I-Kiribati

Nature of institute
Governmental

Main fields of activities
- Marine fisheries
- Fishing technology
- Aquaculture
- Education, training or extension
- Resources management
- Quality control (fishery products)
- Marketing/economics

Areas of speciality
- Demersal fish
- Cephalopods
- Algae
- Coastal marine waters
- Pelagic fish
- Lobsters
- Offshore marine waters
- Coral ecosystems

Objectives and programmes

History of institution, its mandate and purpose

Fisheries Division is charged with developing the natural aquatic resources of Kiribati:
- commercial development
- artisanal development (extension)
- aquaculture
- import substitution
- licensing fishing vessels
- *Tilapia* (pest) control

Research, monitoring and other activities in last three years

Fisheries Division is not a research establishment but research related areas have included:
- deep bottom fishing trials
- market surveys
- fishery surveys
- seaweed culture
- aquaculture
- F.A.D.s

Major current research and other activities
- fisheries statistical surveys
- seaweed culture
- aquaculture

Future programmes
- precious coral resource assessment
- resource assessment of Kanton and Kiritimati
- squid jigging

Cooperative programme
- Kiribati Fisheries Division has a cooperative with the Atoll Research and Development Unit of the University of the South Pacific (research areas include baitfish assessment, bivalve mollusc island-transplants, ciguatoxicity monitoring)
- the Division also cooperates with Mautari, the commercial fishing company (eg. purse-seining and its feasibility)

Training programme

Training is provided to all new Fisheries Assistants in general fisheries related topics. After a period of time in the field all Fisheries Assistants are given upgrading courses by the Training Officer. Staff are also being trained in specialized areas such as boat building, and the skippering of fishing craft on a counterpart basis with expatriot assistance.

Institution structure

Ministry of Natural Resources Development
- Chief of Fisheries Officer
- Senior Fisheries Officer
- Fisheries Units:
  Statistics/licensing
  training
  extension
  vessel
  boat-building
  aquaculture
  seaweed culture

Staff

13 Scientific staff 32 Technical staff 7 Other staff

Professional scientific staff

Name	Degree	Speciality
Onorio, Barerei	B.Sc.	General fisheries
Takai, Teekabu	B.Sc.	General fisheries
Mees, Christopher	Ph.D.	Ecology, Effects of pollutants
Why, Stephen	B.Sc.	Seaweed cultivation
Lindley, Robert	B.Sc.	General fisheries
Reiti, Takaeang	Diploma	General fisheries
Uan, James	Diploma	General fisheries
Teororoko, Tukabu	M.Sc.	Aquaculture
Day, Mark	UK Skippers Ticket	Fishing methods
Beniamina, Rimeta	Diploma	General fisheries
Kamatie, Maruia	Diploma	General fisheries
Rouatu, Sangalofa T.	B.Sc.	Fisheries statistics
Raobati, Baraniko	Diploma	General fisheries

Premises/facilities

Building area: 300 m

Information facilities

Library holdings:
Number of books, journals, manuscripts, etc.: 250

Research craft

Name: NEI TEWENEI
Length: 15 m.
Type: Steel prawn trawler
Date of construction: 1980
Crew: 6
Special facilities:
Colour echo-sounder, brine circulating tank blast, freezer (to -50 degrees C).

Institution code: 006072 Information received: 08/08/84

Institut français de recherche scientifique pour le développement en coopération (ORSTOM)

Fonctionnaire exécutif: PAGES, Jean F.: Directeur

Adresse postale

Institut français de recherche scientifique pour le développement en coopération (ORSTOM)
Boite Postale A5
NOUMEA CEDEX
NEW CALEDONIA (FRANCE)

Téléphone: 261000
Télex: 193 NM
Télégramme: ORSTOM-NOUMEA

Langues de travail
Français, English

Catégorie de l'institution
Gouvernementale

Principaux domaines d'activité

Biologie	Ecologie
Pêche maritime	Océanographie
Chimie	Physique
Pollution	Météorologie/climatologie

Domaines de spécialisation

Poissons démersaux	Poissons pélagiques
Algues	Micro-organismes
Plancton	Benthos
Eaux marines du large	Eaux marines côtières
Ecosystèmes coralliens	Eléments nutritifs

Les objectifs et les programmes
Historique rapide:
Créé in 1946, le Centre de Nouméa est le plus ancien et le plus important des Centres ORSTOM du Pacifique sud. La Section d'océanographie fut fondée en 1957 à Nouméa et fut étendue à Papeete (Tahiti) en 1978 puis à Port-Vila (Vanuatu) en 1982.
Objectif de l'Institution:
L'ORSTOM est chargé d'entreprendre et de développer hors des régions tempérées des recherches fondamentales orientées vers les productions végétales et animales ainsi que vers la connaissance des données de base des milieux naturels et humains; d'établir et de développer, hors des mêmes régions une infrastructure permettant des recherches fondamentales dans tous les domaines; de participer à la formation du personnel spécialisé en matière de recherche scientifique et technique hors des régions tempérées. L'ORSTOM peut dans ces différents domaines apporter son concours aux pays étrangers ou aux organisations internationales qui en feront la demande. L'ORSTOM occupe de ce fait une place originale parmi les centrales scientifiques françaises; ses actions doivent répondre aux préoccupations des Etats et Territoires qui font appel au concours de l'Office pour fournir les données de base nécessaires à leur développement.
Programme du coopération
L'ORSTOM entretient d'étroites relations avec d'autres organismes administratifs et scientifiques de Nouvelle-Calédonie, notamment:
- Service des pêches maritimes pour l'étude des ressources marines
- Service de la météorologie pour les études hydroclimatologiques

Programme de formation
Il n'y a pas d'enseignement universitaire scientifique en Nouvelle Calédonie; les étudiants ayant achevé leurs études secondaires se rendent généralement en France. Cependant le Centre ORSTOM de Nouméa peut, sur demande, reçevoir des stagiares qui souhaitent acquérir des connaissances sur les méthodes de recherche.

Structure de l'institution
Le Centre ORSTOM de Nouméa est un organisme de recherches dont l'effectif est de 200 personnes dont 73 sont directement concernees par l'étude de l'environnement. Ses thèmes sont: agronomie, botanique, entomologie, phytopatologie et océanographie.

Personnel
16 Personnel scient. 16 Personnel technique 15 Autre personnel

Personnel scientifique

Nom	Diplôme Universitaire	Principale Discipline
Lemasson, Lionel	Ing. agronome	Chimie
Morliere, Alain	Lic. physique	Analyse des donnees
Donguy, Jean René	Lic. physique	Physique
Eldin, Gérard	Lic. physique	Physique
Rebert, Jean-Paul	Lic. physique	Physique
Dandonneau, Yves	Ing. agronome	Phytoplancton
Roger, Claude	Doc. ès sciences	Zooplancton
Bour, Willy	Ing. agronome	Trocas
Pianet, Renaud	Ing. agronome	Thons, Dynamique des peches
Petit, Michel	Ing. agronome	Thons, Télédétection, Dynamique des peches
Champagne, Michèle	Ing. météorologiste	Télédétection
Leborgne, Robert	Doc. ès sciences	Zooplancton
Blanchot, Jean	Doc. 3ème cycle	Zooplancton
Richer de Forges, Bertrand	Doc. 3ème cycle	Benthos, Crabes
Kulbicki, Michel	Ing. agronome	Dynamique des populations
Grandperrin, René	Ing. agronome	Dynamique des populations

Locaux/installations
Superficie construite: 3900 m Superficie des laboratoires: 900 m

Services d'information
Bibliothèque:
Nombre de livres, revues, manuscrits, etc.: 4802
Nombre d'abonnements périodiques: 606

Les titres des monographies et des séries:
- Rapports scientifiques et techniques (ORSTOM, Centre de Noumea, océanographie, publication occasionnelle)
- Recueil de travaux (ORSTOM, Centre de Nouméa, océanographie, publication occasionnelle)

Bâtiments de recherche

Nom: N.O. VAUBAN
Propriétaire: CNEXO
Longueur: 25 m.
Type: Chalutier
Année de construction: 1951
Equipage: 12
Personnel scientifique: 5

Nom: N.O. CORIOLIS
Propriétaire: CNEXO
Longueur: 38 m.
Type: Navire de recherche
Année de construction: 1965
Personnel scientifique: 10

Nom: N.O. DAWA
Propriétaire: CNEXO
Longueur: 10 m.
Type: Vedette
Année de construction: 1977
Equipage: 2
Personnel scientifique: 4

Nom: N.O. SANTA MARIA
Propriétaire: CNEXO
Longueur: 8 m.
Type: Vedette
Année de construction: 1492
Equipage: 1

Le code de l'institution 006081 Information reçue: 08/08/84

Tuna and Billfish Assessment Programme

Executive officer: SIBERT, John R.: Acting Co-ordinator

Postal address

Tuna and Billfish Assessment Programme
South Pacific Commission
P.O. Box D5
NOUMEA CEDEX
NEW CALEDONIA (FRANCE)

Telephone: 262000
Telex: 139NM SOPACOM
Cable: SOUTHPACOM

Working languages
English, French

Nature of institute
International (UN)

Main fields of activities
Marine fisheries

Areas of speciality
Pelagic fish

Objectives and programmes
Research, monitoring and other activities in last three years
- skipjack survey and assessment programme (1977-1981)
- fisheries research concerning migratory tuna and billfish species
- assessment of skipjack and baitfish resources of central and western tropical Pacific Ocean

Major current research and other activities
- assessment of stocks of tuna species and of interactions between fisheries for them
- establishment of a computer data base of catch and effort statistics for tuna fisheries in the central and western tropical Pacific Ocean

Future programmes
Continuation of current programme

Cooperative programme
- liaison with all governmental fisheries agencies in SPC area
- Forum Fisheries Agency

Training programme
- statistical training course for participants from SPC countries and territories (September 1984)

Staff
10 Scientific staff 4 Technical staff 3 Other staff

Professional scientific staff

Name	Degree	Speciality
Sibert, John	Ph.D.	Tuna growth, Tag attrition models
Hilborn, Ray	Ph.D.	Fisheries interaction
Pianet, Renaud	DEA oceanogr.	Tuna oceanography, Reproductive biology
Polacheck, Tom	Ph.D.	Statist data base, Stock assessment
Gillett, Robert	M.Sc.	Fisheries development, Observer programmes
Farman, Richard	M.Sc.	Observer programmes, Diffusion models

Premises/facilities
Building area: 600 m

Information facilities
Monographs and serials titles:
- Preliminary Country Reports (25)
- Final Country Reports (11)
- Technical Reports (13)

Equipment
Hewlett Packard 1000E and 1000F computers (each with 256 pages of memory/share access to two 50MB discs/additional 120M disc, peripheral equipment includes: 16 VDU terminals (2621/2622/2648 graphics), 7 printers (HP and others), plotter (HP9872), tape drive (HP7970), mini-computer (HP85), 6 micro-computers (TRS-80).

Institution code: 006082 Information received: 05/03/85

Service territorial de la marine marchande et des pêches maritimes (MM)

Fonctionnaire exécutif: JOURDE Jean-Louis: Chef

Adresse postale

Service territorial de la marine marchande et des pêches maritimes (MM)
Avenue James Cook
Boite Postale 36
NOUMEA
NEW CALEDONIA (FRANCE)

Téléphone: 272626/281709
Télex: 020 NM
Télégramme: HAUSSAIRE NOUMEA

Langues de travail
Français

Catégorie de l'institution
Gouvernementale

Principaux domaines d'activité

Pêche maritime	Aménagement des ressources
Technologie halieutique	Aquaculture
Politique et planification	Commercialisation/economie
Education, formation ou vulgarisation	

Domaines de spécialisation

Mammifères marins	Poissons démersaux
Poissons pélagiques	Crevettes
Eaux marines du large	Eaux marines côtières
Ecosystèmes de mangroves	Ecosystèmes coralliens
Hydrocarbures du pétrole	

Les objectifs et les programmes
Le Service élabore, pour le compte des Instances terrioriales, la politique de mise en valeur des ressources biologiques marines et participe à sa mise en oeuvre.
Les principales interventions concernent:
- l'élaboration d'une politique de gestion des ressources (réglementation des pêches)
- la définition des besions de recherche et d'expérimentation en matière de pêche et d'aquaculture
- le suivi technique et administratif des entreprises de pêche industrielle et d'aquaculture
- la mise en oeuvre d'un programme de développement des pêcheries artisanales, notamment en milieu traditionnel

Pour les activités réalisées en cours et les programmes futurs voir Programme de coopération.
Programme du coopération
- Conventions d'études avec l'Office de recherche scientifique et technique d'outre-mer (ORSTOM)
  Les principaux programmes réalisés ou en cours pour le compte du Territoire de Nouvelle-Calédonie concernent:
  la prospection thonière par télédétection aérienne;
  l'évaluation des stocks d'appâts vivants pour la pêche thonière à la canne;
  l'étude des trocas du lagon néo-calédonien (*Trochus niloticus*):
  l'étude des possibilités d'exploitation du corail
- Centre national pour l'exploitation des océans
  Une Association entre le Territoire et le CNEXO a mis en oeuvre depuis 1973 un programme d'expérimentation en aquaculture, qui conduit actuellement à la création d'un nouveau secteur économique.
  Les espèces étudiées sont les crevettes de mer et d'eau douce ainsi que les huîtres, moules et palourdes.
  Il est envisagé d'élargir le programme d'étude des mollusques en y intégrant le troca et le bénitier.
- Commission du Pacifique Sud
  Participation au programme d'étude des thonidés, ainsi qu'au programme de développement de la pêche profonde.

Programme de formation
Outre son activité d'animation auprès des collectivités de pêcheurs du littoral, le Service met actuellement au point un programme de formation aux techniques de pêche profonde et semi-hauturière à partir du navire décrit (catamaran DAR MAD).

Structure de l'institution
- Section marine marchande
- Section pêches et cultures marines

Personnel
1 Personnel scient. 2 Personnel technique 4 Autre personnel

Locaux/installations
Superficie construite: 80 m

Services d'information
Bibliothèque:
Nombre d'abonnements périodiques: 20

Les titres des monographies et des séries:
- Bilan annuel d'activité du Service

Bâtiments de recherche

Nom:	DAR MAD
Longueur:	12 m.
Type:	Cata. voiles/moteurs
Année de construction:	1981
Equipage:	2

Aménagements spéciaux:
Navire équipé pour la pêche profonde d'espèces démersales.

