

SEA NET

SMARTER FISHING FOR INDUSTRY



Natural
Heritage
Trust

*Helping Communities
Helping Australia*

A Commonwealth Government Initiative



Annual Report 2005

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Executive Summary

Well what a year it has been for Ocean Watch Australia and its SeaNet program. In July 2005, Ocean Watch Australia was awarded the United Nations Association of Australia Environment Day Award for Excellence in Coastal and Marine Management for the SeaNet Program. This was a great achievement for the Ocean Watch Australia team, both past and present in achieving external recognition for a program that is delivering solid, tangible outcomes that reduce the environmental impacts of commercial fishers for the benefit of the environments within which the industry operates.

This year has yet again been a challenging one for commercial fishers with rising fuel costs and increased pricing pressure from imports. As to be expected, commercial fishers have sought to tackle these issues head-on through seeking continual improvements to remain competitive. The Australian seafood industry must comply with strict environmental regulations and policies and to this end often incurs high levels of costs to do so. As environmental stewards, a key focus for fishers has been on improving environmental performance that will also achieve cost savings, improve efficiencies and support sustainable fisheries. SeaNet has proved valuable in assisting in this process, through providing a mechanism for ongoing communication and interaction between fishers, researchers, managers and other stakeholders to develop and implement effective and practical solutions.

As the environmental arm of the Australian commercial fishing industry Ocean Watch Australia has strived to protect and enhance aquatic habitat and water quality and build sustainable fisheries. The Australian seafood industry demonstrated their support for us when we were awarded the Australian Seafood Industry Environment Award earlier this year. We have managed the SeaNet project since its inception, and have been pleased to see the industry's commitment to continuous improvement in fishing practices to reduce environmental impacts. SeaNet continues to attract strong support from both industry and those stakeholders working with industry. In addition, the continued financial support from the Australian Government through the Natural Heritage Trust has allowed SeaNet to establish itself as a recognised critical and effective component in achieving ecologically sustainable managed fisheries.

It is with great pleasure that I present, in collaboration with the Australian Seafood Industry Council (ASIC), the Australian Fisheries Management Authority (AFMA), the Australian Government Departments of Agriculture, Fisheries and Forestry (DAFF) and the Environment and Heritage (DEH), the Fisheries Research and Development Corporation (FRDC) and the Marine and Coastal Community Network (MCCN) the 2005 SeaNet Annual Report.



Anissa Lawrence
Chief Executive Officer
Ocean Watch Australia Ltd.

SeaNet – Who We Are and Why

SeaNet is an environmental extension service to the Australian seafood industry and a project of Ocean Watch Australia Ltd. Our primary objective is to work with the commercial fishing industry to minimise the catch of non-target species (bycatch) and encourage environmental best practice. SeaNet Extension Officers (SEO's) work with fishers, researchers and fisheries management to develop and implement effective and practical solutions to minimise the impact of fishing and improve the sustainability of Australia's commercial fisheries.

Since its inception in 1999, SeaNet has continued to expand its network and now has Extension Officers working in Queensland, NSW, Victoria, South Australia, Western Australia and the Eastern Tuna and Billfish Fishery. Below are the projects with which SeaNet has been involved in the last 12 months.

Projects in 2005

Eastern Tuna and Billfish Fishery

- ◆ Increasing the uptake of de-hooking and line-cutting devices in the ETBF;
- ◆ New line weighting regime;
- ◆ Development of a new standard tori line;
- ◆ Circle hook pilot trials;
- ◆ Deep setting technique for bycatch reduction, particularly turtles;
- ◆ FRDC Project 2003/013: Sea turtle mitigation workshops.

Queensland

- ◆ FRDC Project 2005/054: collaborative extension for adoption of square mesh codends in select prawn trawl fisheries;
- ◆ FRDC Project 2005/053: reducing the impact of Qld Trawl Fisheries on protected sea snakes;
- ◆ T90 codends: turbo enhancer codend insertion section for the Shallow Water Trawl Fishery;
- ◆ East Coast Trawl Fishery bycatch reduction devices (BRD's) and turtle exclusion devices (TED's): fishbox BRD development;
- ◆ Northern Prawn Fishery BRD's and TED's;
- ◆ Shallow water gillnet technique;
- ◆ New composite TED framing and bar material;
- ◆ Underwater acoustic alarms: pingers;
- ◆ Acoustic beam to deter Dugong from oncoming vessels;

- ◆ Wilksch net for Tilapia removal;
- ◆ Using pingers to inhibit breeding sounds in Tilapia;
- ◆ Barnes hook: reduction of gut hooking and catch of undersized fish;
- ◆ Hoppers and hopper handbook;
- ◆ Electromagnetic field device using pinger casings to deter Sawfish from gill nets;
- ◆ Tuna line-cutters for the Gulf of Carpentaria Ghost Net Program;
- ◆ Gulf of Carpentaria Commercial Fishermen's Association (GoCCFA) involvement with, and pinger funding through the Northern Gulf Natural Resource Management (NRM) Group;
- ◆ Scoping project for involvement with the Asian Development Bank (ADB);
- ◆ Marine rubbish collection on northern prawn trawl motherships;
- ◆ Gulf of Carpentaria Ghost Net Steering Committee;
- ◆ Coral Reef Line Fishery Code of Conduct (CoC);
- ◆ CoC for Cape Grafton to Cardwell Inshore Mesh Fishery;
- ◆ Environmental Management System (EMS) for commercial fishers of the Gulf of Carpentaria;
- ◆ EMS for Tropical Rock Lobster fishers;
- ◆ EMS for aquarium fish collectors.

New South Wales

- ◆ Completion and launch of Manning River EMS;
- ◆ Development of Wallis Lake EMS;
- ◆ Completion of Wonboyn Lake Oyster EMS;
- ◆ Contribution to the completion of Currembene oyster EMS;
- ◆ Development of an individual EMS for ocean trap and line fisher, Crowdy Head;
- ◆ Development of three individual oyster EMS's for growers in Pambula Lake and Lake Conjola;
- ◆ Completion of numerous individual estuary general EMS's;
- ◆ Facilitation of access by fishers to EMS incentives scheme;
- ◆ Assisting commercial fishers access drought relief funds;
- ◆ Completion of South Coast Cockle Fishery review of environmental factors.

Victoria

- ◆ FRDC Project 2001/006: South East and Great Australian Bight Trawl Fisheries bycatch reduction;
- ◆ Implementation of the Victorian Bay and Inlet Fisheries Association (VBIFA) EMS;
- ◆ Development and roll out of the Rock Lobster Fishery Code of Practice (CoP) for reducing whale entanglements;
- ◆ Scallop CoP;

- ◆ Port Phillip and Westernport Bay CoP;
- ◆ Youth coastal health conference reference committee participation.

South Australia

- ◆ FRDC project 2005/061: Extension of the Lakes and Coorong Fishery quantitative bycatch assessment;
- ◆ South Australia (SA) and Victoria (Vic) Inshore Haul Net Fishers mentoring as part of the EMS Pathways project;
- ◆ SA Net Fishers Association clean up of Parham Reef;
- ◆ Addressing localised depletion of Razor Fish in Streaky Bay;
- ◆ EMS extension for the Marine Scalefish Fishery;
- ◆ Correct handling of materials on wharf facilities - CoP;
- ◆ Oyster basket waste recovery and recycling;
- ◆ Reducing plastics on Rock Lobster boats;
- ◆ Trials of circle (Barnes) hooks to reduce landing undersized catch;
- ◆ NRM: Industry engagement into the NRM regional process in SA;
- ◆ Environmental Protection Agency (EPA) marina and vessel management CoP;
- ◆ Participation in the FRDC Reef Health Advisory Group on behalf of industry;
- ◆ Net Fishers survey: identifying gears, practices and areas for improvement for the Inshore Haul Net Fishery in SA;
- ◆ SA marine protected area public consultation extension;
- ◆ Mesh selectivity trials in the Marine Scalefish Fishery.

