

Short Curriculum Vitae - Keith John SAINSBURY

DATE OF BIRTH: 22 February 1951

NATIONALITY: New Zealand

EDUCATION:

Bachelor of Science with Honours (marine ecology and mathematics), University of Canterbury, New Zealand (1972).

Doctorate of Philosophy (population dynamics and marine ecology), University of Canterbury, New Zealand (1977).

RESEARCH FOCUS AND AREA OF ACTIVITY:

Numerical modelling of marine population and ecosystem dynamics; impacts of harvesting and other human uses of the ocean; quantitative evaluation of management strategies for sustainable use of marine resources, including adaptive feed-back strategies and strategies based on spatial zoning (eg marine protected areas); effective linkage of science with conservation and sustainable use of marine ecosystems through government, non-government and market-based mechanisms.

PUBLICATION SUMMARY:

1 book
41 international journal papers
9 fully refereed book or proceedings chapters
31 technical reports or similar published papers
13 major industry consultation or Government advisory reports, and numerous lesser such reports.

See attached publication list for details.

EMPLOYMENT RECORD:

FROM: February 2006 To: Present

EMPLOYER: Self employed

POSITION HELD:

- Director, SainSolutions Pty Ltd
- Professor, Marine System Science, University of Tasmania
- Theme Advisor (contract), Integrated multiple-use management of coasts and oceans, CSIRO Wealth from Oceans Flagship.
- Vice-chair of the Board of the Marine Stewardship Council, and member of the MSC Technical Advisory Board
- Commissioner of the Australian Fisheries Management Authority, Chair of the Board Environment Committee and member of the Board Research Committee.
- Selection Panel member for the Pew Fellows Program in Marine Conservation (2007-2009)
- Advisor to the Gordon and Betty Moore Foundation Marine Conservation Initiative (2006-present).

Advisor for joint CSIRO and Western Australian Government initiative to support integrated and sustainable development of the Ningaloo Reef. Scientific member of the 4 person Total Allowable Catch Committee for New South Wales quota managed fisheries (this is a statutory committee). Invited keynote addresses for the 6th Argentine Congress on Marine Science (2007). Invited member of the high-level independent panel to develop a model for improved governance by regional fisheries management organizations hosted by the Royal Institute of International Affairs (Chatham House, London). Member of the international panel appointed to review the performance of CCAMLR (2008).

Invited keynote speaker, ICES International Symposium on Integrated Coastal Zone Management, 11-14 June 2007, Norway. Invited keynote speaker at the Ecosystem-Based Fisheries Management session at the 16th meeting of the North Pacific Marine Science Organisation (PICES), 26 Nov-5 Oct 2007. Member of the Victorian Government External Reviews of the Port Phillip Bay Channel Deepening project (September 2007) and the Melbourne desalination plant (May 2008). Expert Consultant and provided draft guidelines to the FAO Expert Consultancy to develop guidelines for ecolabelling of fisheries and fish products (2008). Member of the international panel to review the Commission for the Conservation of Living Antarctic Marine Resources (2008).

FROM: May 2002 To: February 2006

EMPLOYER: Australian Commonwealth Scientific and Industrial Research Organization (CSIRO).

POSITION HELD: Senior Principal Research Scientist

- Leader, Theme 4 (Integrated Oceans Management) of the CSIRO Flagship 'Wealth from Oceans'. There are 6 Flagships across CSIRO, each addressing a selected issue of National Significance and receiving priority funding and growth. Theme Leadership requires establishing research directions, establishing a portfolio of projects with high science quality and user uptake, allocation of funds, and science quality assurance.
- Science leadership in relation to multiple use management and fisheries ecosystem management. This includes modeling of marine and coastal systems and human impacts; quantitative Management Strategy Evaluation; assessment of fish stocks and Ecologically Sustainable Development of fisheries (Ecosystem Based Fishery Management); assessment of multiple-use development and management, especially in coastal zones; best practice reference points for fisheries ecosystem management; environmental risk assessment; operational interpretation of a Comprehensive, Adequate and Representative Marine Protected Areas; science support for Regional Marine Planning under Australia's Oceans Policy, including identification of systems of marine protected areas in each Regional Planning Area.

Member of the Board of Trustees and vice-chair of the Marine Stewardship Council (a London based non-governmental certification and product labelling scheme for sustainable fisheries), and Chairman of the Technical Advisory Board that sets sustainability standards and methods for the MSC. Member of the Board of the Australian Fisheries Management Authority (a statutory authority responsible for management of all Australian Commonwealth fisheries). Member of the Peer Review Panel for scientific input and review of Australian National Representative System of Marine Protected Areas. Chairman of the Science Group of the OECD Ministerial Task Force on the estimation and impacts of unregulated and illegal fishing. Joint Director of the North West Shelf Joint Environmental Study (NWSJEMS), a 4y and \$M6.1 joint CSIRO and WA Government initiative to support integrated and sustainable development of the Australian North West Shelf and coastal ecosystems. Invited expert in FAO consultancy on factors responsible for the unsustainability of fisheries. Elected chair of FAO Expert Consultancy to develop Guidelines for the Ecosystem approach to Fisheries (Iceland, Sept 2002). Scientific member of the 4 person Total Allowable Catch Committee for New South Wales quota managed fisheries (this is a statutory committee responsible for TAC decisions). Australian regional representative on the UNESCO SCOR Working Group on Indicators for Ecosystem Health. Laureate of the 2004 Japan Prize for contributions to the understanding of shelf ecosystems and their sustainable utilization. Provided keynote addresses for 4th World Fisheries Congress (Vancouver 2004) and the ICES Annual Science Conference (Aberdeen 2005).