Le code de l'institution 006083 Information reçue: 12/06/84

Division of Marine and Freshwater Science, Department of Scientific and Industrial Research (DMFS/DSIR)

Executive officer: HURLEY, Desmond E.: Director

Postal address

Division of Marine and Freshwater Science,
Department of Scientific and Industrial Research (DMFS/DSIR)
Evans Bay Parade
P.O. Box 12-346
WELLINGTON
NEW ZEALAND

Telephone: 861189
Telex: 3276/RESEARCH
Cable: OCEANGRAPH WELLINGTON

Working languages
English

Nature of institute
Governmental

Main fields of activities

Biological sciences	Ecological sciences
Oceanography	Limnology
Chemical sciences	Physical sciences
Pollution	Meteorology/climatology
Geology/sedimentology	Mineral resources (incl. Oil)
Technology transfer	Computers/information systems

Areas of speciality

Shrimps/prawns	Other invertebrates
Algae	Plankton
Benthos	Tides/waves
Offshore marine waters	Coastal marine waters
Brackish waters	Inland (fresh) waters
Coral ecosystems	Metals (pollutants)
Nutrients	

Objectives and programmes
History of institution, its mandate and purpose
In 1954, the New Zealand Oceanographic Institute of the Department of Scientific and Industrial Research was established. In 1982, it combined with the Taupo Research Laboratory (freshwater) to form the new Division of Marine and Freshwater Science, with the component N.Z. Oceanographic Institute (NZOI) and Taupo Research Lab. separate locations. The purpose of the Division is to contribute to the welfare of the nation through oceanographic (marine biology, physical oceanography, marine science) and freshwater research (the latter including productivity studies and analysis of water properties).
Research, monitoring and other activities in last three years
- Biological Oceanography (classification of marine ecosystems according to their living and non-living aspects and their probable modes of functioning)
- Marine Geoscience (all aspects of the morphology, sedimentology, structure, geochemistry, and economic potential of the seafloor around New Zealand, and of the country's lakes)
- it also has the responsibility of storing and curating the official collection of marine geological samples and records
- the section also plays an active role in integrating marine geoscientific research in other divisions of DSIR, other governmental departments, universities and other scientific institutions
- Physical Oceanography (ocean climate, estuaries, deep ocean, tides, long waves, microstructures, tsunamis and inter-disciplinary studies)
- Taupo Research Laboratory
- progress was made on modelling physical, chemical, and biological features which influence algal dominance and succession in lakes
- substantial effort went into studies of the effects of geothermal waters and waste waters on the aquatic environment

Major current research and other activities
Same as in the last three years

Objectives and programmes (Cont.)

Future programmes
- study the sedimentary regime of the New Zealand continental shelf and slope in areas considered to have potential for development
- define the mineral resources within the New Zealand Exclusive Economic Zone
- evaluate the structure and stratigraphy of the New Zealand continental margin
- study interaction between plants and those nutrients of importance in the control of eutrophication
- study nutrient supply and transfer through the marine food web to animals and plants of economic importance
- study the distribution, abundance, and identity of benthic species in the New Zealand Exclusive Economic Zone in relation to their environment and their role as an energy source in the marine food web
- study the variability of water properties and movements on New Zealand's continental shelf and slope
- assess the impact of development in marine and freshwater environments
- engage, where deemed appropriate, in research related to international and bilateral co-operative programmes, in New Zealand's aid programmes, and in the New Zealand Antarctic Research Programme

Cooperative programme

Many projects involving NZOI staff are multidisciplinary in nature and involve collaboration with other organisations in New Zealand and overseas. Individual research topics may also involve international input or staff may contribute manpower under various overseas aid schemes. Thus, NZOI has provided over 2 man-months per year for co-operative work in the South Pacific including exploration for offshore minerals, precious coral, and constructional materials. In recent years, a geologist has been seconded to serve with the:
- UNDP-funded offshore mineral prospecting project (CCOP/SOPAC)

and a physical oceanographer to Hawaii as Assistant Director of the International Tsunami information Center.

Other international research involvement has been directed towards investigation of:
- Antarctic Circumpolar Current (with scientists from Woods Hole Oceanographic Institute and Pacific Marine Environmental Laboratory U.S.A.)
- distribution of fossil planktonic foraminiferans (U.S. Geological Survey)
- morphology and development of the submarine canyon fans off Otago (University of California, Santa Cruz)
- geology of the Northland Plateau (University of Sydney)
- structure of the Bay of Plenty (Institute of Geological Sciences, U.K.)
- palaeoclimate reconstruction (Kyoto University, Japan)
- Cook Strait tidal mixing (State University of New York, Stony Brook)
- deep-sea brachiopods of the South Pacific (Institute of Oceanography, Moscow)
- reef building and non-reef building corals (University of Cambridge and Marine Biological Association of the U.K.)
- brachiopod ecology (Monash, Queensland, and Sydney Universities)

International co-operation has been most conspicuous in the area of economic minerals (cooperative work off New Zealand has been carried out with West Germany and the U.S.A.).

Institution structure
- Taupo Research Laboratory
- New Zealand Oceanographic Institute:
  - Marine Biology
  - Marine Geoscience
  - Electronics
  - Physical Oceanography

Staff

33 Scientific staff 22 Technical staff 15 Other staff

Professional scientific staff

Name	Degree	Speciality
Hurley, D.E.	Ph.D.	Amphipoda
Bradford, J.M. (Ms.)	Ph.D.	Copepoda, Productivity
Chang, F.H.	Ph.D.	Phytoplankton, Plant physiology
Dawson, E.W.	M.Sc.	Benthic biology

Staff (Cont.)

Name	Degree	Speciality
Grange, K.R.	M.Sc.	Benthic biology
Hay, C.H.	Ph.D.	Seaweeds, Benthic ecology
Luckens, P.A. (Ms.)	Ph.D.	Bivalve, Barnacle ecology
McKnight, D.G.		Echinoderms
Gordon, D.P.	Ph.D	Bryozoa
Burns, D.A.	Ph.D.	Hard-shelled microplankton
Carter, L.	Ph.D.	Sedimentology
Cullen, D.J.	Ph.D.	Phosporites
Eade, J.V.	M.Sc.	Continental margins
Glasby, G.P.	Ph.D.	Manganese nodules
Irwin, J.		Lake sediments, Processes
Lewis, K.B.	Ph.D.	Continental margins
Pickrill, R.A.	Ph.D.	Coastal, Lake processes
Gilmour, A.E.	Ph.D.	Seawater properties
Heath, R.A.	Ph.D.	Tides, Oceanic circulation
Ridgway, N.M.		Oceanic circulation
Stanton, B.R.	M.Sc.	Oceanic circulation
White, E.	Ph.D.	Eutrophication, Nutrients
Vincent, W.F.	Ph.D.	Nutrients, Phytoplankton
Forsyth, D.J.	Ph.D.	Chironomids, Limnology
Howard-Williams, C.	Ph.D.	Nutrients, Plant growth
Timperley, M.H.	Ph.D.	Nutrients, Water chemistry
Viner, A.B.	Ph.D.	Nutrients, Water chemistry

Premises/facilities

Building area: 2600 m Laboratory area: 700 m
With facilities for:
Visiting scientists: 4

Information facilities

Library holdings:
Number of books, journals, manuscripts, etc.: 41670
Number of periodical subscriptions: 800

Monographs and serials titles:
- Records, New Zealand Oceanographic Institute (NZOI)
- Memoirs, New Zealand Oceanographic Institute (NZOI)
- Miscellaneous Publications, New Zealand Oceanograhic Institute
- Hydrology Station Data, New Zealand Oceanographic Institute
- Biology Station Data, New Zealand Oceanographic Institute
- Annual Report, Division of Marine and Freshwater Science
- Charts, New Zealand Oceanographic Institute
- Oceanographic Summaries, NZOI
- Oceanographic Field Reports, NZOI

Equipment

Dredges (cone/Devonport/mussel/oyster/pipe/rock/Willis), trawls (Agassiz/Beam/Isaac Kidd/research pipe frame), corers (box/foram/gravity/piston), grabs (Dietz/Menzies/orange peel/Petersen/snapper/Van Veen/etc), 3 small boats (5-6 m length-inshore/lake work), Uniboom seismic profiling equipment, 3.5-kHz seismic profiler also airgun system), side-scan sonar, vibracorer, current meters, computers, drifting buoys, spectrofluorometers, autoanalysers, gas chromatographs, standard hydrographic sampling equipment, atomic absorption spectrophotometer, depth sounders, scintillation counters, transmissiometers, Coulter counter, infra-red analyser, underwater camera and underwater television.

Aquarium facilities

Total area: 60 m

Species maintained for experimental purposes:

Prymnesium calathiferum *Chroomonas salina* *Gymnodinium varians*
Prorocentrum micans *Ditylum brightwelli* *Hyalodiscus stelliger*
Thalassiosira weisflogii *Platymonas sp.*

Institution code: 006201 Information received: 08/02/85

Fisheries Research Centre (FRC)

Executive officer: ALLEN, Robin L.: Director

Postal address

Fisheries Research Centre (FRC)
Greta Point, Evans Bay Parade
P.O. Box 297
WELLINGTON
NEW ZEALAND

Telephone: 861029
Telex: NZ 31532
Cable: MAFWN

Working languages
English

Nature of institute
Governmental

Main fields of activities

Biological sciences	Ecological sciences
Marine fisheries	Inland fisheries
Resources management	Aquaculture
Oceanography	Limnology
Physical sciences	Microbiology
Pollution	Computers/information systems

Areas of speciality

Marine mammals	Demersal fish
Pelagic fish	Cephalopods
Lobsters	Other invertebrates
Micro-organisms	Offshore marine waters
Coastal marine waters	Inland (fresh) waters
Metals (pollutants)	

Objectives and programmes
History of institution, its mandate and purpose
The Fisheries Research Centre was founded in 1981. It contains headquarters of Fisheries Research Division of Ministry of Agriculture and Fisheries. The Division was established in 1966 under the then Marine Department.
Research, monitoring and other activities in last three years
- development and use of underwater acoustic techniques for assessing fish stocks
- measurement of growth rate associated with different genotypes of the barracouta (*Thyrsites atun*)
- age, growth, spawning, migration, stock identification and biomass survey of barracouta
- hydrological associations of barracouta and other trawl caught species in the Canterbury Bight
- Bay of Plenty coastal demersal fish resource assessment
- a description of the hydrology of the Bay of Plenty
- bibliography of literature on New Zealand marine fishes, 1969-1983
- the application of biochemical genetics for species and stock identification in arrow squid, sprat, orange roughy, southern bluefin tuna and rig
- age, growth, reproductive activity, larval distribution and stock assessment of blue mackerel
- trawl fish biomass estimates using data from Shinkai Maru
- collection and distribution of commercial catch and effort statistics
- taxonomy of New Zealand elasmobranchs
- from the study of the inflammatory response of fish to disease develop diagnostic blood tests
- describe and quantify the effect of gonad roundworms and kidney disease on snapper stocks of N.Z.
- dynamics of Firth of Thames flounder
- systematics of New Zealand macrourid fishes as a component of the deepwater system (minor project)
- mercury and other heavy metal analysis of N.Z. marine fishes
- estimation of west coast spawning population size of hoki
- age, length, reproductive activity, larval distribution and stock assessment of jack mackerel

Objectives and programmes **(Cont.)**

- to describe isopod incidence and intensity of infection as a possible basis for stock identification
- Stock structure, migration and resource assessment of kahawai
- The species composition and distribution of the lanternfish fauna in the NZ EEZ, and their fishery potential
- Biology, seasonal cycle, fecundity, abundance, mortality of ling and distribution in relation to substrate
- Hooker's sea lion: biology, status, population dynamics and relationship to the squid trawl fishery
- population size, distribution, seasonal feeding and competition with local fisheries of NZ fur seals
- Causes of mortality in larval and juvenile mussels
- determination of factors affecting the condition and growth of mussels
- Estimation of Chatham Rise orange roughy population size
- estimation of orange roughy population size on Challenger Plateau
- age estimation of orange roughy
- biology of Chatham Rise - Wairarapa orange roughy including geographic and depth distribution, length-weight relationship, sex ratios, ageing and feeding, spawning and recruitment
- oreo dories - biology of black and smooth oreo dories including geographic and depth distributions, ageing and feeding
- Systematics of southern ocean oreosomatid fishes
- preparation of an atlas of the otoliths of all N.Z. marine fishes as a guide for identification of species
- describe the reproductive cycle and gonadial development of Pacific oysters
- to establish the viability and growth of the cross between pacific and rock oysters
- spatfall forecasting
- development of hatchery techniques for rearing and breeding of paua
- investigation of paua re-seeding techniques viability
- induction of triploidy to increase growth in paua
- population dynamics of and the fishery for paua
- study of fish response to trawls for estimation of vulnerability coefficients in stock assessment
- The biology and population dynamics of rig, and assessment of rig set net fisheries
- estimation of pueulus settlement rates and prediction of recruitment to the fishery
- determination of growth, mortality rates and movement of rock lobsters
- population dynamics and the fishery for the scallop (*Pecten novaezelandiae*) in Nelson-Marlborough
- investigation of sea surface temperature trends in relation to fisheries fluctuations
- estimation of year-class strength of juvenile snapper from trawl surveys, and correlation with climatic conditions
- assessment of resources of snapper and associated demersal fish in the northern South Island
- Snares Island fisheries
- ageing, stock assessment, and population dynamics
- development of techniques for detecting burning in tuna meat
- development of techniques for estimating abundance using long-lines and data from the longline fisheries
- distribution and abundance of main fish species on southern plateau in the NZ EEZ
- a review of the N.Z. arrow squid fishery
- growth of yellowtail kingfish

Main current research and other activities
Same as in the last three years

Future programmes
Continuation of above programmes.

Institution structure

The Fisheries Research Centre is divided into the following sections:

- Deepwater Finfish
- Coastal Finfish
- Shellfish
- Freshwater
- Populations
- Fisheries Statistics

Staff

69 Scientific staff 69 Technical staff 51 Other staff

Professional Scientific staff

Name	Degree	Speciality

Staff (Cont.)