Western Australia

- ◆ Increasing the uptake of de-hooking and line-cutting devices in the WTBF; (de-hookers/tori line workshop and extension);
- ◆ Development of an alternative de-hooker;
- ◆ South Coast Purse Seine Managed Fishery - CoP, deck manual, seabird interaction and entanglement mitigation trials;
- ◆ Northern Shark Fisheries CoP;
- ◆ Turtle handling and conservation workshops;
- ◆ Lake Argyle Bycatch Action Plan, trap trials, CoP, guidelines for wildlife interactions, species handling, identification and reporting protocol;
- ◆ Seal excluders in Rock Lobster pots;
- ◆ Development and roll out of the Western Rock Lobster Managed Fishery CoP for reducing whale entanglements;
- ◆ Development and roll out of a Sawfish identification guide;
- ◆ Marine pest education campaign;
- ◆ Marine debris – Dirk Hartog Island beach clean up.

Organisational Structure

The day to day management and administration of SeaNet is provided by Ocean Watch Australia Ltd., a public company limited by guarantee. Ocean Watch Australia is an environmental non-government organisation committed to the protection and enhancement of fish habitats and water quality and building sustainable fisheries. The Chief Executive Officer of Ocean Watch Australia reports directly to an independent Board of Directors.

Ocean Watch Australia Board

- | | |
|-------------------------------------|--|
| ◆ John Corkill OAM (Chair) | ◆ Geoff Blackburn |
| ◆ Kerry Strangas | ◆ David Pollard |
| ◆ Bryan Skepper (Company Secretary) | ◆ Bruce Standen |
| ◆ Brad Warren | ◆ Craig Aspinall |
| ◆ Karin Schiller | ◆ Allan Broadhurst (<i>resigned 10/05</i>) |

SeaNet's Strategic Direction is Provided by a Steering Committee:

- ◆ Simone Retif (DEH) resigned, replaced by Melissa Maly (DEH)
- ◆ Craig Bohm, Australian Marine Conservation Society (AMCS) resigned, replaced by Bill Foster (MCCN)
- ◆ Stan Jarzynski (DAFF) replaced by Tia Flood (DAFF)
- ◆ Anissa Lawrence (Ocean Watch Australia)
- ◆ Russ Neal (ASIC) (*resigned 09/05*)
- ◆ Peter Horvat (FRDC)
- ◆ Cliff Lloyd (AFMA)

Management and Administration

- ◆ Anissa Lawrence – Chief Executive Officer (Ocean Watch Australia)
- ◆ Emma Bradshaw - SeaNet Program Manager
- ◆ Neil Godfrey - Administration Officer (*part time*)

SeaNet Extension Officers

- ◆ Denis Ballam – Far North Queensland
- ◆ Dave Kreutz - Eastern Tuna and Billfish Fishery
- ◆ Jim Newman – Victoria
- ◆ Claire van der Geest - South Australia, (*resigned 10/05*)
- ◆ Carl Bevilacqua – Western Australia
- ◆ Dave Cranston – NSW

SeaNet Host Organisations

SeaNet Extension Officers are hosted by industry organisations to ensure effective integration with grass roots fishers.

- ◆ South Australia Fishing Industry Council (SAFIC), N.B: previously Seafood Council South Australia (SCSA) until 12/04.
- ◆ Western Australia Fishing Industry Council (WAFIC)
- ◆ NSW Seafood Industry Council (NSWSIC)
- ◆ Seafood Industry Victoria (SIV)
- ◆ Ecofish

SeaNet Research Partners

- ◆ Victorian Department of Primary Industries
- ◆ South Australia Research and Development Institute (SARDI)
- ◆ QLD Department of Primary Industries and Fisheries (QDPI&F)
- ◆ CSIRO Marine Laboratories - Division of Fisheries
- ◆ NSW Department of Primary Industries
- ◆ WA Department of Fisheries

Milestones & Performance Indicators

M1. Appointment of staff to the SeaNet program and continued work development.

PI 1. Total number of SeaNet positions.

- ◆ Emma Bradshaw – Program Manager;
- ◆ Neil Godfrey – Administration Officer, (*part time*);
- ◆ Denis Ballam – Queensland Extension Officer;
- ◆ Dave Kreutz – Eastern Tuna and Billfish Fishery Extension Officer;
- ◆ Jim Newman – Victorian Extension Officer;
- ◆ Claire van der Geest – South Australian Extension Officer, (*resigned 10/05*);
- ◆ Carl Bevilacqua – Western Australian Extension Officer;
- ◆ Dave Cranston – NSW Extension Officer.

PI 2. Number of new contacts and number of total contacts involved with SeaNet.

Throughout the year, (October 2004 - September 2005), SeaNet Extension Officers (SEO's) have worked in close collaboration with members of industry, research and fisheries management. This year the program established 478 new contacts (total of 849), not including the hundreds of contacts made through public displays at trade

shows, conferences etc. This close and ever expanding affiliation continues to enhance the level of cooperation between stakeholders and open new and stronger channels of communication for the transmission of information, ideas and improvements to gear and methods of operation.

M2. Determination and review of priority issues for each State and fishery.

PI 1: Level of communication (i.e. number of meetings, field days, etc.) with state and national steering committees, industry and researchers.

Regular meetings with industry, managers and grass-roots fishers are imperative for projects to develop in a mutually beneficial direction. All stakeholders are kept up-to-date with the progress of SeaNet projects through the quarterly SeaNet Newsletter which covers project, funding and staff developments. SEO's employ a variety of communication approaches including port visits, participation in workshops and attending industry and management authority meetings. The SeaNet Steering Committee meets annually and SEO's attend meetings with their state based steering committee members on an as-needs basis. Specific examples include, but are not limited to:

- ◆ 199 meetings with industry, researchers, managers and other stakeholders;
- ◆ One SeaNet Steering Committee meeting;
- ◆ 72 port visits;
- ◆ 23 fishing trips;
- ◆ 41 workshops/forums; and
- ◆ 147 wharf walks.

PI 2: Documentation of work plans for each extension officer.

With the development of a new SeaNet strategic plan for 2005 - 2008, SEO's have developed revised work-plans in consultation with Ocean Watch Australia and state steering committees to reflect the new strategic plan. With the implementation of a comprehensive occupational health and safety policy (OH&S) at Ocean Watch Australia, SEO's have also undertaken an annual risk assessment to ensure all officers risks likely to be encountered during their activities are identified and managed/reduced appropriately. The CEO of Ocean Watch Australia and the SeaNet Program Manager continually audit staff training needs on both an individual and team basis.

This year, SeaNet training activities have included:

- ◆ Remote first aid;
- ◆ Shipboard safety procedures;
- ◆ Deckhand training/watch keeping;
- ◆ NRM update and integration into regional processes;
- ◆ Ocean Watch Australia OH&S policy and procedures.

M3. Provision of progress reports to funding bodies and national steering committee.

PI 1: Reconciliation of financial income and expenditure in line with reporting requirements.

As a precursor to the submission of progress reports to date, all SEO's provide a full breakdown of financial expenses for the period. These include:

- ◆ Expense claim reimbursements;
- ◆ Credit card reconciliations;
- ◆ External project funding expenditure.

PI 2: Submission of quarterly reports and project progress reports.

Each SEO submits progress reports to the Program Manager which detail each Officer's activities and project developments. These are collated and incorporated into SeaNet progress reports which are submitted to DAFF, in accordance with contractual requirements. These are also made publicly available on the Ocean Watch Australia website at: http://www.oceanwatch.org.au/SN_400.asp.