FROM: 1997 TO: May 2002

EMPLOYER: Australian Commonwealth Scientific and Industrial Research Organization (CSIRO).

POSITION HELD: Manager of the Program 'Multiple Use Management of the Exclusive Economic Zone'. This Program was a multi-disciplinary team addressing all aspects of the multiple use of marine ecosystems in the Exclusive Economic Zone, and particularly the interactions between different uses. The main research foci are regional marine ecosystem studies to understand marine ecosystem

dynamics, and the design and evaluation of monitoring and feed-back strategies for resource and environmental management. Total staff 48, including biologists, ecologists, mathematicians, biological and physical oceanographers and economists.

Chairman of the SubAntarctic Fisheries Assessment Committee, and Scientific member of SouthMAC, the Commonwealth fishery advisory body for subantarctic fisheries. Member of the International Advisory Council of the University of British Columbia Fisheries Centre (Canada). Australian regional representative on the UNESCO SCOR Working Group on the Impact of World Fisheries Harvests on the Stability and Diversity of Marine Ecosystems. Board member of the International Southern Oceans Longline Fisheries Information Clearing House (ISOLFISH), an NGO and industry initiative to obtain information on illegal fishing operations in the Southern Ocean. Chairman of the MSC Standards Council and Board member of the Marine Stewardship Council. Manager of the North West Shelf Joint Environmental Study.

FROM: 1990 TO: 1997

EMPLOYER: Australian Commonwealth Scientific and Industrial Research Organization (CSIRO).

POSITION HELD: Manager of two Program units; the Pelagic Fisheries Resources Program and the Multi-Divisional Program for the Design and Evaluation of Marine Management Strategies. Responsible for scientific advice for sustainable development and use of Australian tuna and billfish fisheries, and Southern Bluefin Tuna in particular. Total staff 28, including biologists, mathematicians and mathematical modellers, and economists.

Advisor to the Commonwealth Environment Protection Agency on the management of ocean dumping and waste management under the London Dumping Convention. Head of the Australian Scientific Delegation to the international Commission for the Conservation of Southern Bluefin Tuna, and scientific advisor to the Australian Delegation to the Commission. Scientific member on three Management Advisory Committees of the Australian Fisheries Management Authority. Member of the jack mackerel (small pelagic) advisory committee. Member of the Crown of Thorns Research Advisory Committee. Invited participant in the FAO expert consultation to develop guidelines for application of the precautionary approach to fisheries.

FROM: 1979 TO: 1989

EMPLOYER: CSIRO

POSITION HELD: Project Leader and Manager, Australian Tropical Fisheries Resources.

DESCRIPTION OF DUTIES: Conduct a pelagic and demersal survey, with supporting acoustic surveys, of the demersal and pelagic fish resources of tropical Australia. Conduct an aerial survey of pelagic resources in northwestern Australia. Develop taxonomic identification book for 800 fish species in tropical Australia. Calculate available fishery yields for tropical Australian fish resources. Calculate optimal trawl mesh size and fishing effort for Australia's tropical multispecies fisheries. Scientific advisor in negotiations for foreign access to tropical fisheries within the Australian 200 mile zone (variously with Taiwanese, Chinese, Thai and Korean representatives). Develop new mathematical method for estimating optimal mesh size for multispecies trawl fisheries (later implemented in software packages developed by FAO).

Leader of the Australian Module of the FAO survey project JETINDOFISH, jointly with Indonesia and Germany, to survey the fishery resources of northern Australia and southern Indonesia. Provide training courses on fishery survey and assessment methods to Indonesian. Development of methods for including bio-economic performance and risk in management decisions for multispecies fisheries. Contracted by UNESCO to provide post-graduate level course for South American scientists on assessment and management of tropical multispecies fisheries. Developed a fishery research and monitoring program for Kuwait (1982).

Scientific advisor to the Australian Delegation to the Commission for the Conservation of Living Antarctic Marine Resources from 1984 to 1987; area of responsibility ecosystem level management of marine systems.

FROM: 1977 TO: 1978
EMPLOYER: CSIRO

POSITION HELD: Research scientist.

DESCRIPTION OF DUTIES: Participate in a quantitative acoustic and trawl survey of jack mackerel, a small pelagic fish, in south eastern Australia. Analysis of the data collected to examine population dynamics and fishery management.

FROM: 1975 TO: 1976
EMPLOYER: New Zealand Ministry of Agriculture and Fisheries.

POSITION: Research Scientist

DESCRIPTION OF DUTIES: Provide statistical advise on data analysis and fishery assessment to other scientists in the research team. Establish a new computer system for use by the laboratory, write a set of computer programs to perform common analyses, and train other scientists to use the computer and programs.

Research on the population dynamics of abalone, and development of population models to support scientific advice on fishery management. Research on continental shelf temperate trawl fishery, and development of management advice.

Consultant statistician on conduct of fishery assessment for lobster, abalone, temperate ground-fish trawl fishery, salmon fishery monitoring program.