McKoy, J.L.	Ph.D.	Scallops, Coastal fisheries
Francis, M.P.	M.Sc.(Hons.)	Rig/snapper, Set-net fisheries
Gibson, D.J.M.	B.Sc.(Hons.)	Southern bluefin tuna, Long-line fisheries
Annala, J.H.	Ph.D.	Tarakihi
Jones, J.B.	Ph.D.	Mackerels, Fish parasites, Kahawai
Paul, L.J.	B.Sc.(Hons.)	Snapper/warehou fisheries
Smith, P.J.	Ph.D.	Fish/molluscan genetics
Sullivan, K.J.	Ph.D.	Fish population dynamics, Multispecies fisheries, Snapper
Zeldis, J.	Ph.D.	Snapper recruitment, Remote sensing
Robertson, D.A.	Ph.D.	Orange roughy, Fish eggs, Jack mackerel
Cawthorn, M.W.	B.Sc.	Ling, Marine mammals
Forch, E.C.	Ph.D.	Squid
Hurst, R.J.	Ph.D.	Barracouta, Parasites
Mattlin, R.H.	Ph.D.	Squid
McMillan, P.J.	M.Sc.(Hons.)	Oreo dories, Orange roughy,
Patchell, G.J.	M.Sc.(Hons.)	Hake, Hoki Rattails
Cranfield, H.J.	Ph.D.	Oysters, Scallops
Booth, J.D.	Ph.D.	Rock lobsters
Dinamani, P.	Ph.D.	Oysters, Rearing techniques
Hayden, B.J.	B.Tech.(Hons.)	Microbiology of shellfish, Shellfish-growing waters
Hickman, R.W.	M.Sc.	Mussels
Hine, P.M.	Ph.D.	Fish diseases
Redfearn, P.	B.Sc.(Hons.)	Toheroa, Mussels, Tuatua, Rearing techniques
Tong, L.J.	Ph.D.	Paua
Coombs, R.F.	B.Sc.(Hons.)	Acoustics, Computing
Doonan, I.J.	Ph.D.	Population modelling
Esterman, D.B.	B.Sc.(Hons.)	Computer services, Statistics
Francis, R.I.C.C.	B.Sc.(Hons.)	Statistics, Population dynamics
Gauldie, R.W.	Ph.D.	Population genetics
Gilbert, D.J.	M.Sc.	Population dynamics
Isserlis, P.J.	M.Sc.	Computer systems
Ryan, C.M.	B.Sc.(Hons.)	Population dynamics
Surti, A.M.	M.Sc.	Electronics
West, I.F.	B.Sc.(Hons.)	Statistics

Information facilities

Library holdings:
Number of books, journals, manuscripts, etc.: 2500
Number of periodical subscriptions: 300

Monographs and serials titles:
- Fisheries Research Bulletin (irregular intervals)
- Fisheries Research Division Occasional Publication (irregular intervals)
- Fisheries Research Division Occasional Publication: Data Series (irregular intervals)
- Fisheries Research Division Information Leaflet (irregular intervals)

Equipment

PDP 11 computer, Prime 750 computer, fluorimeter, turbidometer, conductivity/temperature and depth recorders, refrigerated centrifuge, Biohazard cabinet, autoclave, Linhoff 4 x 5 monorail camera, 2 aluminium trailer crafts (5 and 6 m).

Aquarium facilities

Organisms maintained:

Molluscs	Other invertebrates	Algae

Species maintained for experimental purposes:

Haliotis spp.	*Perna canaliculus*	*Crassostrea gigas*
Saccostrea glomerata	*Arripis trutta*	*Nemadactylus macropterus*

Research craft

Name:	JAMES COOK
Length:	42 m.
Type:	Stern trawler
Date of construction:	1966
Crew:	15
Scientists:	7

Name:	KAHAROA
Length:	28 m.
Type:	Stern trawler
Date of construction:	1981
Crew:	5
Scientists:	5

Institution code: 006202 Information received: 23/02/85

Cawthron Institute

Executive officer: THORNTON, Royd H.: Director

Postal address

Cawthron Institute
98 Halifax Street
P.O. Box 175
NELSON
NEW ZEALAND

Telephone: 82319
Telex: NZ3429

Working languages
English

Nature of institute
Private (non-profit)

Main fields of activities

Biological sciences	Ecological sciences
Resources management	Food science/technology
Quality control (fishery products)	Oceanography
Limnology	Chemical sciences
Microbiology	Pollution

Areas of speciality

Algae	Micro-organisms
Plankton	Benthos
Offshore marine waters	Coastal marine waters
Brackish waters	Metals (pollutants)
Nutrients	

Objectives and programmes
History of institution, its mandate and purpose
Established in 1920, as an independant industrial and technical institute by bequest of Thomas Cawthron and given permanence under the Thomas Cawthorn Trust Act. Initially, research was related to agriculture and horticulture. Since 1970, research has changed to microbiology with special emphasis on microbial processes in the transformations of biological materials and the cycling of nutrients. Also chemical and biological testing and consultant services have been developed for industry and the community at large.
Research, monitoring and other activities in last three years
- microbially directed nutrient-cycling processes in an estuarine ecosystem
- autotrophic and heterotrophic processes of an estuarine mud/sand flat
- nutrient, especially nitrogen transformations of marine and estuarine sediments
- microbial biomass
- nitrification studies
- fungus/bacteria nutrient relationships
- biochemical studies of methanogenesis
- decomposition of hydrocarbons
- coastal marine phytoplankton
- bacterioplankton and benthic microbial ecology
- bacterial polysaccarides
- bacterial transferable antibiotic resistance

Major current research and other activities
Projects with two broad programmes:
- marine microbiology
- biotechnology

The main objective of the marine programme is to provide an understanding of how microbes in the marine environment affect the transformations and cycling of those nutrients essential for marine life and productivity. Recent applied aspects include assessment of the environmental affects of different aquaculture systems. e.g. rope rafting of mussels; cage rearing of salmon.
The main objective of the biotechnology programme is to provide understanding of microbial processes involved in the transformations of biological materials and the use of this knowledge in the development of goods and services.
Future programmes

Objectives and programmes (Cont.)

- expand and extend these two broad programmes

Cooperative programme

Collaboration and coordination has been established with the following agencies:

Marine Microbiology:
- Division of Marine and Freshwater Sciences, DSIR
- University of Canterbury
- Ministry of Agriculture and Fisheries
- Marlborough Harbour Board
- Nelson Catchment Board
- Marlborough Sounds Marine Farming Association

Biotechnology:
- Applied Biochemistry Division, DSIR
- Soil Bureau, DSIR
- National Health Institute
- Glasshouse Crops Research Institute, U.K.
- Stevens and Fitzmaurice Ltd.
- Technic Group Ltd.

Training programme

Intermittent collaboration with Universities in providing post graduate research training.

Institution structure

Cawthron Institute has a research group involved with microbial process studies under the direction of a research leader and two programme leaders; a technical services group providing chemical and biological testing and consultant services to industry and the community at large under the management of a manager and an assistant manager; a support services group under the control of a manager.

Staff

13 Scientific staff 14 Technical staff 7 Other staff

Professional scientific staff

Name	Degree	Speciality
Gillespie, P.A.	Ph.D.	Microbial ecology
Kaspar, H.F.	Ph.D.	Anaerobic microbial ecology
Belser, L.W.	Ph.D.	Microbial nitrogen transformations
Mountfort, D.O.	Ph.D.	Anaerobic microbial physiology
Cooke, M.D.	Ph.D.	Microbial genetics, Ecology
Grant, W.D.	Ph.D.	Microbial physiology, Biochemistry
McKenzie, A.L.	B.Sc.(Hons.)	Phytoplankton ecology (marine)
Mattingley, B.	B.Sc.(Hons.)	Trace metal analyses
Armstrong, W.	M.Sc.	Coastal/maritime planning, Fish surveys

Premises/facilities

Building area: 2640 m Laboratory area: 1158 m
With facilities for:
Visiting scientists: 2 Students: 2

Information facilities

Library holdings:
Number of books, journals, manuscripts, etc.: 3000
Number of periodical subscriptions: 83

Monographs and serials titles:
- Thomas Cawthron Memorial Lectures

Equipment

New Brunswick (3 x 20l pots) fermentor plus dissolved oxygen analyser, pH stat, six-station stepper and associated tubing/pumps/etc, anaerobic filter, Virtis high speed homogeniser (and accessories), Braun cell homogeniser (and accessories), Hughes press, Beckman L5-50 preparative ultracentrifuge, Gallenkamp bench centrifuges (3), Beckman J-21B refrigerated centrifuge (plus 5 rotors/including continuous flow), International refrigerated (HR-1) centrifuge, Eppendorf 5414 microcentrifuge, Beckman LS-230 scintillation counter (and accessories), LKB 'Ultrarac' fraction collector and UVicord II (280/254 nm) detector and recorder (with timer drop counter etc), Beaumaris fraction collector (plus drop-counter/timer/siphon balance), JRB Model 1000 ATP photometer, Beckman dissolved oxygen analyser, YSI salinity-conductivity-temperature meter, Orion pH meter with NH4 + electrode capacity, YSI dissolved oxygen meter, Manning automatic water sampler, 5-l Van Dorn water sampler, Ekman dredge, Jenkins sediment corer, sampling winch, boat (4m), Turner designs field fluorometer,

Equipment **(Cont.)**

LI-COR LI-185B quantum/radiometer/photometer, Coy anaerobic glove box, Oliphant laminar flow sterile hood, Leitz orthoplan epifluorescence microscope and accessories, Wild M40 inverted microscope, Edwards Model 30P2 centrifugal freeze drier (capacity from several ml to several litres), REVCO Ultra-low freezer (-85 degrees C), UV transilluminator TM36, LKB 2117 Multiphor electrophoresis apparatus, Tracor 560 gas chromatograph (2) with ECD/FPD (P and S) TC/Coulson detector, Tracor 560 integrator, Hewlett Packard 3380 A integrator, Varian 200 gas chromatograph with Tracor ECD, Carle Model 9500 basic gas chromatograph, Pye-Unicam SP6-400 spectrophotometer visible/UV with accessories including constant temperature cell holder, Beckman Acta CII spectrophotometer with sipper system and various sized cells and cell holders (UV/VIS), Dohrmann C52 total organic carbon analyzer, Fisher-Hamilton gas partitioner and recorder, Unicam SP800 recording spectrophotometer (UV/VIS) and accessories, Unicam SP2000 recording spectrophotometer (IR) and accessories, IL 251 atomic absorption spectrophotometer, IL 151 atomic absorption spectrophotometer, IL 655 electrothermal furnace for AAS, Waters M-45 HPLC pump, Waters M-6000A HPLC pump, Waters WISP 710B (automatic HPLC sampler), Waters differential refractometer (R401), Pye Unicam PU4020 UV/VIS HPLC detector, Hewlett-Packard 3390A integrators (2), Dani HSS 3850 headspace sampler, Tracor recorders (2), Buchi 430 digestor, Buchi 315 distillation apparatus, Pye-Unicam SP6-550 UV/VIS spectrophotometer with sipper cell and HPLC cell, Rheodyne 7125 HPLC injector, Rheodyne 7010 HPLC injector, Buchi R Rotary evaporator, basic laboratory items including (autoclaves/ovens/ water baths/fume hoods/muffle furnaces/vacuum pumps and ovens/ refrigerators/freezers/photographic and projection equipment/ pH meters/incubators/shakes/microscopes/cold room/incubation rooms/ chromatography room).

Institution code: 006204 Information received: 24/07/84

Department of Chemistry, University of Auckland

Executive officer: CAMBIE, Conrad R.: Professor

Postal address

Department of Chemistry,
University of Auckland
Princes Street, Private Bag
AUCKLAND
NEW ZEALAND

Telephone: 737999
Telex: 7636
Cable: UNIVERSITY AUCKLAND

Working languages
English

Nature of institute
Academic

Main fields of activities
Oceanography
Chemical sciences
Limnology

Areas of speciality
Coastal marine waters
Inland (fresh) waters
Metals (pollutants)
Brackish waters
Petroleum hydrocarbons

Objectives and programmes
Training programme
University teaching in chemistry leading to the following degrees:
B.Sc., M.Sc., Ph.D.

Staff

Professional scientific staff

Name	Degree	Speciality
de Mora, S.J.	Ph.D.	Physico-chemical speciation (trc. metals natural waters)
Cambie, R.C.	D.Sc.	Organic constituents (sponges)

Institution code: 006205 Information received: 28/02/85

Water Quality Centre, Ministry of Works and Development (W.Q.C.)

Executive officer: BURNS, Noel W.: Scientist in charge

Postal address

Water Quality Centre,
Ministry of Works and Development (W.Q.C.)
Private Bag
HAMILTON
NEW ZEALAND

Telephone: 071-67026
Telex: NZ 2777

Working languages
English

Nature of institute
Governmental Academic

Main fields of activities
Ecological sciences
Limnology
Microbiology
Pollution

Areas of speciality
Lobsters
Shrimps/prawns
Other invertebrates
Algae
Micro-organisms
Coastal marine waters
Inland (fresh) waters

Objectives and programmes
History of institution, its mandate and purpose
Established in 1976, to service National Water and Soil Conservation Authority of New Zealand.
Research, monitoring and other activities in last three years
- effects of wastes on oxygen in rivers
- factors affecting appearance of water
- dispersion of wastes in estuaries and coastal areas
- transport of sediment in coastal areas
- protection of rivers by use of riparian strips
- nature of urban runoff

Major current research and other activities
Same as in the last three years
Future programmes
- prepare a program to monitor quality of New Zealand rivers on a national scale

Cooperative programme
University of Waikato, Chemistry Department (characterisation of pulp mill wastes in streams)
University of Waikato, Psychology Department (perception of water appearance)
Ministry of Agriculture and Fisheries (factors controlling growth of weeds in lakes)
Training programme
Research program predominantly. Some training of Catchment Authority personnel in chemical analysis of water quality parameters.

Institution structure
The Water Quality Centre consists of 6 groups:
- Inland Waters
- Monitoring
- Coastal
- Catchments
- Scientific Services
- Hydrology

Staff
22 Scientific staff 23 Technical staff 3 Other staff

Professional scientific staff

Name	Degree	Speciality
Barnett, A.	Ph.D.	Computational hydraulics
Bell, R.	Ph.D.	Environmental oceanography

Staff (Cont.)