M4. Actions to secure alternative sources of funding for the SeaNet Program.

PI 1: Level of communication and negotiation with 'other' stakeholders with respect to seeking contribution of funds to SeaNet.

Adequate funding for SeaNet project development is a constant priority for Ocean Watch Australia and therefore actively seeking alternative sources plays a large role in the organisation's activities. Numerous grant applications have been made throughout the year for the opportunity to collaborate with other research and management organisations in appropriate projects. Ocean Watch Australia also explores opportunities to incorporate our extension services with numerous project proposals developed by other stakeholder groups and gain funding to further develop and diversify successful SeaNet projects.

In 2005, Ocean Watch Australia has engaged a wide range of stakeholders with the potential to provide additional funding for specific projects and/or the program as a whole. Many of these communications have proven successful (see M4 PI 1 below). These include, but are not limited to:

- ◆ AFMA;
- ◆ Belldi Consulting;
- ◆ Bureau of Rural Sciences (BRS);
- ◆ DAFF;
- ◆ DEH Environmental Education Grants;
- ◆ Eastern Tuna and Billfish Fishery Management Advisory Committee (ETBF MAC);
- ◆ Environmental Trust;
- ◆ Fisheries Resources Research Fund (FRRF);
- ◆ FRDC;

- ◆ Gulf of Carpentaria Ghost Net Project;
- ◆ Ian Potter Foundation;
- ◆ Mullum Trust;
- ◆ National Landcare Program (NLP);
- ◆ National Oceanic and Atmospheric Administration (NOAA);
- ◆ Primary Industries Research Victoria (PIRVic);
- ◆ Project Aware;
- ◆ State Ministers – request from Ocean Watch Australia for contributions to respective state SNO positions and activities;
- ◆ TSN;
- ◆ WAFIC;
- ◆ Western Pacific Fisheries Management Council (WPFMC);
- ◆ Western Rock Lobster Council (WRLC);
- ◆ Western Rock Lobster Managed Fishery (WRLMF).

PI 2: Number of projects and activities involving SeaNet generated from 'other' sources.

This year, a total of 23 projects and activities have occurred or are currently underway with funding provided by outside agencies (i.e. not NHT funded). These include:

- ◆ Belldi Consulting: ETBF SEO involvement in FRDC Project 2003/013: Sea turtle mitigation for Australian pelagic longline fisheries;
- ◆ BRS: Circle hook pilot study in the ETBF;
- ◆ AFMA: ETBF/WTBF workshops and bycatch reduction initiative;
- ◆ ETBF/WTBF CoP review;
- ◆ FRDC Project 2005/53: Square mesh panel extension;
- ◆ Ecofish and the Northern Gulf NRM: Extension of pingers;
- ◆ Gulf of Carpentaria Ghost Net Steering Committee: attendance of QLD SEO at Steering Committee Meetings;
- ◆ FRDC Project 2005/061: Lakes and Coorong Fishery quantitative bycatch assessment;
- ◆ NLP: Circle hook trials (SA).
- ◆ Threatened Species Network (TSN): Increasing the uptake of de-hooking and line-cutting devices in the ETBF and WTBF (de-hooker trials, production and distribution of instructional DVD);
- ◆ FRRF: Circle hook pilot project in the ETBF;
- ◆ FRDC and Belldi Consulting: Review of turtle bycatch in Australian longline fisheries;
- ◆ AFMA and NHT: Bycatch reduction initiative in the ETBF;
- ◆ NOAA Fisheries: ETBF SEO attendance of the Pacific Islands Research Centre Turtle Technical Workshop, Honolulu;
- ◆ WPFMC: ETBF SEO attendance of the Turtle Technical Workshop/ International Fisheries Forum (IFF3), Japan;

- ◆ ETBF MAC: ETBF SEO attendance of IFF3, Japan;
- ◆ AFMA: ETBF SEO attendance of the Southern Seabird Solutions Annual General Meeting and management committee meeting, Wellington/Nelson NZ;
- ◆ PIRVic: Travel and accommodation expenses of the VIC SEO for port visits to extend FRDC Project 2001/006: Promoting industry uptake of gear modifications to reduce bycatch in the South-East and Great Australian Bight Trawl Fisheries;
- ◆ WAFIC and the WRLC: Dirk Hartog Island beach cleanup;
- ◆ WWF International: participation of SeaNet Program Manager as judge in the inaugural international Smartgear bycatch competition, USA;
- ◆ WRLC: Printing the WRLMF CoP for reducing whale entanglements;
- ◆ WAFIC Research and Development (R&D) Program: Development of an alternative hook knife;
- ◆ WAFIC: WA seafood industry/SeaNet profile at the Perth international boat show.

M5. Facilitating the adoption of bycatch mitigation measures by fishers.

PI 1: Level of involvement with industry relevant to identifying and using bycatch mitigation measures.

A fundamental role of the SeaNet extension service is to work closely with fishers in developing their own bycatch mitigation measures which benefit their particular fishery and/or local conditions. This incorporates the trialing of methods developed by researchers and their modification, where necessary, to best suit specific requirements. Numerous projects in 2005 have worked with industry in this capacity, resulting in the development and adoption of more sustainable gears and fishing practices. Examples include, but are not limited to:

- ◆ Threat Abatement Plan working group - identifying seabird mitigation techniques with fishers of the ETBF and other stakeholders;
- ◆ Bycatch reduction initiative - port visits, workshops and follow up support program for individual fishers;
- ◆ Circle hook pilot project - fishers of the ETBF have volunteered to trial hooks;
- ◆ Industry supplied a T90 codend extension to trial on the Australian Maritime College's (AMC) training vessel "Bluefin", with cameras recording fish behaviour and dynamics of the net;
- ◆ T90 extensions to broaden the scope of the area of the net that can be modified to improve selectivity;
- ◆ Trials of an entire square mesh codend;
- ◆ Trial of square mesh panels in codends;
- ◆ Trial of T90 panels in a regular codend as an alternative to the problematic construction of square mesh;
- ◆ Development and trial of modified escape chute for Bay and Inlet Fisheries (Vic);
- ◆ Barnes hook distributed to a longline fisher in Port Phillip Bay to trial for reducing catch of small fish;

- ◆ Measures in the Victorian Rock Lobster Fishery CoP for reducing whale entanglements;
- ◆ Trials underway to develop a trap for Lake Argyle Catfish Fishery for bycatch mitigation;
- ◆ Implementation and extension of South Coast Purse Seine Managed Fishery (SCPSMF) CoP and deck manual;
- ◆ Western Rock Lobster Managed Fishery CoP for reducing whale entanglements;
- ◆ Distribution of de-hookers and line-cutters in the ETBF and WTBF.

PI 2: Number of fishers associated with SeaNet developing, using or adopting improved practices and/or gears.

In 2005, 284 fishers from around the country have been directly involved with the development, use and adoption of improved fishing practices and gears. There have been hundreds of fishers adopting and implementing various CoP's, EMS's and CoC's, the exact number of which cannot be defined.

M6. Contributing to improved fishing practices and methods.

PI 1: Number and type of feedback and communication mechanisms used by SeaNet to improve links between fishers, researchers and other stakeholders (newsletters, workshops, fishing trips etc.).