Name	Degree	Speciality
Burns, N.	Ph.D.	Research management, Limnology
Cooper, B.	Ph.D.	Microbiology, Environmental chemistry
Davies-Colley, R.	Ph.D.	Aquatic chemistry, Optical properties of water
Dons, A.	B.Sc.	Catchment hydrology
Hickey, C.	M.Sc.	Microbiology
Hughes, T.		Information systems
Hume, T.	Ph.D.	Coastal sedimentology
Latimer, G.	M.Sc.	Physics, Electronics
Macaskill, B.	Ph.D.	Analytical/water chemistry
McBride, G.	M.Sc.	Water quality modelling, Monitoring
Pridmore, R.	Ph.D.	Freshwater ecology, Biostatistics
Roper, D.	Ph.D.	Marine biology
Rutherford, J.	Ph.D.	Water quality modelling
Smith, D.	Ph.D.	Heavy metals (aquatic systems)
Smith, K.	M.A.	Coastal geomorphology
Vant, W.	M.Sc.	Lake ecology
Wilcock, R.	Ph.D.	Aquatic/physical chemistry
Williams, B.	M.E.	Environmental oceanography
Williamson, B.	Ph.D.	Aquatic/physical chemistry
Cooke, J.	M.Phil.	Agricultural/soil sciences

Premises/facilities
Building area: 400 m Laboratory area: 245 m
With facilities for:
Visiting scientists: 2

Information facilities
Monographs and serials titles:
- Water and Soil Miscellaneous Publications

Equipment
Gas chromatograph, UV/VIS spectrophotometers, flame and flameless atomic absorption spectrophotometers, auto-analysers, 4 Aanderaa RCM4 current meters, Datawell Waverider buoy, Yeo-cal Mk IV inductive salinometer, Braystoke BFM010 multi-parameter current meter, Sea Craft Whaler (4m), Avon inflatable (4m) and Parkercraft aluminium dinghy (3m).

Aquarium facilities
Total area: 2 m Number of tanks: 2

Organisms maintained:
Algae Micro-organisms

Institution code: 006206 Information received: 12/11/84

Faahi Gahua Fonua mo e Takafaga Ika

(Department of Agriculture and Fisheries)

Executive officer: PUNU Bradley: Director

Postal address

Faahi Gahua Fonua mo e Takafaga Ika
P.O. Box 3
ALOFI
NIUE

Telephone: 31/32
Cable: DIRAG/NIUE

Working languages
English

Nature of institute
Governmental

Main fields of activities
Marine fisheries
Marketing/economics
Fishing technology
Education, training or extension

Areas of speciality
Pelagic fish

Objectives and programmes
Cabinet approved the establishment of the Fisheries Division within the Agriculture Department in 1975. Initially, work and involvement was directed toward a co-ordinated approach to fisheries. Research was conducted on various fishing techniques identifying fishing grounds and the development of FADs. Future programmes will involve the development of a launching and landing side and improvement of access roads to the sea.
Cooperative programme
Low interest loan from local Government to buy aluminium dinghies. Funds for the development of FAD's from NZ exploratory fishing founded by UNDP, consultancy staff from SPC.
Training programme
Training of local personnel in NZ funded by NZ Aid Programme, UNDP and CFTC. In addition short term workshop sponsored by SPC & FFA.

Staff
0 Scientific staff 1 Technical staff 2 Other staff

Premises/facilities
Building area: 64 m
With facilities for:
Visiting scientists: 5 Students: 1

Information facilities
Library holdings:
Number of books, journals, manuscripts, etc.: 2

Monographs and serials titles:
- SPC Regional Technical Meeting on Fisheries
- Info-Fish Trade News
- FFA Committee Reports and Results
- Marine Turtle Newsletter
- Tuna Study SPEC and SPC
- SPC Purse Seiners Catch Report

Institution code: 006401 Information received: 26/06/84

Federated States of Micronesia, Resources Division and Aquaculture Research Center (FSM, MRD)

Executive officer. GAWEL, Michael J., Chief

Postal address

Federated States of Micronesia,
Resources Division and Aquaculture Research Center (FSM, MRD)
FSM Resources and Development
P O. Box 490
KOLONIA, PONAPE
PACIFIC ISLANDS TRUST TERRITORY

Telephone: 691-646

Working languages
English

Nature of institute
Governmental

Main fields of activities

Marine fisheries	Resources management
Fishing technology	Aquaculture
Mineral resources (incl. Oil)	Policy and planning

Areas of speciality

Demersal fish	Other vertebrates
Shrimps/prawns	Other invertebrates
Algae	Other minerals
Sea-bed nodules	Coastal marine waters
Mangroves ecosystems	Coral ecosystems
Pathogenic micro-organisms	

Objectives and programmes
History of institution, its mandate and purpose
The FSM Marine Resources Division and Aquaculture Research Center are newly formed along with the Federated States of Micronesia which are the process of evolving from a UN Trust Territory into a new Nation. These facilities serve the island groups of Kosrae, Ponape, Truk and Yap, in the Caroline Islands.
Research, monitoring and other activities in last three years
No previous experience because the FSM Marine Resources Division and Aquaculture Research Center did not exist more than a year ago.
Major current research and other activities
Presently investigating ciguatera fish poisoning problems and planning for aquaculture research.
Future programmes
- applied aquaculture research
- marine resource assessment
- development and management
Cooperative programme
Coordinates with regional research and training institutions, including Community College of Micronesia, University of Guam, University of the South Pacific, Micronesian Mariculture Demonstration Center, East West Center, USP Atoll Research Unit of Tarawa, Yap Institute of Natural Science, Trust Territory Environmental Protection Board, etc.
Training programme
Special applied training, short term, for fisheries and aquaculture development and management workers from Micronesia.

Institution structure
The Marine Resources Division is starting up the Aquaculture Research Center which will develop into a separate cooperating entity.

Staff
1 Scientific staff 0 Technical staff 0 Other staff

Professional scientific staff

Name	Degree	Speciality
Gawel, Mike	M.Sc.	Coral reef fisheries, Ecology

Information facilities
Library holdings:
Number of periodical subscriptions: 20

Aquarium facilities

Organisms maintained:

Demersal fish	Molluscs	Algae

Species maintained for experimental purposes:

Eucheuma spp.	*Trochus niloticus*	*Tridacna spp.*
Gracillaria spp.		

Research craft

Name: HOPE
Owner: Kosrae State
Length: 11 m.
Type: Diesel FRP
Date of construction: 1979
Crew: 3
Special facilities:
Live holding system with seawater circulation.

Name: YAMAHAS (X5)
Owner: Kosrae State
Length: 7 m.
Type: Outboard FRP
Date of construction: 1981
Crew: 1

Name: YELLOW FIN
Owner: Ponape State
Length: 14 m.
Type: Diesel
Date of construction: 1981
Crew: 2
Special facilities:
Live holding system with seawater circulation.

Name: ONAGA
Owner: Ponape State
Type: Diesel
Date of construction: 1978

Name: YAMAHAS (X5)
Owner: Ponape State
Length: 7 m.
Type: Outboard FRP
Crew: 2

Name: YAMAHAS
Owner: Truk State
Length: 7 m.
Type: Outboard
Crew: 2

Name: MOKORKOR
Owner: Truk State
Length: 15 m.
Type: Diesel FRP
Date of construction: 1976
Special facilities:
Live holding system with seawater circulation.

Name: ANGARAP
Owner: Truk State
Length: 15 m.
Type: Diesel FRP
Special facilities:
Live holding system with seawater circulation.

Name: GARNGAB
Owner: Truk State
Length: 15 m.
Type: Diesel FRP
Special facilities:
Live holding system with seawater circulation.

Name: -
Owner: Yap State
Type: Diesel FRP
Date of construction: 1981
Crew: 6

Research craft **(Cont.)**

Name: -
Owner: Yap State
Type: Diesel FRP
Date of construction: 1981
Crew: 6
Special facilities:
Live holding system with seawater circulation.

Name: YAMAHAS
Owner: Yap State
Length: 7 m.
Type: Outboard
Crew: 1

Institution code: 006451 Information received: 14/05/84

Micronesia Maritime Authority (MMA)

Executive officer: McCOY, Mike A.: Executive Director

Postal address

Micronesia Maritime Authority (MMA)
P.O. Box D
PONAPE IS. 96941, E. CAROLINE ISLANDS
PACIFIC ISLANDS TRUST TERRITORY

Telephone: 700-691
Cable: FSMPRES PONAPE E. CAROLINE ISLANDS

Working languages
English

Nature of institute
Governmental

Main fields of activities

Marine fisheries	Resources management
Fishing technology	

Areas of speciality

Marine mammals	Demersal fish
Pelagic fish	Offshore marine waters

Objectives and programmes
History of institution, its mandate and purpose
Created by law 1978, to administer 200-mile extended fishery zone effective January 1, 1979. Charged with management of resources within zone (12-200 miles).
Research, monitoring and other activities in last three years
- research in utilization of fishery resources in zone, mostly pelagic tunas and billfish
- negotiates with DWFNs on behalf of Federated States of Micronesia Government on commercial basis for use of resources of zone
- attends regional and sub-regional meetings as representative of Government
- monitors catch by foreign vessels
- analyses data provided by those vessels

Major current research and other activities
Current ongoing monitoring and administration of 8 foreign fishing agreements with commercial entities in USA, Japan, Korea, Taiwan, Philippines, and Mexico.
Future programmes
Involved in initial organization of National Fisheries Corporation in Federated States of Micronesia.
Cooperative programme
- work closely with Tuna and Billfish Program of the South Pacific Commission in data compilation and analysis of current utilization of fishery zone
- informal working arrangements (from time to time) with Forum Fisheries Agency (Honiara, Solomon Islands) on specific topics
- Executive Director also a member of Yap Institute of Natural Science, and works with staff there on research topics; major field of interest, sea turtles

Training programme
Provides training to junior staff as scientific technicians (observers) aboard foreign fishing vessels for purpose of collecting catch and effort data in Extended Fishery Zone.

Institution structure
The Authority is set up by statute to be composed of seven members: four from the congress of the Federated States of Micronesia, chosen by the speaker; two from the executive branch of Government, the Secretary of external affairs and the Secretary of resources and development. A seventh member is jointly chosen by the speaker of the congress of the Federated States of Micronesia and the President of the FSM.
Administrative staff is composed of an Executive Director, responsible to the Authority, a Deputy Director, Statistics Coordinator, Administrative Assistant and Clerk/Typist. Two full-time scientific technicians (fishery observers) are employed. Occasionally, other technicians are hired for short periods of time to serve as fishery observers.

Staff
2 Scientific staff 3 Technical staff 2 Other staff

Professional scientific staff

Name	Degree	Speciality
McCoy, Mike A.	B.A.	Fisheries administration, Turtles
Sitan, Peter	B.S.	Fishery administration, Tuna biology

Premises/facilities
Building area: 40 m

Information facilities
Library holdings:
Number of books, journals, manuscripts, etc.: 100
Number of periodical subscriptions: 6

Monographs and serials titles:
- All Monographs produced are for internal use of the Government of the Federated States of Micronesia.

Equipment
No scientific equipment, utilize high frequency radios for contact with foreign fishing vessels and maintain small radio station on premises.

Institution code: 006452 Information received: 18/05/84

Marine Resources Division (MRD)

Executive officer: HENRY Marion: Chief

Postal address

Marine Resources Division (MRD)
P.O. Box 207
MOEN, TRUK 96942 (CAROLINE ISLANDS)
PACIFIC ISLANDS TRUST TERRITORY

Telephone: 660/661
Cable: GOVTRUK

Working languages
English, Trukese

Nature of institute
Governmental

Main fields of activities

Resources management	Fishing technology
Food science/technology	Quality control (fishery products)
Aquaculture	Policy and planning

Areas of speciality

Demersal fish	Pelagic fish
Other vertebrates	Cephalopods
Lobsters	Shrimps/prawns
Other invertebrates	Offshore marine waters
Coastal marine waters	Brackish waters
Mangroves ecosystems	Coral ecosystems
Petroleum hydrocarbons	Metals (pollutants)
Halogenated hydrocarbons	Nutrients

Objectives and programmes
History of institution, its mandate and purpose
Marine Resources Division established in 1970, primarily for eradication of *Anoipheles planci*. Division presently responsible for fisheries development research including introduction of fisheries techniques, marine resources management, and training of local personnel for various fisheries operations. Economic development stressed.
Research, monitoring and other activities in last three years
- bait boat and other fisheries resource assessment
- FAD's design, deployment, and cost benefit analysis
- other areas as opportunity arises

Major current research and other activities
Same as in the last three years
- specifically *Pterocaesio (Caesio) pisang* fry and fingerling assessment in the Western Pacific (Truk, ECI)

Future programmes
Continuation of current programme
- mariculture research will be initiated in the near future

Cooperative programme
- National Marine Fisheries Services (U.S.)-(Small-scale lagoon purse seining in Truk)
- Living Marine Resources (California)-(Bait boat resource assessment in the Truk Islands)
- Japan International Cooperative Agency (Tokyo)-(Night bait fish assessment for skipjack fishery)

Training programme
- Pole and line fishery operations training
- other fisheries as developed

Institution structure
The division is part of the State Department of Resources and Development.

Staff
3 Scientific staff 3 Technical staff 16 Other staff

Information facilities
Library holdings:
Number of books, journals, manuscripts, etc.: 100
Number of periodical subscriptions: 2

Monographs and serials titles:
- Project Quarterly Reports (1981-1983)

Research craft

Name:	MOKORKOR
Owner:	FSM
Length:	22 m.
Type:	FRP
Date of construction:	1975
Crew:	18
Name:	GARNGAB
Owner:	FSM
Length:	22 m.
Type:	FRP
Date of construction:	1975
Crew:	18
Name:	ANGARAP
Owner:	FSM
Length:	22 m.
Type:	FRP
Date of construction:	1975
Crew:	18

Institution code: 006453 Information received: 16/07/84

Marine Resources Division,
Department of Economic Development (MRD)

Executive officer: WHITE, Micheal C.: Chief, Marine Resources

Postal address

Marine Resources Division,
Department of Economic Development (MRD)
LELU, KOSRAE STATE 96944
PACIFIC ISLANDS TRUST TERRITORY

Telephone: 3031
Telex: 7296871
Cable: GOVERNOR, KOSRAE STATE

Working languages
Kosraean, English

Nature of institute
Governmental

Main fields of activities

Marine fisheries	Inland fisheries
Resources management	Fishing technology
Aquaculture	Policy and planning

Areas of speciality

Pelagic fish	Lobsters
Shrimps/prawns	Other invertebrates
Other minerals	Tides/waves
Offshore marine waters	Coastal marine waters
Brackish waters	Inland (fresh) waters
Mangroves ecosystems	Coral ecosystems
Petroleum hydrocarbons	Metals (pollutants)
Pathogenic micro-organisms	

Objectives and programmes
History of institution, its mandate and purpose
The Division of Marine Resources was established in 1980, to carry out, promote, and assist all fisheries projects and activities within the State and also to provide technical supplies, materials and equipments services to local fishermen and persons involved in marine related activities.
Research, monitoring and other activities in last three years
- study on possibility of methylmercury in coastal areas

Major current research and other activities
Same as in the last three years
- hatching and rearing of *Trochus* shells, giant clam, seaweed, seacucumber
- fisheries biology and bait resources of the coastal areas of Kosrae

Future programmes
Same as in the last three years
Continuation of current programme
- increase the activities of all fisheries programmes on the island

Training programme
Train the local fishermen on the latest fishing skills and techniques.

Institution structure
The Division of Marine Resources is only focusing on the following:
- Marine Fisheries and Aquaculture

Staff
1 Scientific staff 3 Technical staff 7 Other staff

Premises/facilities
Building area: 300 m

Information facilities
Monographs and serials titles:
- Annual Report, SPC (South Pacific Commission, every year)
- Annual Report, PFDF (Pacific Fisheries Development Foundation, every year)

Equipment
Ice maker, blast freezer and cold storage, echosounder.

Aquarium facilities

Organisms maintained:
Pelagic fish Molluscs Crustaceans
Other invertebrates

Research craft

Name:	YANMAR-ESD
Length:	11 m.
Type:	Pole/line trolling
Date of construction:	1980
Crew:	8

Special facilities:
Echosounder, pole and line gears, VHF radio, compass, bait tanks.

Name:	YANMAR-DA25
Length:	4 m.
Type:	Bottom fishing 3HP
Date of construction:	1980
Crew:	4

Special facilities:
Bait tanks.

Name:	YAMAHA (FRP)
Length:	14 m.
Type:	Trolling 15 HP
Date of construction:	1982
Crew:	2

Institution code: 006454 Information received: 08/02/85

Marine Resources Division,
Department of Resources and Development (MRD)

Executive officer: PFLUM Roger: Chief

Postal address

Marine Resources Division,
Department of Resources and Development (MRD)
P.O. Box 251
COLONIA, YAP 96943
PACIFIC ISLANDS TRUST TERRITORY

Telephone: 2294
Cable: GOV YAP

Working languages
Yapese, English

Nature of institute
Inter-governmental Governmental

Main fields of activities

Marine fisheries	Resources management
Fishing technology	Aquaculture
Policy and planning	Education, training or extension

Areas of speciality

Marine mammals	Demersal fish
Pelagic fish	Other vertebrates
Lobsters	Shrimps/prawns
Other invertebrates	Mineral oil
Sea-bed nodules	Offshore marine waters
Coastal marine waters	Brackish waters
Inland (fresh) waters	Mangroves ecosystems
Coral ecosystems	Radionuclides

Objectives and programmes
Marine Resource Division is an agency of the State Government, responsible to the Resources and Development Department created to handle:
- marine resources conservations
- pollution control
- data collection
- helping private enterprises, etc.

At the present time, the Division is performing experiments with:
- giant clams (*Tridacna derasa*)
- trochus (*Trochus niloticus*)
- beche-de-mer
- different algae

Cooperative programme
- Yap State Fishing Authority created by the State Legislature is working in cooperation with the Division
- all other government agencies are collaborating

Training programme
The Division is helping in organizing summer trainings, on-the-job training, and training for young people to go outside the State.

Institution structure
The Division is directly responsible to the Director of Resources and Development. It has been charged with the following projects:
- Establishment of marine resources facilities
- Reintroduction of giant clams
- Research studies on trochus, sea-cucumbers, seaweeds, etc.
- Baseline studies and data collection

Staff
1 Scientific staff 3 Technical staff 1 Other staff

Professional scientific staff

Name	Degree	Speciality
Fagolimul, Jerry O.	B.S.	Marine biology, Giant clams, Beche-de-mer
Paatmag, Paul		Equipment maintenance
Pflum, Roger		Marine resources management

Premises/facilities
Building area: 128 m

Information facilities
Library holdings:
Number of periodical subscriptions: 5

Equipment
6 complete Scuba diving equipment, one skiff, one Boston whaler.

Aquarium facilities

Species maintained for experimental purposes:

Tridacna derasa *Trochus niloticus* *Gracilaria sp.*
Crassostrea gigas

Institution code: 006455 Information received: 12/07/84

Faculty of Science, University of Papua New Guinea (UPNG)

Executive officer: PERNETTA, John C.: Dean of Science

Postal address

Faculty of Science,
University of Papua New Guinea (UPNG)
University P.O.
P.O. Box 320
PORT MORESBY
PAPUA NEW GUINEA

Telephone: 245387
Telex: UNIPNG NE22366

Working languages
English

Nature of institute
Academic

Main fields of activities
- Biological sciences
- Ecological sciences
- Marine fisheries
- Resources management
- Aquaculture
- Limnology
- Chemical sciences
- Physical sciences
- Microbiology
- Pollution
- Geography
- Geology/sedimentology
- Mineral resources (incl. Oil)
- Policy and planning
- Education, training or extension

Areas of speciality
- Demersal fish
- Other vertebrates
- Other invertebrates
- Algae
- Micro-organisms
- Plankton
- Benthos
- Thermal
- Coastal marine waters
- Brackish waters
- Inland (fresh) waters
- Mangroves ecosystems
- Coral ecosystems
- Metals (pollutants)
- Halogenated hydrocarbons
- Pathogenic micro-organisms
- Nutrients

Objectives and programmes
History of institution, its mandate and purpose
Founded 1966, by act of Parliament established to carry out tertiary training and research in all disciplines relevant to the national goals and development.
Research, monitoring and other activities in last three years
- chlorinated hydrocharbons
- heavy metals
- solar energy
- micrometeorology
- fish ecology
- clam aquaculture
- nutritional value of subsistence foods
- marine, terrestrial, freshwater ecology
- demography
- environmental impact assessment
- policy definition for national government
- atmospheric electricity

Major current research and other activities
Same as in the last three years
Pesticides and Human Health:
- Fly River/Ok Tedi monitoring of heavy metal levels
- clam biology
- spawning and spat settlement
- mangrove ecology
- foraminiferans and oil exploration
- swamp ecology and succession
- feeding ecology of herbivorous reef fishes
- geoscience data base for basic resource inventory

Future programmes
Same as in the last three years
Continuation of current programme
Cooperative programme
SPREP: Inland Water Quality/Coastal Ecosystem Management/Regional Pesticides/Data Bank with: University of Guam; University of the South Pacific; University of Technology PNG; LESE;

Objectives and programmes (Cont.)

ORSTOM.
SPREP: Production of Pacific Islands Environmental Education Journal.

Training programme
Programmes in disciplines of:
- Biology, Chemistry, Geology, Geography, Environmental Science, Mathematics and Physics to B.Sc., ordinary and Honours level: M.Sc. and Ph.D. by research. Diploma in Regional Planning.

Short Workshops/inservice courses mounted on demand.

Institution structure
University of Papua New Guinea has three campuses; Medical Faculty at Taurama near the teaching hospital, Goroka Teachers College at Goroka in the Highlands and the Main Waigani Campus housing the Faculties of Agriculture, Arts, Education, Law and Science. The Dean is the administrative head of each Faculty. The Science Faculty is divided into the Departments of:
- Biology
- Chemistry
- Geology
- Mathematics
- Physics
- Motupore Island Research Department

Each Department with an administrative head, the Chairman. Administrative responsibility thus passes from the Chairman to the Deans to the Vice-Chancellor as Executive Head of the Institution.

Staff
52 Scientific staff 60 Technical staff 13 Other staff

Professional scientific staff

Name	Degree	Speciality
Asigau, W.	B.Sc.	Marine ecology
Brough, E.	Ph.D.	Entomology, Crop protection programmes
Chambers, M.	Ph.D.	Biology (freshwater lakes), Impacts (development prog.)
Frodin, D.	Ph.D., F.L.S.	Plant systematics, Ecology/vegetation surveys, Data processing in botany, Botanical history
Hill, L.	Ph.D.	Animal physiology, Environmental planning, Resource management
Leach, G.	Ph.D.	Plant ecology/systematics, Ethnobotanical studies
Linge, D.	Ph.D., D.I.C.	Plant pathology, Nematology
Morton, J.R.	Ph.D.	Population genetics, Animal breeding
Mowbray, D.	Ph.D.	Effects (chemical pollutants on environment), Pesticide residues, Biological education
Osborne, P.	Ph.D.	Freshwater limnology, Freshwater plant ecology, Freshwater plant taxonomy, Nutrient enrichment of lakes
Pernetta, J.C.	D.Phil.	Population ecology, Vertebrate biology Taxonomy (reptiles/mammals), Wildlife utilization
Polunin, N.V.C.	Ph.D.	Ecology (freshwater/intertidal swamps/coral reefs)
Saulei, S.	M.Sc.	Lowland rainforest regeneration, Eutrophication
Sar, S.	B.Sc.	Entomology
Baria, A.	B.Sc.	Instrumental analysis
Beard, J.H.	Ph.D., C.Chem.	Marine chemistry (giant clams), Pesticides, Toxins (espec. aflatoxins), Food chemistry, Chromatography
Holdsworth, D.K.	Ph.D.	Programmable calculators, Natural products chemistry, Medicinal plants
Kaluwin, C.	M.Sc.	Analytical chemistry, Toxins (espec. aflatoxins)

Staff (Cont.)

Name	Degree	Speciality
Kola, J.	Ph.D.	Physical/inorganic chemistry
Kyle, J.H.	Ph.D.	Pollution (heavy metals), Water quality
Lacanienta, E.	MAST.	Marine chemistry, Toxins, Programmable calculators
Leach, D.	Ph.D.	Organic chemistry
Rali, T.	B.Sc.	Organic chemistry
Salter-Duke, B.J.	D.Phil.	Computer programming, Air chemistry
Tamate, J.	M.Chem.	Analytical chemistry, Food contaminants, Water pollution
Wilson, A.	M.Ed.	Science education, Inorganic chemistry
Butana, E.	M.A.	Births/deaths study
Humphreys, G.	M.A.	Pedogenesis, Soil erosion, Land-use
Jackson, R.T.	D.Phil.	Resource exploitation, Urbanization
Kidd, R.W.	Ph.D.	Coastal geomorphology, Coastal erosion, Shoreline stability, Coastal sediments
Miskaram, N.	M.Sc.	Urbanization, Urban structure, Urban-rural links
Rabuni, T.B.	M.A.	Rural growth/development
Ranck, S.R.	M.A.	Geographic problems of economic development, Geography of tourism
Ronga, K.T.	B.A.	Demographic surveys (mortality/fertility)
Tapari, B.	B.A.	Regional planning and rural development

Premises/facilities

Building area: 12600 m Laboratory area: 5000 m
With facilities for:
Visiting scientists: 20 Students: 180

Information facilities

Library holdings:
Number of books, journals, manuscripts, etc.: 200000
Number of periodical subscriptions: 2000

Monographs and serials titles:
- Monographs
- Serials (Science of New Guinea, 3 issues/annum)
- Serials (Environmental Education Series, 2 issues/annum)

Equipment

Diamond saw bench, stereoscope, research microscopes equipped for thin section preparation/for aerial photographic interpretation/ for photomicrography).
Gas chromatograph with flame ionisation, electron capture, nitrogen and phosphorus detectors and chromatographic data station (Perkin Elmer Sigma 2); gas chromatograph with flame ionisation and hot-wire detectors, linear temperature programmer, precision oven (Perkin Elmer F11); high performance liquid chromatograph solvent programmer variable UV detector (Waters Associates 6000A, M45, U6K 660 Max 480); ratio-recording infra-red spectrophotometer (Pye Unicam SP3-300A); infra-red spectrophotometer (Perkin Elmer 457); ultra-violet visible spectrophotometer with decoupler (Varian EM360 60MH2); ultra-violet visible spectrophotometer (Perkin Elmer 137); nuclear magnetic resonance spectrometer with decoupler (Varian EM360 60MH2); atomic absorption spectrophotometer (Varian AA175); X-ray generator, goniometer, channel, rate, HV supply Buerger precession goniometer (Phillips PW1120, PW1050/25, PW4621, Stop 3-15-1); polarographic analyser (Princeton Applied Research 174A); potentiograph automatic titrator (Metrohm E436); fluorescence detector for HPLC; polarograph static mercury dropping electrode; autoclave, vertical semi-automatic (Labec-LE A561); balance analytical H15/H16 (Mettler); calorimeter ballistic bomb (Gallemkamp); centrifuge (Beckman Model J2-21); electrocardiograph machine (Hewlett Packard 1500A); freeze dryer (Virtis); furnace muffler (Griffin); microscope inverted (Nikon MSE); microscope stereo (Zeiss-Sm-xx); microtome freezing (Hacher); oscillograph (Washington 406 MD2); oscilloscope system (Solartron CD 1400); ratermeter/counter (Phillips 4241); spectrofluorometer (Farrand

Equipment **(Cont.)**

801); spectrophotometer UV/VIS (Perkin Elmer 137 UV); gamma ray spectrometer and multichannel analyser (Canberra); infra-red gas analyser (URAS); solar integrator pyranometer (Epp and Zoner); solar integrator pyranometer (Middleton); quantum/radiometer/ photometer silicon pyranometer (Li-Cor); ultraviolet radiometer (Eppley); dewpoint meter (Protimeter); soil moisture neutron probe and rate scaler; soil moisture pressure plate extractor; field recording wind set; miniature cup anemometer system (RIMCO/CSIRO); portable UV8-track recorder (Schlumberger); tape recorder 8-Data track (Schlumberger); rapid trace 2-channel recorder (Sefram); platinium resistance thermometer bridge (Leeds and Northrop); monochromator calibrator; Tandy TRS-80 computer and peripherals; fully equiped electronics service workshop (calibration and test); TRS-80 microcomputers (3 Model I, 2 Model II and 2 Model III) with disk drives, printer and different packages; Prime 250 II minicomputer (1Mb memory, disc and tape drives, printers and 14 terminals).

Aquarium facilities

Total area: 48 m Number of tanks: 30

Organisms maintained:

Demersal fish Molluscs

Species maintained for experimental purposes:

Tridacna gigas	*Tridacna crocea*	*Tridacna maxima*
Hippopus hippopus	*Tiliqua gigas*	*Petaurus breviceps*
Strombus luhuanus	*Trochus niloticus*	

Institution code: 006253 Information received: 21/02/85

Fisheries Research and Surveys Branch, Department of Primary Industry

Executive officer: LOCK John: Chief Fisheries Biologist

Postal address

Fisheries Research and Surveys Branch,
Department of Primary Industry
Kanudi Fisheries Research Station
P.O. Box 417
KONEDOBU, N.C.D.
PAPUA NEW GUINEA

Telephone: 214522

Working languages
English

Nature of institute
Governmental

Main fields of activities

Marine fisheries	Inland fisheries
Resources management	Aquaculture

Areas of speciality

Demersal fish	Pelagic fish
Lobsters	Shrimps/prawns

Objectives and programmes
The Fisheries Division was divided into two sections in 1968: Development and Marketing and Research and Survey which led to the present Fisheries Research and Surveys Branch. Current research projects are:
- lobster
- barramundi
- coastal pelagics
- deep and shallow reef communities
- carp aquaculture
- gear and vessel development

Cooperative programme
Cooperative programme in past has included:
- South Pacific Commission (provision of technical assistance and funds for study visit)
- UNDP (provision of funds for Naval Architect)
- FAO (provision of technical assistance)

Training programme
No formal training given.