SeaNet is proactive in promoting effective communication networks between the broad range of stakeholder groups involved in developing sustainable fisheries and the broader community. Utilising a range of methods of communication ensures the message is received and understood by every audience. Examples include, but are not limited to:

- ◆ ETBF bycatch mitigation workshops;
- ◆ Numerous port visits and wharf walks at ETBF ports;
- ◆ 230 de-hooker and line-cutter instructional DVD's "Hooks Out and Cut the Line" distributed to fishers of the ETBF;
- ◆ Improved tori lines distributed to 150 ETBF and WTBF fishers in association with AFMA and ongoing follow up by the SEO to ensure correct deployment;
- ◆ Twenty fishers of the ETBF contacted regarding future trials of fish oil for seabird mitigation;
- ◆ Australian Antarctic Division (AAD) - extension for seabird sink rate and mitigation research with vessels in the ETBF;
- ◆ Extension for cooperative deployment of satellite tracking of tagged blue sharks and swordfish in association with the Commonwealth Scientific and Industrial Research Organisation (CSIRO);
- ◆ Association developed with the company "Global Glow" regarding adoption of reusable light sticks in the ETBF;
- ◆ QLD Department of Primary Industries (QDPI) - cetacean interactions in the ETBF and extension to fishers of mitigation equipment for trial and feedback;

- ◆ Report developed in association with Belldi Consulting on circle hook research and adoption in pelagic longline fisheries;
- ◆ Engaging volunteers in data collection and gear trials;
- ◆ Working with fishers constructing T90 panels in trawl codends for bycatch reduction trials;
- ◆ Numerous articles for publications such as: SIV News, AFMA Fishing Future, ProWest, Seafood NZ, Seafood Australia, Ecofish newsletter, Waves, SETFIA News, Wildlife Australia and the Gulf Croaker: newsletter for the Nth Gulf NRM group;
- ◆ Numerous communication and promotional activities (see p. 21); and
- ◆ Numerous workshops and conferences (see p.22).

PI 2: Number of SeaNet facilitated EMS's prepared, implemented or reviewed by the commercial fishing sector.

During 2005, SeaNet was involved in five Codes of Practice, 17 Environmental Management Systems, two Codes of Conduct, one mentoring program (EMS Pathways), and one Review of Environmental Factors (South Coast Cockle Fishery, NSW).

M7. Documented examples of industry testing and working with new innovations and technologies.

PI 1: Number of fishers (individual or associations) involved with SeaNet in designing, testing or implementing bycatch reduction innovations and technologies.

283 individuals and 27 organisations during 2005.

PI 2: Number of projects/reports involving SeaNet relevant to the designing, testing or implementing of bycatch reduction innovations and technologies.

23 projects.

Project Profiles

Eastern Tuna and Billfish Fishery

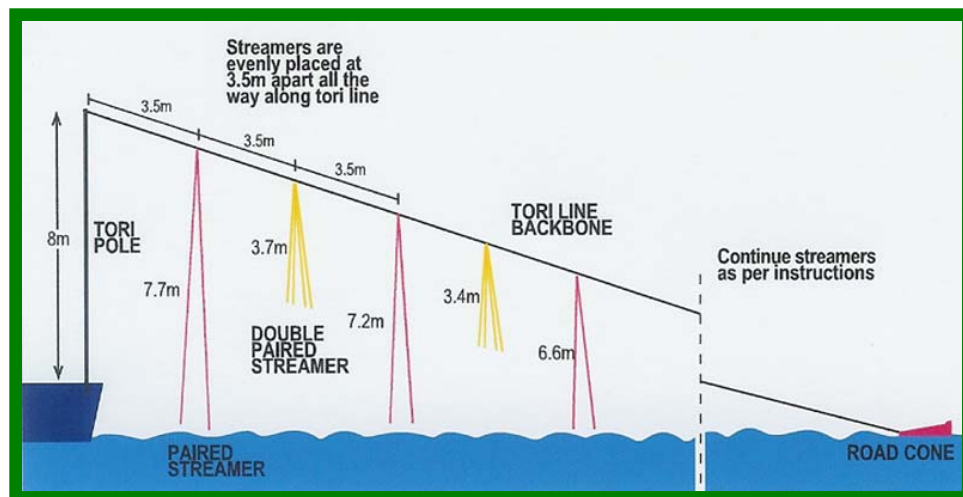
OFFICER: Dave Kreutz

LOCATION: Sunshine Coast

PROJECT: The "Road Cone" Tori Line

Tori lines are a system of streamers which are deployed by vessels in the Australian pelagic longline fleet to distract seabirds from bait during deployment. However, problems are encountered with the lines not streaming far enough behind the vessel and the streamers tangling, thereby reducing their effectiveness.

The SEO and fishers of the ETBF have developed a simple, effective and affordable solution. By filling a standard road cone with polystyrene fishing floats and attaching it to the end of the tori line, the cone acts like a drogue, dragging behind the boat, keeping the tori lines high and preventing the streamers from tangling. This concept, modified after numerous trials, has proven highly successful, with a minimal cost of only \$25.

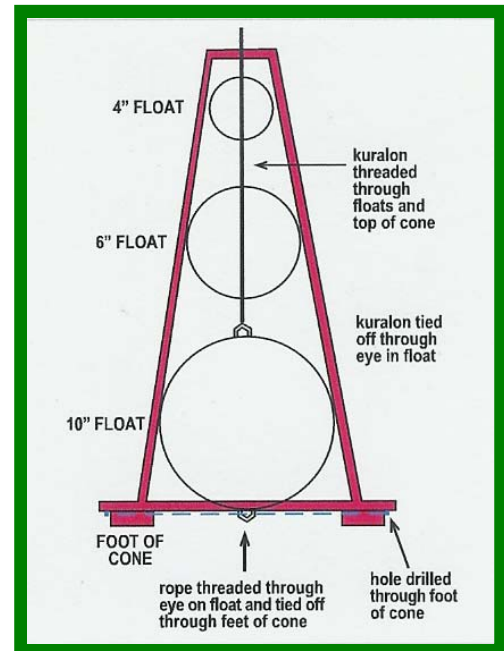


The float filled road cone keeps the tori line taut and randomly agitates the line and streamers.

The float-filled road cone is attached to the end of the tori line. When the vessel is underway, it creates drag to extend the tori line, providing greater effective aerial coverage for less overall length. With 100 metres of tori line, the road cone achieves 90 metres of aerial coverage.

Other benefits include:

- ◆ Through the disturbance the cone makes on the water surface 100 metres from the back of the vessel, it acts like a lure, distracting the birds attention away from the baited hooks being deployed.
- ◆ The cone keeps the tori lines straighter, thereby reducing the chances of tangling in crosswinds.
- ◆ The cone agitates the line when the vessel is underway, resulting in random movement of the streamers which reduce the chance of seabirds habituating to patterns of movement.
- ◆ The internal floats prevent the cone from collapsing and make it easy to retrieve by hand.



Construction details of the road cone.

South Australia

OFFICER: Claire van der Geest

INDUSTRY HOST: Seafood Council South Australia (SCSA), Feb – Dec 04, South Australia Fishing Industry Council (SAFIC) Dec 04 – Oct 05

LOCATION: Adelaide

PROJECT: The Use of Circle Hooks to Improve Hook Selectivity and Reduce Mortality of Target and Non-Target Species.

With an innovation grant courtesy of the National Landcare Program (NLP), the South Australia Fishing Industry Council (SAFIC) is working with marine scalefish fishers to trial circle hooks on all hook fishing gear in South Australia. A range of hook patterns and sizes are being trialed to accommodate size and species variation, the most common target species being snapper, King George whiting and various shark species. To compensate for spatial and temporal changes in fish populations, fishers are collecting information on a monthly basis over 12 months.

The project aims to comparatively assess the benefits of circle hooks versus traditional “J” style hooks in commercial fisheries. Licensed fishers are trialing the hooks as part of “normal” fishing operations and recording species, number landed, condition of fish caught and handling time of different circle hook patterns and the “J” style hook. With this information, the benefits of circle hooks in reducing injury and stress and the associated implications for post-release survival can be assessed.