Institution structure
- Appraisal: Resource/Gear and Vessel
- Management
- Freshwater Fisheries and Aquaculture
- Technical Support

Five research stations:
- Kanudi, Hq. Daru (lobster and barramundi)
- Baimuru (estuarine)
- Aiyura (aquaculture)
- Wewak (gear development and pelagic fish)
- Kavieng (shallow and deep reef communities)

Staff
15 Scientific staff 24 Technical staff 15 Other staff

Professional scientific staff

Name	Degree	Speciality
Lock, J.	Ph.D.	Resource assessment and development
Lili, P.	M.Sc.	Freshwater fisheries
Chapau, M.	B.Sc.	Plankton gear development
Cook, D.	B.Sc.	Gear/vessel appraisal
Kolkolo, U.	B.Sc.	Tuna/prawn management, Reef resource studies
Frusher, S.	B.Sc.	Coastal pelagic fish
Sagom, P.	M.Sc.	Aquaculture
Dalzell, P.	B.Sc.	Stock assessment

Staff **(Cont.)**

Name	Degree	Speciality
Mobiha, A.	B.Sc.	Reef studies
Tenakanai, C.	B.Sc.	Barramundi/prawn research
Coates, D.	M.Sc.	Freshwater fisheries
Opnai, J.	B.Sc.	Estuarine fisheries
Prescott, J.	B.Sc.	Lobster research
Wright, D.	B.Sc.	Reef studies
Richards, A.	B.Sc.	Deep reef communities

Premises/facilities
Building area: 1500 m

Information facilities
Library holdings:
Number of books, journals, manuscripts, etc.: 2500
Number of periodical subscriptions: 10

Monographs and serials titles:
- Annual Reports 1980-1981; 1982; 1983.

Equipment
ECS computer (3), Hookah gear, Scuba gear and compressors, workshop fully fitted, microscopes, pH and salinity meters, 6 dories (7m).

Aquarium facilities
Total area: 30 m Number of tanks: 15

Research craft

Name:	KULASI
Length:	25 m.
Type:	Research trawler
Date of construction:	1984
Crew:	6
Scientists:	2
Laboratory space:	5 m

Special facilities:
Trawl and hydrographic winches, echosounder, Sonar, Snap freezer.

Name:	MELISA
Length:	18 m.
Type:	Research trawler
Date of construction:	1984
Crew:	6
Scientists:	2
Laboratory space:	3 m

Name:	MARAGILI
Length:	9 m.
Type:	Research trawler
Date of construction:	1970
Crew:	3
Scientists:	1

Institution code: 006257 Information received: 07/06/84

Deparment of Fisheries,
The Papua New Guinea University of Technology (UOT)

Executive officer: TSENG Wen-Young: Head of Department

Postal address

Deparment of Fisheries,
The Papua New Guinea University of Technology (UOT)
Private Mail Bag
LAE, MOROBE PROVINCE
PAPUA NEW GUINEA

Telephone: 424999/457469
Telex: UTECH NE 42428
Cable: UTECH

Working languages
English

Nature of institute
Governmental Academic

Main fields of activities

Biological sciences	Ecological sciences
Marine fisheries	Inland fisheries
Resources management	Fishing technology
Food science/technology	Quality control (fishery products)
Aquaculture	Oceanography
Limnology	Pollution
Education, training or extension	

Areas of speciality

Demersal fish	Pelagic fish
Shrimps/prawns	Other invertebrates
Plankton	Benthos
Coastal marine waters	Brackish waters
Inland (fresh) waters	Mangroves ecosystems
Coral ecosystems	Metals (pollutants)
Nutrients	

Objectives and programmes
History of institution, its mandate and purpose
The Papua New Guinea (PNG) University of Technology, was first established in May 1965 as a tertiary institution for higher technical studies. In 1973, the title was changed to Papua New Guinea Institute of Technology and in August 1973, to the PNG University of Technology.
The Department of Fisheries Technology, as a department with programme of professional courses in fisheries, was established in 1976, with a Diploma in Fisheries Technology / (3 year programme). In early 1984, steps were taken for expansion, to mount a four-year degree programme in Fisheries Science and also changed the name to Department of Fisheries.
The main objectives of the Department of Fisheries is to provide education and training in fisheries and engage in research that will contribute to the better understanding of the aquatic resources, their utilisation and management in Papua New Guinea. Also to provide consultancy and assist the development of appropriate technologies for systematic rural development.
Research, monitoring and other activities in last three years
- a general plankton survey of the Huon Gulf
- environmental impact studies of the Huon Gulf
- limnological studies of Lake Wanum
- fish aggregation devices
- turtles: Long Island, Morobe Coasts, and marine
- fish silage and fish meal production at the village level from trash-fish
- dinoflagellates and paralytic fish and shellfish poisoning
- exploratory fishing with small trawl nets, long-lines, and bottom long-lines
- keeping quality of frozen fish
- coral reef ecosystem and reproduction
- baseline studies of the Huon Gulf
- mariculture

Major current research and other activities

Objectives and programmes (Cont.)

- inland and coastal aquaculture
- mariculture
- environmental impact studies of the Huon Gulf
- sea turtles
- traditional fisheries in PNG
- plankton of the Huon Gulf
- study on trawled biota in the shelf area of the Huon Gulf Lake Wanum
- trawler fishery resources of the Huon Gulf and adjacent trawl grounds
- fish silage and fish meal from trash-fish
- solar drying
- keeping quality and shelf-life of frozen fish
- microorganisms in marketed fish products
- exploratory fishing: pole-and-line, long-line, drift nets, trawl (otter), bottom long-line

Cooperative programme

The Department has entered into cooperative arrangements for: oceanographical studies of the Huon Gulf and the Bismark Sea (ORSTOM), marine toxins (Tohoku University) and fish resource surveys (Kagoshima University).
The Department also cooperates with international organisations such as FAO, UNESCO, IAEA, UNEP, SPC, SPEC, JICA, etc. In most cases it is to provide information or receive assistance.

Training programme

The University's objective is to provide tertiary education and training in the science and technology disciplines and promote research.

Institution structure

The Department of Fisheries while providing a more technology designed programme at the diploma level emphasises at the degree level, a more in-depth scientific approach to:
- fishing gear and methods
- aquaculture (freshwater and marine)
- fish processing and preservation
- conservation and management

Staff

9 Scientific staff 7 Technical staff 2 Other staff

Professional scientific staff

Name	Degree	Speciality
Tseng, W.Y.	Ph.D.	Mariculture
Ananthan, C.S.	D.Sc.	Fisheries science
Kan, T.T.	Ph.D.	Aquaculture
Olivera, R.G.	B.S. (fish)	Fish processing
Quinn, N.J.	M.Sc.	Marine biology
Twohig, A.E.	M.Sc.	Aquaculture
Rajeswaran, N.	B.Fish.Sc.	Fish processing
Kasu, J.E.	Dip.Fish.Tech.	Fishing gear technology
Lekisi, H.	Dip.Fish.Tech.	Fishing methods

Information facilities

Library holdings:
Number of books, journals, manuscripts, etc.: 100000
Number of periodical subscriptions: 48

Monographs and serials titles:
- Departmental Reports Series

Equipment

Fully equiped fish processing laboratory and quality control room, walk-in cool room, several deep freezers, oceanographic and plankton collecting equipment, range of teaching and research microscopes, fishing gears (beam trawl, long-lines, gill nets, drift nets, beach seines and fish traps), in addition the University's National Analysis Laboratory has a wide range of analytical techniques and the University's Audio-Visual Unit is capable in most sound and visual recording methods.

Research craft

Name:	SCOMBER
Length:	10 m.
Type:	Training boat 90 HP
Date of construction:	1979
Crew:	2
Scientists:	15

Special facilities:
Radar, echosounder, line hauler, net hauler, radio (SSB) (CB).

Name:	SKIPJACK
Length:	6 m.
Type:	60 HP
Date of construction:	1983
Crew:	3
Scientists:	7

Special facilities:
C.B. radio.

Name:	MILKFISH
Type:	25 HP
Date of construction:	1979
Crew:	1
Scientists:	3

Name:	MULLET
Date of construction:	1982
Crew:	1
Scientists:	2

Institution code: 006258 Information received: 20/07/84

Motupore Island Research Department (MIRD)

Executive officer: POLUNIN, Nicholas V.C.: Chairman

Postal address

Motupore Island Research Department (MIRD)
P.O. Box 320
PORT MORESBY
PAPUA NEW GUINEA

Telephone: 254725
Telex: NE 22366
Cable: UNIVERSITY, PNG

Working languages
English

Nature of institute
Academic

Main fields of activities

Biological sciences	Ecological sciences
Aquaculture	Geography
Geology/sedimentology	

Areas of speciality

Demersal fish	Cephalopods
Other invertebrates	Coastal marine waters
Mangroves ecosystems	Coral ecosystems

Objectives and programmes
History of institution, its mandate and purpose
Lease of Motupore I. bought by University of PNG (UPNG) in 1969. Initial interest archaeological. Biology and Geography Departments of UPNG soon showed interest in the place as well.
Marine biological studies have increased particularly since 1975. The station is now run (since 1982) by a separate research department within UPNG. Aim of the MIRD is primarily to foster research and teaching based on the Island's environment, terrestrial and marine, and on past and present human uses of it; it also aims to apply such knowledge to other PNG sites, and to create interest in topics involved within and outside the University. Ergo the outlook is multi-disciplinary. The Chairmanship is a voluntary post, held by a UPNG staff member from one of the other departments.
Research, monitoring and other activities in last three years
- physical oceanography of the Papuan Lagoon
- ecology of holothurians
- distribution of molluscs
- mangrove litter fall/phenology
- spawning induction, larval rearing, growth and metabolism of giant clams
- stratigraphy of shell midden
- sea-grass production, nutrient dynamics and general ecology
- ecology of epiphytic and other algae
- burrowing energetics of terebrid gastropods
- grazing activity and nutrient regeneration by sea-grass bed sea-urchins
- respiratory physiology of *Nautilus*

Major current research and other activities
- electrophoretic and morphological characteristics of local *Nautilus* population
- spawning induction and ecology of giant clams
- distribution and interaction of reef-sponges
- feeding ecology, territoriality and nutrient regeneration by herbivorous reef fish
- reef fish distribution and taxonomy
- mangrove litter decomposition
- development of soil profiles
- successional patterns of the terrestrial vegetation
- analysis of molluscan stratigraphy and nutritional value
- analysis of artefacts from the Motupore midden
- foraminiferal assemblages and sedimentary environments
- sea-grass and mangrove-wood boring molluscs and crustaceans
- habitat mapping of Motupore Island

Future programmes

Objectives and programmes (Cont.)

No major programmes, in addition to those already mentioned are planned for the future.

Cooperative programme

No cooperative programmes at present in existence.

Training programme

None specifically run by MIRD, though it provides extensive support for the teaching of student-courses within the University. This lack reflects the absence of permanent posts in MIRD which might be able to provide such training opportunties.

Institution structure

- MIRD Committee (chairman)
- Senior Technical Officer
- Technical Officer
- Support Personnel

Staff

3 Scientific staff 2 Technical staff 1 Other staff

Professional scientific staff

Name	Degree	Speciality
Polunin, N.	Ph.D.	Reef fish ecology
Colin, P.	Ph.D.	Reef fish reproduction
Colin, L. (Mrs.)	B.Sc.	Reef fish, Clams

Premises/facilities

Laboratory area: 62 m

With facilities for:

Visiting scientists: 12 Students: 20

Equipment

Diving compressor and basic diving equipment, depth sounder, sea-water circulation system, basic weather station, 5 work boats, extensive set of research instruments available by arrangement with other UPNG departments on the main campus.

Aquarium facilities

Total area: 50 m Number of tanks: 15

Organisms maintained:

Molluscs

Species maintained for experimental purposes:

Hippopus hippopus *Tridacna gigas* *T. crocinea*
T. squamosa

Institution code: 006259 Information received: 28/02/85

Fisheries Division,
The Ministry of Natural Resources

Executive officer: GIBSON, Douglas H.: Chief Fisheries Officer

Postal address

Fisheries Division,
The Ministry of Natural Resources
P.O. Box G24
HONIARA, GUADALCANAL PROVINCE
SOLOMON ISLANDS

Telephone: 21521
Telex: SOLFISH HQ 66306
Cable: RESOURCES, HONIARA

Working languages
English

Nature of institute
Governmental

Main fields of activities

Biological sciences	Marine fisheries
Resources management	Fishing technology
Aquaculture	Pollution
Policy and planning	Marketing/economics
Computers/information systems	Education, training or extension

Areas of speciality

Marine mammals	Demersal fish
Pelagic fish	Other vertebrates
Cephalopods	Lobsters
Shrimps/prawns	Other invertebrates
Offshore marine waters	Coastal marine waters
Brackish waters	Inland (fresh) waters
Mangroves ecosystems	Coral ecosystems
Nutrients	

Objectives and programmes
History of institution, its mandate and purpose
Formed as part of Ministry of Natural Resources in 1974 to carry out research, monitoring and control; all aspects of fisheries biology; undertaking all data collection on biology, fisheries, economic and legal research; licensing and surveillance; management of commercial fisheries sector.
Research, monitoring and other activities in last three years
- research on statistics of the commercial fisheries; computerised licensing system for FFV longliners
- monitoring of foreign fishing vessel activities within newly declared 200 mile fishing zone
- fishing trails using various new types of gear e.g. benthis L/L, trammel nets
- turtle research
- rock lobster L/W and meat yield research
- drop line fishing survey in the Western Province
- bait fish studies (sardines, anchovies); environmental/fisheries potential study of Lungga Dam Impoundment; ecological study of enemic sea; snake species in brackishwater, Lake Te Nggano on Rennell Island; fishery survey around Ysabel Island

Major current research and other activities
Same as in the last three years
- research into species composition, etc., in rural reef and lagoon fisheries

Future programmes
Continuation of current programme
- research into invertebrate fisheries e.g. lobster; commercial shell (various species); commercial fresh water prawn culture

Cooperative programme
- cooperation with Skipjack Tagging Program of the SPC and from October 1981 with Tuna and Billfish Assessment Programme
- ornamental reef fish identification studies in collaboration with Royal Ontario Museum, Canada

Training programme
- inservice training
- overseas courses
- workshops

Institution structure
- Research Section
- Management Section

Staff
1 Scientific staff 4 Technical staff 12 Other staff

Professional scientific staff

Name	Degree	Speciality
Nichols, Paul V.	M.Sc.	Fisheries biology, Biological computation
Rawlinson, Nicholas	B.Sc.	Fisheries biology
Wata, Albert	B.Sc.	Marine/fisheries biology
Kaitira, Baraka	B.Sc.	Marine/fisheries biology
Collenson, Kitchner	Diploma	Tropical fisheries
Diake, Sylvestor	B.Sc.	Fisheries biology, Management

Premises/facilities
Building area: 200 m Laboratory area: 25 m

Equipment
Hewlett Packard HP85 A and HP87 microcomputers plus standard peripherals; 2 Nikon phase contrast microscopes; 2 Mettler balances; research vessel; SATNAV, echosounder, colour sounder and Sonar fishing-finding and measuring systems; laboratory analytical instrument, underwater photographic gear, Toshiba EW-100 word processor with printer, telex machine.

Aquarium facilities
Total area: 3 m Number of tanks: 2

Organisms maintained:
Crustaceans

Species maintained for experimental purposes:

Macrobrachium rosenbergii

Research craft

Name:	MRV 'WALO'
Owner:	S.I. Government
Length:	18 m.
Type:	Ferro-cement
Date of construction:	1977
Crew:	6
Scientists:	2

Special facilities:
Trawl winch, refrigerated fish hold, SATNAV, Sonar, radar, echosounder.

Name:	CANOE
Length:	10 m.
Type:	Fibreglass
Date of construction:	1981

Special facilities:
Line net hauler, live bait water circulating wells.

Institution code: 006301 Information received: 04/03/8[illegible]

Hawaii Institute of Marine Biology, University of Hawaii (HIMB)

Executive officer: HELFRICH Philip: Director

Postal address

Hawaii Institute of Marine Biology,
University of Hawaii (HIMB)
P.O. Box 1346
KANEOHE, HAWAII 96744
UNITED STATES OF AMERICA

Telephone: 808-2476631
Cable: UNIHAW

Working languages
English

Nature of institute
Governmental Academic

Main fields of activities
Biological sciences
Marine fisheries
Aquaculture
Limnology
Offshore technology
Engineering
Mineral resources (incl. Oil)
Ecological sciences
Resources management
Oceanography
Chemical sciences
Pollution
Geology/sedimentology
Education, training or extension

Areas of speciality
Pelagic fish
Shrimps/prawns
Algae
Benthos
Coastal marine waters
Mangroves ecosystems
Nutrients
Lobsters
Other invertebrates
Plankton
Offshore marine waters
Brackish waters
Coral ecosystems

Objectives and programmes
History of institution, its mandate and purpose
HIMB evolved from the Hawaii Marine Laboratory that was established as a part of the Waikiki Aquarium early in this century. It established laboratories in Coconut Island in Kaneoche Bay in 1947. Its mission is to conduct high quality teaching, research and service in marine science. It serves the University of Hawaii whose goals are the discovery, interpretation and dissemination of knowledge. HIMB is involved in both basic and applied science including fisheries and aquaculture.
Research, monitoring and other activities in last three years
Representative programmes included:
- tropical aquaculture
- studies on the ecology, physiology and behaviour of marine animals
- fish endocrinology investigations of all aspects of marine toxins in the Pacific basin
- inshore marine ecosystems including ecological systems modelling
- hydrographic and geological studies of Kaneohe Bay
- studies of fish populations and the microbiology of tropical inshore waters
- fish aggregation devices (FADS), and artificial reefs

Major current research and other activities
- aquaculture
- behavioural studies
- fish endocrinology
- cetacean research
- ciguatera investigations
- coral reef ecology
- environmental management and assessment
- Leeward Island studies
- ecology of bait species
- zooplankton ecology
- fish aggregation devices
- sensory physiology of marine organisms

Future programmes
Programmes would be along the broad program areas listed above.

Objectives and programmes (Cont.)

Increased emphasis is being placed on aquaculture studies.
Cooperative programme
- International Sea Grant Programme in cooperation with the University of the South Pacific
- Cooperative research support projects with the College of Fisheries, University of the Philippines in the Vasayas
- the South Pacific Regional Environmental Program (SPREP)
- the Consortium for Internationl Fisheries and Development (CIFAD) five U.S. universities

Training programme
Occasional training programs conducted with CIFAD. A graduate summer course is given annually.

Institution structure
HIMB is one of eleven research institutions under the Vice Chancellor for Research and Graduate Education of the University of Hawaii at Monoa. It has facilities on Coconut Island in Kaneohe Bay on the NE site of the island of Oahu and in the Marine Science Building on the campus of the University of Hawaii at Manoa (UHM) in the city of Honolulu. A Cooperative Fisheries Research Unit is attached to HIMB for administrative purposes and is housed in Edmondson Hall on the UHM campus.

Staff
20 Scientific staff 7 Technical staff 38 Other staff

Premises/facilities
Building area: 24896 m
With facilities for:
Visiting scientists: 10 Students: 30

Equipment
Capital equipment list is available from HIMB and includes basic oceanographic, biological lab facilities, audiovisual equipment and chemical analysis facilities.

Aquarium facilities
Number of tanks: 150

Institution code: 006341 Information received: 28/02/85

Sea Grant College Program, University of Hawaii

Executive officer: DAVIDSON, Jack K., Director

Postal address

Sea Grant College Program,
University of Hawaii
1000 Pope Road, MSB 220
HONOLULU, HAWAII 96822
UNITED STATES OF AMERICA

Telephone: 808-9487031/9487032

Working languages
English

Nature of institute
Academic

Main fields of activities

Biological sciences	Ecological sciences
Marine fisheries	Resources management
Fishing technology	Aquaculture
Oceanography	Physical sciences
Pollution	Medicine
Policy and planning	Marketing/economics
Social sciences	Education, training or extension

Areas of speciality

Marine mammals	Pelagic fish
Other vertebrates	Cephalopods
Lobsters	Shrimps/prawns
Other invertebrates	Algae
Micro-organisms	Plankton
Benthos	Sea-bed nodules
Thermal	Offshore marine waters
Coastal marine waters	Coral ecosystems
Metals (pollutants)	Pathogenic micro-organisms
Nutrients	

Objectives and programmes
History of institution, its mandate and purpose
The Sea Grant College Program is required to conduct significant research in marine-related areas and through its extension arm, disseminate the information to user publics.
Research, monitoring and other activities in last three years
Research has focused on:
- aquaculture (prawn)
- assessment of resources
- behaviour of tunas
- legal and economic studies
- extension service
- manganese processing
- OTEC aquaculture
- fish aggregation devices and their impact on fish

Major current research and other activities
Same as in the last three years
- ture programmes
- marine recreation and tourism (marine-related aspects, e.g., promotion of marine recreation)
- alternative property rights systems
- economic and marketing studies
- aquaculture and international/domestic law impacts, etc.
- institutional infrastructure in addition to ongoing biological

operative programme
- University of Guam
- U.S. Department of Commerce, NOAA, NMFS
- Hawaii Department of Land and Natural Resources/Division of Aquatic Resources
- Hawaii Department of Planning and Economic Development
- other Sea Grant Colleges

...ing programme
- informal public education program, e.g. fishing methods, tax saving tips
- support of a summer program with the UIMB (UH) to train graduate level students

Institution structure

The Sea Grant Director is accountable to the Chancellor's Office. Sea Grant College Program is a research unit which administers an undergraduate program (MOP), research programs and projects, the extension service, and publications office.

Staff

15 Scientific staff 2 Technical staff 5 Other staff

Professional scientific staff

Name	Degree	Speciality
Davidson, Jack R.	Ph.D.	Agricultural/resource economics
Pfund, Rose T.	Ph.D.	Public administration, Intergovernmental relations
Titgen, Jan Auyong	Ph.D.	Recreation, Resources management
Brock, Richard	Ph.D.	Fisheries biology
Miller, Bruce	Ph.D.	Tropical marine ecology
Brooks, Mark	M.S.	Aquaculture
Smith, Barry	M.S.	Marine biology
Bartholomew, Ed	M.S.	Biological oceanography
Takata, Howard	M.S.	Marine zoology
Maynard, Sherwood D.	Ph.D.	Biological oceanography
Orcutt, Anne M.	B.A.	Biology (marine)
Buckley, Lorraine M.	M.S.	Vertebrate zoology
Dudley Jr., Walter C.	Ph.D.	Geological oceanography
Martini, Frederic H.	Ph.D.	Comparative/functional anatomy and histology
Hunt, Jeffrey W.	M.S.	Biology

Information facilities

Library holdings:
Number of books, journals, manuscripts, etc.: 4000

Monographs and serials titles:
- Advisory Report
- Advisory Brochure
- Miscellaneous Reports
- Miscellaneous Brochures
- Working Paper
- Journal Contribution
- Cooperative Paper
- Marine Economics
- Marine Policy
- Publication Listing

Institution code: 006344 Information received: 14/05/84

University of Hawaii Environmental Center

Executive officer: COX, Doak C.; Director

Postal address

University of Hawaii Environmental Center
2550 Campus Road - Crawford 317
HONOLULU, HAWAII 96822
UNITED STATES OF AMERICA

Telephone: 808-9487361

Working languages
English

Nature of institute
Academic

Main fields of activities

Ecological sciences	Resources management
Aquaculture	Oceanography
Pollution	Mineral resources (incl. Oil)
Education, training or extension	

Areas of speciality

Marine mammals	Other vertebrates
Shrimps/prawns	Algae
Plankton	Benthos
Sea-bed nodules	Thermal
Wind	Offshore marine waters
Coastal marine waters	Brackish waters
Inland (fresh) waters	Coral ecosystems
Halogenated hydrocarbons	Nutrients

Objectives and programmes
Established 1970 in response to State legislative mandate to coordinate environmental activities of University of Hawaii, particularly in relation to Hawaiian environment. Functions are:
- services as reviews of environmental impact statements, proposed environmental legislation and regulations, proposed environmental regulations of agencies, and major proposed environmental actions of agencies
- incidental research on environmental problems and environmental and natural hazards management programs
- coordination of undergraduate environmental instructional programs at University

Research projects (past, present, and probable future) are diverse and generally small.

Cooperative programme
No formal continuing programs in cooperation with non-University agencies. However, informal cooperation and coordination with all environmentally related city, state and federal agencies.

Training programme
Programs leading to:
- Bachelor's degree in liberal studies with environmental emphases
- Environmental studies certificates awarded to recipients of bachelor's degree in conceptual disciplines

(Both programs administered by Liberal Studies Program of University)

Staff
3 Scientific staff 2 Technical staff 4 Other staff

Professional scientific staff

Name	Degree	Speciality
Cox, Doak C.	Ph.D.	Hydrology, Environmental management
Miller, Jacquelin N.	M.S.	Environmental oceanography, Marine resource management
Hannah, Lee J.	M.A.	Environmental science

Premises/facilities
Building area: 400 m

Information facilities

Library holdings:
Number of books, journals, manuscripts, etc.: 2500
Number of periodical subscriptions: 10

Monographs and serials titles:
- Environmental Impact Statement
- Negative Declaration
- Regulations
- Variances
- Permits
- Legislation
- Other Reports and Papers

Institution code: 006345 Information received: 20/08/84

U.S. Fish and Wildlife Service, (Pacific Islands Administrator) (FWS)

Executive officer: MARMELSTEIN, Allan D.: Administrator

Postal address

U.S. Fish and Wildlife Service,
(Pacific Islands Administrator) (FWS)
300 Ala Moana Blvd.
P.O. Box 50167
HONOLULU, HI 96850
UNITED STATES OF AMERICA

Telephone: 808-5465608

Working languages
English

Nature of institute
Governmental

Main fields of activities
Biological sciences
Ecological sciences
Resources management
Policy and planning
Technology transfer

Areas of speciality
Marine mammals
Other vertebrates
Coastal marine waters
Inland (fresh) waters
Coral ecosystems

Objectives and programmes
History of institution, its mandate and purpose
The U.S. Fish and Wildlife Service falls under the U.S. Department of the Interior. Its main function is to research, salvage, preserve, and manage the countries primary fish and wildlife resources.
Research, monitoring and other activities in last three years
Research has been conducted in the Hawaiian Islands NWR to determine what kind of impact commercial fishing would have on the ecology of the area. There has also been extensive work done with endangered species involving research and close monitoring of populations.
Major current research and other activities
Same as in the last three years
Future programmes
Same as in the last three years
Cooperative programme
Our agency cooperates with the National Marine Fisheries Service involving the Hawaiian monk seal recovery project. We also cooperate with the University of Hawaii's Sea Grant operation and the National Weather Service which maintains a small weather station on the Tern Is., French Frigate Shoals.
Training programme
The U.S. Fish and Wildlife Service offers a wide variety of training. On some of our wildlife refuges, training is provided for the public interested in volunteering their services to help with certain projects and goals. Training is provided for our agencies personnel and a wide variety of subjects are offered. Optional training is available and subjects that are important to the agency and its operation are often mandatory.

Institution structure
The U.S. Fish and Wildlife Service falls under the U.S. Department of the Interior, headquartered in Washington D.C. The Service is headed by a national director also headquartered in Washington D.C. who oversees seven regional offices throughout the country. Each regional office is headed by a regional director who oversees the field offices within that region. The field offices are headed by project leaders or as in the case of Hawaii and the Pacific Island Administrator heads the office. There are three different departments within each office: Refuges and Wildlife Resources, Ecological Services and Law Enforcement.