As hook fishing occurs throughout South Australia, field trials are being conducted state wide but concentrating on the west coast, Spencer Gulf and Gulf St. Vincent including



Comparison of the circle hook (left) and standard "J" style hook.

Kangaroo Island. These areas are also assessed by SARDI researchers during stock assessment, which allows for data comparison with general information on fish biology.

SeaNet is instrumental in the project through observer data collection, collation and extension. To date, the project has engaged 29 fishers collecting comparative field data. SeaNet has also obtained the assistance of two coast and marine officers (through two Natural Resource Management regional boards) to assist with collection of more detailed information. Crews

are regularly forwarding datasheets, but as of Aug 31st, no observer work had been undertaken due to the resignation of Claire van der Geest (SeaNet Officer for SA) and delays with appointing an appropriate replacement. Sporadic fishing during the winter months has also contributed to delays.

Once collated, data will be analysed by independent scientists to determine the benefits (if any), of circle hooks. If circle hooks do in fact have less impact on unwanted and/or undersized fish while maintaining catch rates of target species, then voluntary adoption throughout the fishery will follow. Results of the project will have far reaching implications for both commercial and recreational fishers in South Australia where the popularity of recreational catch and release fishing has grown significantly.

Victoria

OFFICER: Jim Newman

INDUSTRY HOST: Seafood Industry Victoria (SIV)

LOCATION: Melbourne

PROJECT: South East and Great Australian Bight Trawl Bycatch Reduction

SeaNet's promotion of industry uptake of modified gear for bycatch reduction (FRDC Project 2001/006) has led to significant interest in the rotated mesh approach, dubbed "T90" by fishing gear technologists.

Feedback from fishers has revealed a wealth of information about the selective properties of the T90 approach to improving trawl gear selectivity and fish quality (for more information go to www.sintef.dk/ and click the projects icon). This information is being used to continue promoting effective bycatch reduction measures in the South-east and Great Australian Bight Trawl Fisheries by providing industry with the information needed to make bycatch reduction strategies commercially viable.



Left: Close-up showing a seam where the T90 panel is joined to the codend, note how the meshes are held open. Right: South-east trawl fishers with a modified T90 panel codend.

The project has identified potential benefits of using areas of mesh in nets that are turned 90° (i.e. T90) from their ordinary orientation. This approach was first used in Australia as a means to retain the selectivity benefits of square mesh panels while reducing the waste of net material and making installation easier. The first T90 panels also proved to have better load bearing characteristics than square mesh panels which often stretch and distort, becoming ineffective.

Overseas, the T90 approach has been incorporated into the extension section of the codend rather than the 'bag' as trialed in Australia. Early scientific assessments and anecdotal information from industry has prompted investigations into future trials of this configuration.

Western Australia

OFFICER: Carl Bevilacqua

INDUSTRY HOST: Western Australia Fishing Industry Council (WAFIC)

LOCATION: Perth

PROJECT: Clean up at Dirk Hartog Island



The volunteer clean-up team with a load of debris collected from Mystery Beach.

A group of volunteers led by WA SEO Carl Bevilacqua, removed decades of accumulated rubbish on the only two sand beaches located on the west coast of the rugged and remote Dirk Hartog Island.

Located in the Shark Bay World Heritage Area, the island's pristine ecosystem is home to some of the most exceptional wildlife and scenery that Australia, has to offer. The island supports rare bird species, ancient fossilized coral reefs, several threatened reptile species, the largest loggerhead turtle nesting ground in the south east Indian basin and

access to one eighth of the world's dugong population. Dirk Hartog Island is Western Australia's largest island and has a unique place within Australia's history, as the site of the first recorded European landing on Australian soil, in 1616 by the island's namesake Dutch Captain Dirk Hartog.

The beaches had considerable amounts of primarily, domestic rubbish, such as plastic bottles, footwear, lighters, toothbrushes and all manner of unrecognizable plastic objects. Commercial fishing-related rubbish included pot floats, bait baskets and lids, rope and glow sticks.



Some of the 666 floats recovered for reuse by industry.

The clean up crew spent 10 hours removing rubbish from the beaches and surrounding dunes. The vast majority of rubbish had been accumulating for years, as much of it was at an advanced stage of deterioration and some of the pot floats and ropes were identified by a more senior fishermen of the team as gear that had not been used for 20-30 years.

Once collected the rubbish was ferried to the vessel by tender, loaded and secured for the journey back to Kalbarri and finally the Kalbarri tip. A benefit for the fishers involved, was the reuse of floats, bait baskets and lids.

What Was Collected

The total weight of rubbish removed (excluding 666 recycled floats, bait baskets and 102 lids) was 1372 kg, (132 full fertilizer bags) incorporating:

- ◆ 533 kg of rope;
- ◆ 616 kg of mixed plastic (bottles, bottle lids, toothbrushes, footwear, lighters, rope pieces, general plastic);
- ◆ 223 kg of broken floats;
- ◆ 155 float savers;
- ◆ 357 glow sticks (both commercial and recreational fishing types); and
- ◆ 6 fishing lures.

This project received extensive media coverage, providing SeaNet with valuable exposure to the wider community. The project was a collaborative effort of SeaNet with local lobster fishers, farmers, businesses, the police, the WA Fishing Industry Council and Dirk Hartog island management, the success of which attests to the benefits which can accrue by engaging with the local community.

Queensland

OFFICER: Denis Ballam

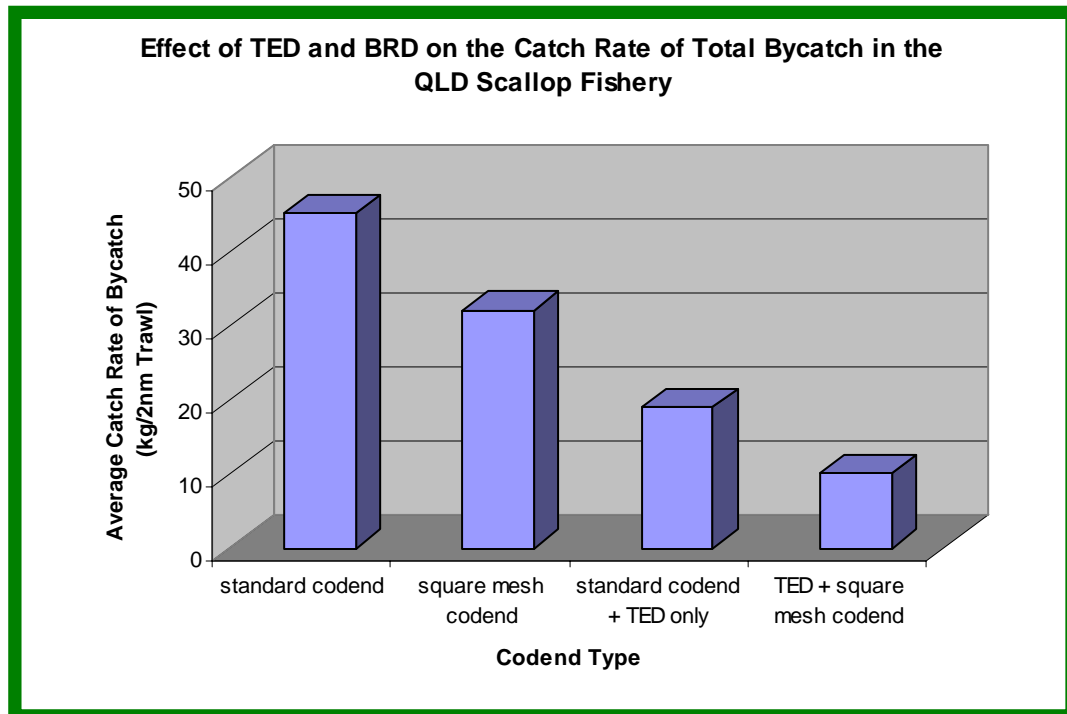
INDUSTRY HOST: Queensland Seafood Industry Association (QSIA), Ecofish,

LOCATION: Cairns

PROJECT: Square Mesh Codends in the Queensland Trawl Fishery

The FRDC are funding an extension project through SeaNet in Queensland to inform trawler operators and net makers about square mesh codends. The project is a collaborative effort between the Queensland DPI&F, SeaNet and Ecofish, a non-profit regional economic development cluster representing the seafood and marine industry in Far North Queensland.