Staff
17 Scientific staff 6 Technical staff 13 Other staff

Professional scientific staff

Name	Degree	Speciality
Pefer, Stewart	M.S.	Wildlife management
Naughton, Maura	B.S.	Biological sciences
Hu, Darcy	B.A.	Zoology
Wass, Richard	Ph.D.	Zoology
Eilerts, Bruce	B.S.	Zoology
Yuen, Andy	B.A.	Zoology
Ford, John I.	M.S.	Limnology, Zoology
Engbring, John	M.S.	Birds of Micronesia
Herbst, Derral	Ph.D.	Botany
Stine, Peter	B.S.	Wildlife biology, Wildlife resources sciences
Kepler, Cameron	Ph.D.	Avian ecology, Endangered species
Parrish, James D.	Ph.D.	Fishery biology
Marmelstein, Allan D.	Ph.D.	Biological oceanography
Jacobi, Jim	B.A.	Plant invertebrates, Ecology, Endangered species

Information facilities
Library holdings:
Number of books, journals, manuscripts, etc.: 3000
Number of periodical subscriptions: 12

Monographs and serials titles:
- Environmental Impact Statements
- Recovery Plans

Institution code: 006348 Information received: 27/08/84

Southwest Fisheries Center, Honolulu Laboratory

Executive officer: SHOMURA, Richard S.; Director

Postal address

Southwest Fisheries Center,
Honolulu Laboratory
2570 Dole Street
P.O. Box 3830
HONOLULU, HAWAII 96822
UNITED STATES OF AMERICA

Telephone: 808-9431221
Cable: FISHLAB

Working languages
English

Nature of institute
Governmental

Main fields of activities

Biological sciences	Ecological sciences
Marine fisheries	Resources management
Fishing technology	Oceanography
Marketing/economics	Computers/information systems

Areas of speciality

Marine mammals	Demersal fish
Pelagic fish	Cephalopods
Lobsters	Shrimps/prawns
Plankton	Thermal
Offshore marine waters	Coastal marine waters
Coral ecosystems	

Objectives and programmes
History of institution, its mandate and purpose
The Laboratory was established in 1948 by Public Law 329 of the 80th Congress that authorized the exploration, investigation, and development of high-seas fisheries of the territories and island possessions of the U.S.A. in the tropical and subtropical Pacific Ocean and intervening areas.
Research, monitoring and other activities in last three years
- provides needed scientific information and expertise to the Western Pacific Regional Fishery Management Council
- studies to delineate and assess the nearshore marine resources of interest to the U.S.A. in the central and western Pacific
- investigate the population dynamics and status of stocks, behaviour and physiology, and the environmental influence on the ecology of the offshore pelagic species of commercial importance
- studies on marine mammals and endangered species

Major current research and other activities
Same as in the last three years
Future programmes
Same as in the last three years
Cooperative programme
- University of Hawaii (ecology of nearshore fishes and seamount species)

Training programme
No formal training program. Laboratory accepts trainees based on merits of individual application for training.

Institution structure
The Honolulu Laboratory is divided into the following sections and subsections:
Pelagic Resources Investigation:
- Tuna Behaviour and Physiology Task
- Pelagic Ecosystem Program
- Pelagic Stock Assessment Program

Insular Resources Investigation:
- Insular Ecosystem Program
- RAIOMA Program
- Artificial Reef Study
- Fisheries Habitat Research Program

Fishery Management Research Program
Marine Mammals and Endangered Species Program

Staff
27 Scientific staff 31 Technical staff 12 Other staff

Professional scientific staff

Name	Degree	Speciality
Shomura, Richard S.	M.S.	Ecology (marine fishes)
Boehlert, George W.	Ph.D.	Recruitment processes (fishes)
Brill, Richard W.	Ph.D.	Physiology of fishes
Gilmartin, William G.	B.S.	Wildlife management, Marine mammal physiology
Polovina, Jeffrey J.	Ph.D.	Stock and yield assessment
Skillman, Robert A.	Ph.D.	Stock assessment
Wetherall, Jerry A.	Ph.D.	Models for stock assessment
Gerrodette, Tim	Ph.D.	Solitary corals
Ralston, Stephen	Ph.D.	Population dynamics
Yoshida, Howard O.	B.A.	Biology (tunas), Ecology (tunas)
Riggs, Fletcher V.	M.S.	Data management
Balazs, George H.	M.S.	Biology (marine turtles), Ecology (marine turtles)
Chang, Randolph K.C.	B.S.	Behaviour (tunas), Physiology (tunas)
Gooding, Reginald M.	B.S.	Ecological associations (fishes)
Hamm, David C.	M.A.	Fishery data collecting
Henderson, John R.	M.S.	Cetaceans/pinnipeds biology
Honda, Victor A.	B.A.	Biology (marine fishes)
Humphreys Jr., Robert L.	G.S.	Ecology (marine fishes)
Ito, Bernard M.	B.A.	Marine chemistry
Kamer, Gary L.	M.S.	Statistical analysis
Kazama, Thomas K.	B.S., B.A.	Reproductive biology
Kikkawa, Bert S.	B.S.	Ecology (marine fishes)
Pooley, Samuel G.	M.Soc.Sci.	Policy analysis
Seki, Michael P.	B.S.	Identification (crustacea, molluscs, fish)
Shiota, Paul M.	B.A.	Gear fabrication
Sumida, Ray F.	B.S.	Fishery monitoring
Tagami, Darryl T.	B.S.	Statistical methods
Uchiyama, James H.	M.S.	Age and growth (fish)
Yong, Marian Y.Y.	M.S.	Mathematical analysis

Premises/facilities
Building area: 1580 m
With facilities for:
Visiting scientists: 2

Information facilities
Library holdings:
Number of books, journals, manuscripts, etc.: 10000
Number of periodical subscriptions: 300

Monographs and serials titles:
- Administrative Reports (limited distribution)
- Technical Memorandum
- Translations

Equipment
4 analytical balances (Amsciprod/Mettler/Sartorius), 35mm cameras (Nikon/Canon), microcomputers (Apple), supermicrocomputer system (various manufacturers), Scuba diving gear, freezers (Raetone/Ureco), centrifuges (various manufacturers), current meter, pH meter (Beckman/Sargent), salinity meter, microscopes (B&L, AO), oscilloscopes (Kikusui/Tektronix), salinometer (Guideline), spectrophotometer (Beckman).

Aquarium facilities
Total area: 4000 m Number of tanks: 6

Organisms maintained:
Pelagic fish Crustaceans

Species maintained for experimental purposes:

Katsuwonus pelamis *Thunnus albacares* *Euthynnus affinis*
Coryphaena hippurus

Research craft

Name: TOWNSEND CROMWELL
Owner: National Ocean Service, NOAA
Length: 49 m.
Type: Research
Date of construction: 1964
Crew: 15
Scientists: 9
Laboratory space: 41 m
Special facilities:
Echosounders, winches, radar, satellite navigation system, various fishing gears, oceanographic instruments, radio equipment.

Name: KAAHELE'ALE
Length: 10 m.
Type: Personnel carrier
Crew: 2
Scientists: 2
Special facilities:
Echosounder, hydrophone, direction finder, radar, depth recorder.

Institution code: 006349 Information received: 25/02/85

The Oceanic Institute (O.I.)

Executive officer: ROWLAND, William C.: President and Chief Executive Officer

Postal address

The Oceanic Institute (O.I.)
Makapuu Point
WAIMANALO 96795, HAWAII
UNITED STATES OF AMERICA

Telephone: 808-2597951
Telex: 723-8450 (TELEX HR)
Cable: OCEANINST

Working languages
English, Indian, Japanese, German, Spanish, Chinese, Norwegian

Nature of institute
International (UN) Private (non-profit)

Main fields of activities

Marine fisheries	Food science/technology
Aquaculture	Oceanography
Offshore technology	Microbiology
Pollution	Technology transfer
Computers/information systems	Education, training or extension

Areas of speciality

Pelagic fish	Shrimps/prawns
Other invertebrates	Algae
Micro-organisms	Plankton
Thermal	Offshore marine waters
Coastal marine waters	Brackish waters
Nutrients	

Objectives and programmes
The Oceanic Institute a private, nonprofit research and training institution, was founded in 1960. The principal activities at the Institute involve aquaculture, aquaculture/agricultural feeds, and oceanography. The range of activities in aquaculture extend from development work with new species, to training and technology transfer of the aquaculture techniques required for commercial development. The marine species of emphasis are penaeid shrimp, mullet, milkfish, *Artemia*, phytoplankton and zooplankton. Areas of program emphasis at the Institute are water chemistry, nutrition, feeds formulation microbiology and pathology.

Cooperative programme
- Tufts University, School of Nutrition
- Gulf Coast Research Laboratory
- Hawaii Loa College

Training programme
The Institute provides different types of programs:
- advanced scientific training for specialists
- work/study training for Hawaii's youth
- hands-on technical training
- scheduled courses for aquaculture and related subjects

The emphasis in the work/study program is on developing skills related to Hawaii's growing aquaculture industry. These include pond construction, plumbing, carpentry, water quality, and hatchery techniques. Over the past five years, Institute trainees have taken professional position on our staff and other aquaculture enterprises in Hawaii and abroad.

Institution structure
The Institute is managed by a Board of Trustees who appoint the President. Two Vice-Presidents have overall responsibility for the major divisions: Aquaculture, Oceanography and Aquacultural and Agricultural Feeds. Program Managers have day-to-day management responsibility for ongoing programs and performance on grants, contracts, and training obligations.

Staff
9 Scientific staff 14 Technical staff 20 Other staff

Professional scientific staff

Name	Degree	Speciality
Bienfang, P.	Ph.D.	Oceanography
Landau, M.	Ph.D.	Oceanography
Lee, C.	Ph.D.	Aquaculture
Ziemann, D.	Ph.D.	Zoology
Duerr, E.	Ph.D.	Marine sciences
Divakaran, S.	Ph.D.	Veterinary science
Hunter, B.	Ph.D.	Agric./Biochemistry, Nutrition
Pruder, G.	Ph.D.	Applied science, Marine studies
Wyban, J.	Ph.D.	Zoology, Fish biology

Premises/facilities
Building area: 4216 m Laboratory area: 2703 m
With facilities for:
Visiting scientists: 5

Information facilities
Library holdings:
Number of periodical subscriptions: 25

Monographs and serials titles:
- Annual Reports, 1981, 1982, 1983.
- Capabilities and Qualifications Statement, 1983.

Equipment
Ultracentrifuge, high speed centrifuges, industrial plankton centrifuge, high pressure liquid chromatography, gas chromatography, atomic absorption spectrophotometers, high UV and IR spectrophotometers, scintillation counters, carbon/hydrogen/nitrogen analysers, 4 channel autoanalyser (nitrogen, phosphorus, protein) (Technicon), personal computers (6) Apple and IBM - mainframe linkage, ATP photometers, dissolved oxygen meters, pH meters, differential filters, ion exchange chromatography, inverted compound and dissecting microscopes, water baths, Boston whaler (4m).

Aquarium facilities
Total area: 11492 m Number of tanks: 221

Organisms maintained:
Pelagic fish Other vertebrates Molluscs
Crustaceans Algae

Species maintained for experimental purposes:

Penaeus japonicus *Penaeus stylirostris* *Penaeus monodon*
Penaeus vannamei *Penaeus marginatus* *Coryphaena sp.*
Mugil cephalus *Chanos chanos* *Brachionus plicatilis*
Euterpina sp. *Crassostrea gigas* *Chlorella sp.*
Artemia salina *Tilapia sp.* *Phaeodactylum sp.*

Institution code: 006351 Information received: 04/05/84

UNEP REGIONAL SEAS DIRECTORIES AND BIBLIOGRAPHIES

UNEP, 1976. Directory of Mediterranean marine research centres. UNEP Regional Seas Directories and Bibliographies. Geneva, UNEP, 280 p., 1st ed. (out of print)

UNEP, 1977. Directory of Mediterranean marine research centres. UNEP Regional Seas Directories and Bibliographies. Geneva, UNEP, 622 p., 2nd ed. (out of print)

NIO/UNEP, 1978. Directory of Indian Ocean marine research centres. UNEP Regional Seas Directories and Bibliographies. Goa, NIO, 360 p. (out of print)

UNEP/IOC, 1980. Directory of Caribbean marine research centres. UNEP Regional Seas Directories and Bibliographies. Geneva, UNEP, 500 p. (out of print)

IAEA/UNEP, 1981. Directory of Kuwait Action Plan marine science centres. UNEP Regional Seas Directories and Bibliographies. Geneva, UNEP, 110 p. (out of print)

UNEP/CPPS, 1981. Directory of the South East Pacific marine science research centres. UNEP Regional Seas Directories and Bibliographies. Geneva, UNEP, 120 p. (out of print)

UNEP/FAO/Unesco/WHO/WMO/IOC/IAEA, 1981. Selected bibliography on the pollution of the Mediterranean Sea. UNEP Regional Seas Directories and Bibliographies. Geneva, UNEP, 130 p. (out of print)

UNEP/UN/ECA/Unesco, 1982. Directory of marine research centres in Africa. UNEP Regional Seas Directories and Bibliographies. Rome, FAO, 254 p.

UNEP, 1984. Bibliography of the marine environment in the Kuwait Action Plan region. UNEP Regional Seas Directories and Bibliographies. Rome, FAO, 52 p.

UNEP, 1984. Bibliography of the marine environment in South Asian Seas. UNEP Regional Seas Directories and Bibliographies. Rome, FAO, 39 p.

UNEP/FAO, 1984. Bibliography of the marine environment in East Asian Seas. UNEP Regional Seas Directories and Bibliographies. Rome, FAO, 76 p.

UNEP/Pacific Science Association/SPREP/University of Guam, 1984. Directory of Pacific coral reef researchers. UNEP Regional Seas Directories and Bibliographies. Rome, FAO, 101 p.

UNEP/FAO, 1984. Directory of marine environmental centres in East Asian Seas. UNEP Regional Seas Directories and Bibliographies. Rome, FAO, 138 p.

UNEP/FAO, 1985. Directory of marine environmental centres in Mediterranean. UNEP Regional Seas Directories and Bibliographies. 3rd ed. Rome, FAO, 302 p.

UNEP/FAO, 1985. Bibliography of the marine environment in Mediterranean, 1978-1984. UNEP Regional Seas Directories and Bibliographies. 2nd ed. Rome, FAO, 151 p.

UNEP/FAO, 1985. Directory of marine environmental centres in Caribbean. UNEP Regional Seas Directories and Bibliographies. 2nd ed. Rome, FAO, 214 p.

UNEP/FAO, 1985. Directory of marine environmental centres in South Pacific. UNEP Regional Seas Directories and Bibliographies. Rome, FAO, 147 p.

UNEP/FAO, Bibliography of the marine environment in Caribbean. UNEP Regional Seas Directories and Bibliographies (in preparation)

UNEP/FAO, 1985. Directory of marine environmental centres in Indian Ocean and Antarctic Region. UNEP Regional Seas Directories and Bibliographies. Rome, FAO, 226 p.

CCA/UNEP, 1985. Directory of environmental education institutions, programmes and resource people in the Caribbean region. UNEP Regional Seas Directories and Bibliographies. Rome, FAO, 89 p.

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For:

Regional Seas Programme Activity Centre
United Nations Environment Programme

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