Recent research has shown that square mesh codends can be very effective at reducing bycatch and regulating the size of target species such as prawns and scallops. Diamond mesh codends used by the majority of trawler operators close up whenever the net is



The effect of different codend types on the catch rate of bycatch in the Queensland scallop fishery. The bycatch includes all species that are discarded, including sharks, rays and sponges. Bycatch was reduced by 78% when the square mesh codend and TED were installed in same net.

under any appreciable load, but square mesh codends remain open and allow bycatch (i.e., small fish and invertebrates) to escape. By regulating the size of the square meshes, the selectivity of the prawns and scallops can also be controlled more effectively. The graph below shows the effect of a 100mm (50 x 50mm bar) square mesh codend on bycatch catch rates in the Queensland scallop fishery.

When the square mesh codends were used with a TED, bycatch was reduced by 78% compared to a standard net codend with no TED. Importantly, there was no reduction in the catch rate of legal sized scallops, but the catch rate of undersize scallops was greatly reduced. The small scallops passed through the square meshes, remaining on the sea floor. The extension project has constructed several square mesh codends for prawn and scallop fisheries and is lending them to fishers for trialing, free of charge.

NSW

OFFICER: Dave Cranston

LOCATION: Foster/Tuncurry

PROJECT: Environmental Management Systems (EMS's) for Estuary-General Fishers and Oyster Growers in NSW

Work activities of the NSW SeaNet Extension Officer in 2005 have concentrated on developing and implementing Environmental Management Systems (EMS's) for estuary-general fishers and oyster growers throughout the State.

Involvement in the EMS process for both estuary fishing and oyster cultivation required thorough consultation with the operators, much of which was conducted whilst fishing or tending oysters. While this method of consulting provided a great introduction to numerous industry members, it allowed a more comprehensive understanding of fishing and cultivation techniques as well as management decisions and environmental factors that affect everyday activities in their industry. An improved understanding of operations also assisted in developing more practical milestones and actions in the EMS's.



A large component of the EMS process has focused on public education of the techniques and self-imposed management restrictions commercial fishers employ.

In an attempt to dispel the misconceptions that surround commercial fishing operations, a large component of the EMS process included public education. This was achieved by incorporating into the documents, a thorough methodology of the techniques used and the self-regulated management regimes employed by operators. Although only a relatively small number of operators were engaged in the EMS process, expansion of the project in 2006 will facilitate the transfer of improved techniques and best practice management to a wider audience.

Willingness to develop an EMS was also boosted this year by a scheme developed by DAFF and managed by Centrelink, to offset expenses which often limit changes in practice. The EMS Incentives Program encourages the adoption of sustainable management practices by providing primary producers with a cash reimbursement of up to 50% of the costs associated with developing and implementing an EMS.

The maximum reimbursement payable under the program is \$3000. SeaNet NSW has helped fishers access this funding, predominately to achieve targets outlined in their respective EMS's. Cash reimbursements have been successfully sought to assist with costs associated with infrastructure changes in the oyster industry, and conversion from 2-stroke to 4-stroke engines in estuaries to reduce water pollution.

Communication and Promotions

- ◆ 2005 United Nations Association of Australia award for excellence in marine and coastal management;
- ◆ 2005 SA Seafood Fishing Industry Future Environment Award for strapless bait cartons in the SA Rock Lobster Fishery;
- ◆ Display at 2005 Seafood Directions;
- ◆ Display at the Perth international boat show;
- ◆ Display at the Cairns seafood industry race day;
- ◆ Represented on the judging panel of the international SmartGear bycatch mitigation competition, Annapolis, U.S.A.;
- ◆ Display at the Eden whale festival;
- ◆ Display at the Forster/Tuncurry Bounty of the Sea Festival;
- ◆ Display at the Queenscliff seafood feast, Seafood Industry Victoria (SIV);
- ◆ Display at the Port Douglas seafood extravaganza;
- ◆ Display at the East Gippsland field days, Seafood Industry Victoria (SIV);
- ◆ Display at the Portland Bay festival, Seafood Industry Victoria (SIV);
- ◆ Display at the Cairns show;
- ◆ Promotional posters for the progress of the South East Trawl Fishery (SETF) and Great Australian Bight Trawl Fishery (GABTF) bycatch reduction project;
- ◆ Articles in numerous industry and general interest publications such as: SIV News, AFMA Fishing Future, ProWest, Seafood NZ, Seafood Australia, Waves, Ecofish newsletter, SETFIA News, Wildlife Australia;

- ◆ Distribution of the SeaNet Newsletter to 380+ stakeholders (quarterly), nationwide and internationally;
- ◆ Continual update of the SeaNet pages of the Ocean Watch Australia website (new site developed and due to launch early 2006).

Workshops and Conferences

- ◆ Southern Seabirds Solutions Management Committee Meeting;
- ◆ International Tuna Fishers Conference on Responsible Fisheries and the Third International Fishers Forum, Yokohama, Japan;
- ◆ Seafood Directions, Sydney;
- ◆ Seafood Services Aust. - EMS summit, Brisbane;
- ◆ Seafood Services Aust. - EMS workshop Coffs Harbour;
- ◆ Seafood Services Aust. - EMS Technical Review Panel, Melbourne;
- ◆ NSW Department of Primary Industries – Share Management Workshop, Forster.
- ◆ Communicators Workshop, Adelaide;
- ◆ Whale disentanglement training session;
- ◆ VIC SEO conducted an EMS Mentoring Workshop with SeaNet SA, involving fishers from SA and VIC;
- ◆ Queensland and Northern Prawn Fishery sea snake project steering committee workshop;
- ◆ North Australia Indigenous Land and Sea Management Alliance (NAILSMA) turtle and dugong project, Cape York technical reference group workshop;
- ◆ Gulf of Carpentaria ghost net Steering Committee meetings;
- ◆ GBRMPA Cairns Local Marine Advisory Committee meetings;
- ◆ Nth Gulf NRM group stakeholder meetings;
- ◆ Presentation at the NSW Coastal Conference on SeaNet projects in NSW;
- ◆ Reef Health Advisory Group workshop;
- ◆ FNQ NRM stakeholder meetings;
- ◆ Southern Gulf NRM stakeholder meetings;
- ◆ National Coordinating Group for Acid Sulfate Soils (NatCASS) workshop;
- ◆ Prawn broodstock/Inshore trawl workshop;
- ◆ Gulf of Carpentaria Commercial Fishermen's Association (GoCCFA) general meeting;
- ◆ Ecofish general meetings;
- ◆ Queensland Seafood Industry Association (QSIA) Cairns, Innisfail and Port Douglas meetings;
- ◆ Presentation at state volunteer fisheries liaison officer (VFLO) conference, Fisheries WA;

- ◆ Three presentations during the Rock Lobster Industry Advisory Committee tour;
- ◆ Investment planning workshop hosted by the Victorian Coastal Council;
- ◆ Discussion session on the priorities of marine and coastal issues;
- ◆ Fisheries Co-management Councils research and development workshop for prioritising research proposals;
- ◆ Review session for the National Control Plan for the Northern Pacific Seastar;
- ◆ Consultation session for an environmental audit of Corner Inlet (Vic);
- ◆ Launch of the Corner Inlet Fisheries Habitat Association Environmental Management Plan;
- ◆ National Introduced Marine Pest Coordination Group (NIMPCG) meeting;
- ◆ Rock Lobster management forum involving industry, scientists and fishery managers;
- ◆ Fishing vessel working group of NIMPCG;
- ◆ Seafood Environmental Management Systems Technical Review Panel.

Appendix I: Outcomes and Activities

The table below identifies the degree to which each SeaNet project has achieved the following Natural Heritage Trust outcomes through specific NHT determined activities.

Outcomes

- 1) A reduced environmental impact of commercial fishing activities to assist in ensuring the ecological sustainability of estuarine and marine fisheries in the long term;
- 2) The conservation of the biodiversity of aquatic systems;
- 3) Increased awareness, understanding and support among the fishing industry of the need for sustainable aquatic biodiversity conservation; and
- 4) Increased development and uptake of industry best practice and adoption of Environmental Management Systems within the commercial sector.

Activities

- a) Facilitating the increased uptake of bycatch reduction devices (BRD's) within the commercial fishing industry;
- b) Involvement with commercial fishers to design and implement bycatch reduction innovations;
- c) The encouragement of fishing sectors to identify solutions to their own natural resource management issues;
- d) Increased understanding by the fishing industry of sustainability in an environmental context;
- e) Improved rate of transfer of research generated knowledge about new fishing gears and practices;
- f) Development of feedback mechanisms to ensure stronger links between researchers, managers and fishers;
- g) Education programs to reduce levels of marine pollution/debris from the commercial fishing industry;
- h) Improved commercial fishing practices and methods;
- i) Improved networks between commercial fishers, State environment officers and other stakeholders and;
- j) Development of Environmental Management Systems and Codes of Conduct.

Status

C = Completed

U = Underway

D = Under Development

S = Suspended

P = Proposed

X = Suspended due to resignation of SA Officer in September, no suitable replacement as yet identified.

| PROJECT | STATUS | OUTCOMES | | | | ACTIVITIES | | | | | | | | | |
|---|--------|----------|---|---|---|------------|---|---|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | a | b | c | d | e | f | g | h | i | j |
| Wallis Lake EMS. | C | ◆ | ◆ | ◆ | ◆ | | | ◆ | ◆ | ◆ | | ◆ | ◆ | | ◆ |
| Wonboyn Lake EMS. | C | ◆ | ◆ | ◆ | ◆ | | | ◆ | ◆ | ◆ | | ◆ | ◆ | | ◆ |
| Pambula Lake and Lake Conjola EMS's. | U | ◆ | ◆ | ◆ | ◆ | | | ◆ | ◆ | ◆ | | ◆ | ◆ | | ◆ |
| Ocean trap and line individual EMS. | U | ◆ | ◆ | ◆ | ◆ | | | ◆ | ◆ | ◆ | | ◆ | ◆ | | ◆ |
| Region 3 estuary general EMS. | D | ◆ | ◆ | ◆ | ◆ | | | ◆ | ◆ | ◆ | | ◆ | ◆ | | ◆ |
| ETBF CoP update, assessment, development of deck manual and Indonesian version. | U | ◆ | ◆ | ◆ | ◆ | ◆ | | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ |
| Belldi Consulting: Sea turtle mitigation for Australian pelagic longline fisheries. | U | ◆ | ◆ | ◆ | ◆ | ◆ | | ◆ | ◆ | ◆ | ◆ | | ◆ | | |
| Circle hook pilot trial (FRRF). | C | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | | ◆ | | |
| Bycatch reduction initiative: tori line/line weighting/de-hookers. | U | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | | | ◆ | | |
| TSN Project: Uptake of de-hookers and line cutters- in the ETBF and WTBF: trials and production of instructional DVD. | C | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | | |
| FRDC project 2003/013: Sea turtle mitigation workshops | U | ◆ | ◆ | ◆ | ◆ | ◆ | | ◆ | ◆ | ◆ | | ◆ | ◆ | ◆ | |
| Introduced marine pest awareness in the Australian seafood industry. | U | ◆ | ◆ | ◆ | ◆ | | | ◆ | ◆ | ◆ | ◆ | | ◆ | ◆ | ◆ |
| Best practice extension and environmental management strategy development for Victorian Bay and Inlet Fishers. | U | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ |
| South east trawl gear development and bycatch reduction. | U | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | | ◆ | ◆ | |
| Port Phillip Bay and Westernport Bay CoP for responsible fishing. | U | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | | ◆ | ◆ | | ◆ | ◆ |
| Extension of Rock Lobster Fishery (Vic) CoP for reducing whale interactions. | U | ◆ | ◆ | ◆ | ◆ | | | ◆ | ◆ | | ◆ | | ◆ | ◆ | ◆ |
| Reducing seal bycatch mortality in commercial fisheries. | S | ◆ | ◆ | ◆ | ◆ | | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ |
| Southern squid jig fishery CoP. | S | ◆ | ◆ | ◆ | ◆ | | | | ◆ | | | | ◆ | | ◆ |
| Scallop fishery CoP. | U | ◆ | ◆ | ◆ | ◆ | | ◆ | ◆ | ◆ | | ◆ | | ◆ | ◆ | ◆ |
| FRDC project 2005/061: Lakes and Coorong Fishery quantitative bycatch assessment. | X | ◆ | ◆ | ◆ | | ◆ | | ◆ | | | | | ◆ | ◆ | |

| PROJECT | STATUS | OUTCOMES | | | | ACTIVITIES | | | | | | | | | |
|--|--------|----------|---|---|---|------------|---|---|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | a | b | c | d | e | f | g | h | i | j |
| SA and Vic Inshore Haul Net Fishers mentoring program (EMS Pathways). | C | | | ◆ | ◆ | | ◆ | ◆ | ◆ | | ◆ | | ◆ | ◆ | |
| SA Net Fishers Association clean up of Parham Reef. | C | | ◆ | ◆ | | | | ◆ | ◆ | | | ◆ | | | |
| Addressing localised depletion of Razor Fish in Streaky Bay. | S | ◆ | ◆ | ◆ | | | ◆ | ◆ | | | | | ◆ | ◆ | |
| EMS extension for the Marine Scalefish Fishery. | X | ◆ | ◆ | ◆ | ◆ | ◆ | | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ |
| Correct handling of materials on wharf facilities CoP. | X | ◆ | | ◆ | ◆ | | | | ◆ | | | ◆ | ◆ | | ◆ |
| Oyster basket waste recovery and recycling. | C | ◆ | ◆ | | | | | | ◆ | | | ◆ | | | |
| Reducing plastics on Rock Lobster boats. | C | ◆ | ◆ | ◆ | ◆ | | | | ◆ | | | ◆ | ◆ | | |
| Trials of circle (Barnes) hooks to reduce landing undersized catch. | X | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | |
| NRM: Industry engagement into the NRM process in SA. | X | | | | | | | | | | ◆ | | | ◆ | |
| EPA: CoP's for marina and vessel management. | X | ◆ | | ◆ | ◆ | | | | ◆ | | | ◆ | ◆ | | ◆ |
| Net Fishers survey: identifying gears, practices and areas for improvement for the Inshore Haul Net Fishery in SA. | S | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | | ◆ | | |
| SA marine protected area public consultation extension. | X | | | ◆ | | | | | ◆ | | | | | ◆ | |
| Mesh selectivity trials in the Marine Scalefish Fishery. | C | ◆ | | ◆ | | ◆ | | | | ◆ | | | ◆ | | |
| T90 codends: turbo enhancer codend. | P / D | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | | ◆ | ◆ | |
| FRDC project 2005/053: Reducing the impact of Qld trawl fisheries on protected sea snakes. | U | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | | ◆ | ◆ | |
| Gulf of Carpentaria ghost net project. | U | | ◆ | ◆ | | | | | | | ◆ | ◆ | ◆ | ◆ | |
| FRDC project 2005/054: Extension for the adoption of square mesh cod-ends in select Qld prawn and scallop trawl fishery. | U | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | | ◆ | ◆ | |
| Northern Australia Indigenous Land and Sea Management Alliance (NAILSMA): Turtle and Dugong project. | U | ◆ | ◆ | ◆ | | | | | | | ◆ | ◆ | ◆ | ◆ | |
| Aquarium fishers EMS. | P | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ |

| PROJECT | STATUS | OUTCOMES | | | | ACTIVITIES | | | | | | | | | |
|--|--------|----------|---|---|---|------------|---|---|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | a | b | c | d | e | f | g | h | i | j |
| WTBF CoP. | C,E | ◆ | ◆ | ◆ | ◆ | ◆ | | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ |
| Marine mammal tracking towed acoustic array. | U | ◆ | | | | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | | ◆ | ◆ | |
| Coral Reef Line Fishery CoC. | S | ◆ | ◆ | ◆ | ◆ | | | ◆ | ◆ | | | ◆ | ◆ | | ◆ |
| Sonic beam BRD for prawn trawl fisheries. | D | ◆ | ◆ | | | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | | ◆ | | |
| Small boat hopper. | C | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ |
| Great Barrier Reef Marine Park Authority (GBRMPA) Cairns Local Marine Advisory Committee (LMAC). | U | | | ◆ | | | | ◆ | ◆ | ◆ | ◆ | | | ◆ | |
| Cape Grafton to Cardwell inshore mesh CoC. | C | ◆ | ◆ | ◆ | ◆ | | | ◆ | ◆ | | ◆ | ◆ | ◆ | ◆ | ◆ |
| Hinchinbrook region Crab Fishery CoC. | C | ◆ | ◆ | ◆ | ◆ | | | ◆ | ◆ | | ◆ | ◆ | ◆ | ◆ | ◆ |
| Underwater acoustic alarms – pingers. | U | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | | ◆ | ◆ | ◆ |
| Evaluation of hoppers for bycatch reduction. | C | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | | ◆ | ◆ | |
| Wilksch net for Tilapia removal. | D | | ◆ | | | | | | | ◆ | ◆ | | | | |
| Cairns region Inshore Trawl CoC. | S | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | | ◆ |
| East Coast BRD's and TED's. | U | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | | ◆ | ◆ | |
| Gulf of Carpentaria Commercial Fishermen's EMS. | U | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ |
| Marine debris national net collection and recycling. | U | ◆ | ◆ | ◆ | | | | ◆ | ◆ | | ◆ | ◆ | ◆ | | |
| Barnes hook trials with tropical reef fish. | P | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | | ◆ | ◆ | |
| Northern Prawn Fishery BRDs and TEDs. | U | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | | ◆ | ◆ | |
| Reef Line Fishery management plan. | C | ◆ | ◆ | ◆ | | | | | ◆ | ◆ | | | ◆ | | ◆ |
| Development of an alternative de-hooker. | U | ◆ | ◆ | ◆ | ◆ | ◆ | | | | | | | ◆ | | |
| South Coast Purse Seine seabird interaction mitigation. | U | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | | ◆ | ◆ | ◆ |
| Northern Shark Fisheries CoP. | U | ◆ | ◆ | ◆ | ◆ | ◆ | | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ |
| Turtle handling and conservation workshops. | U | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | | ◆ | ◆ | |
| South Coast Purse Seine seabird interaction mitigation. | U | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | | ◆ | ◆ | ◆ |
| South Coast Purse Seine CoP. | U | ◆ | ◆ | ◆ | ◆ | ◆ | | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ |
| Northern Shark Fisheries CoP. | U | ◆ | ◆ | ◆ | ◆ | ◆ | | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ |
| Turtle handling and conservation workshops. | U | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | | ◆ | ◆ | |

| PROJECT | STATUS | OUTCOMES | | | | ACTIVITIES | | | | | | | | | |
|---|--------|----------|---|---|---|------------|---|---|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | a | b | c | d | e | f | g | h | i | j |
| Lake Argyle Bycatch Action Plan. | C | ◆ | ◆ | ◆ | ◆ | ◆ | | | ◆ | ◆ | | | ◆ | | ◆ |
| Lake Argyle trap development for bycatch reduction. | U | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | | | | | | |
| Seal excluders in Rock Lobster pots. | U | ◆ | ◆ | ◆ | | ◆ | | | ◆ | | | | ◆ | | |
| WCRLMF CoP for reducing whale entanglements. | U | ◆ | ◆ | ◆ | ◆ | | ◆ | ◆ | ◆ | | ◆ | ◆ | ◆ | ◆ | |
| Sawfish ID guide. | U | | | ◆ | ◆ | | | | ◆ | | ◆ | | | ◆ | |
| Marine pests education campaign. | U | | ◆ | ◆ | | | | ◆ | | ◆ | | | | ◆ | |

Appendix II: Glossary

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| ADB | Asian Development Bank |
| AFMA | Australian Fisheries Management Authority |
| AMC | Australian Maritime College |
| AMCS | Australian Marine Conservation Society |
| ASIC | Australian Seafood Industry Council |
| BRD | Bycatch Reduction Device |
| CoC | Code of Conduct |
| CoP | Code of Practice |
| DAFF | Department of Agriculture, Fisheries and Forestry |
| DEH | Department of Environment and Heritage |
| EMS | Environmental Management System |
| ESD | Environmentally Sustainable Development |
| ETBF | Eastern Tuna and Billfish Fishery |
| FRDC | Fisheries Research and Development Corporation |
| FRRF | Fisheries Resources Research Fund |
| GABTF | Great Australian Bight Trawl Fishery |
| GBRMPA | Great Barrier Reef Marine Park Authority |
| GoCCFA | Gulf of Carpentaria Commercial Fishermen's Association |
| IMP | Introduced Marine Pest |
| LMAC | Local Marine Advisory Committee |
| MAC | Management Advisory Committee |
| MCCN | Marine and Coastal Community Network |
| NatCASS | National Coordinating Group for Acid Sulfate Soils |
| NGO | Non Government Organisation |
| NHT | Natural Heritage Trust |
| NIMPCG | National Introduced Marine Pests Coordination Group |
| NRM | Natural Resource Management |
| NSW SIC | NSW Seafood Industry Council |
| PIRVic | Primary Industries Research Victoria |
| QDPI&F | Queensland Department of Primary Industries and Fisheries |
| QSIA | Queensland Seafood Industry Association |
| SAFIC | South Australia Fishing Industry Council |
| SARDI | South Australia Research and Development Institute |
| SEO | SeaNet Extension Officer |
| SETF | South East Trawl Fishery |
| SETFIA | South East Trawl Fishing Industry Association |
| SIV | Seafood Industry Victoria |
| SWTBF | Southern and Western Tuna and Billfish Fishery |
| TED | Turtle Exclusion Device |
| VBIFA | Victorian Bay and Inlet Fisheries Association |
| VFLO | Volunteer Fisheries Liaison Officer |

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| WAFIC | Western Australia Fishing Industry Council |
| WRLC | Western Rock Lobster Council |
| WRLMF | Western Rock Lobster Managed Fishery |