



SMARTER FISHING FOR INDUSTRY

# *Celebrating 10 years of Working in Partnership with industry for a better environment*



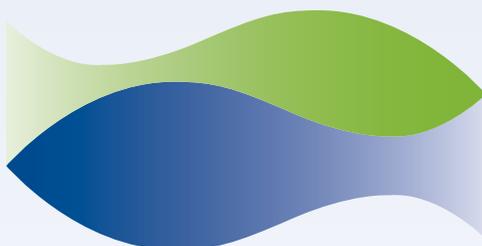
SeaNet, established by OceanWatch Australia in 1999, is a unique Australian network of fisheries conservation experts that provides an environmental extension service to the Australian fishing and seafood industry.

SeaNet extension officers work tirelessly to improve the industry's responsible fishing credentials and improve on-ground marine conservation biodiversity and best practice outcomes.

Over the last 10 years, this national extension program has assisted the Australian Seafood industry to adopt environmentally sustainable practices while remaining competitive.

*'SeaNet provides an important bridge between the seafood industry and the community through its promotion of environmental stewardship.'*

Chris Smyth, Healthy Oceans Campaigner  
Australian Conservation Foundation



**OCEANWATCH**  
AUSTRALIA

## **Celebrating SeaNet's ten years of achievement**

SeaNet officers work all over Australia in most of the 135 or so Australian fisheries.

In the last ten years they have worked face to face with about 7,000 Australian wildcatch fishers and many others in the industry. This represents about 40% of all commercial fishers; including 68% who fish in Commonwealth fisheries (ABARE Report).

Successes include:

- major reductions in accidental capture and by-catch of marine turtles, seals and sea lions, sea snakes, sea birds, dugong, whales, dolphins and sharks, whilst assisting industry to remain internationally competitive
- the development and adoption of fishery specific Environmental Management Systems, Codes of Practice and Codes of Conduct in many fisheries around Australia.
- industry member participation in hands-on workshops and sea trials of new measures and gear as well as cooperatively producing best practice technical guides and handbooks
- working in partnership with researchers, government agencies and industry associations – implementing new policies, regulations, guidelines, improved practices and new technologies
- major beach and coastal clean-ups with the collaboration of industry members
- good working relationships with fishers, industry councils, associations and cooperatives as well as environmental and community groups around Australia
- winning national and international awards for ground-breaking work.

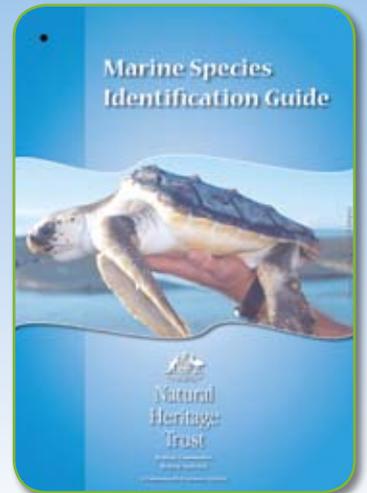
These figures are quite impressive considering that OceanWatch Australia employs only seven to eight SeaNet extension officers.



## Biodiversity Conservation in Action

SeaNet prides itself on its ability to assist in the development and adoption of innovative fishing technologies and by-catch reduction devices (BRDs) to improve environmental performance, the adoption of Codes of Practice and environmental management systems.

SeaNet also produced the *Protected Marine Species Identification Guide* and plays a critical role in reducing fishing interactions with species listed as Threatened or Migratory under the EPBC Act 1999 and assisting with the on-ground implementation of *Threat Abatement Plans* and *Recovery Plans*. Some examples include:



- **Marine turtles** – The introduction and uptake of turtle excluder devices (TED) in the Northern Prawn Fishery (prior to them being regulated), the new 'turtle smart crab pot' for fisheries in Qld, the introduction of deep setting techniques to reduce interactions, use of circle hooks and dehookers and line cutters for quick release, as well as handling training;
- **Whales and dolphins** – introduction of underwater acoustic alarms in net fisheries to reduce interactions/entanglement with dolphins, codes of practice to reduce whale entanglement and associated training for fishers in lobster and pearl fisheries in WA and the NT;
- **Seals and Sea Lions** – the introduction of seal excluders in lobster fisheries in Vic, SA and WA;
- **Sea snakes** – 85% reduction of sea snake by-catch in Northern Prawn Fishery and 62% for east coast Qld trawl fishery through innovative BRDs;
- **Sea birds** – dramatic reductions in sea bird capture in the eastern and western tuna and billfish longline fisheries through the introduction of innovative devices (eg Tori lines and bait shutes) and changes to fishing practices;
- **Dugong** – development and uptake of Code of Practice;
- **Sharks** – introduction of dehookers and the use of shark deterrents, the use of circle hooks in tuna longline fisheries and the use of excluder devices in trawl fisheries;
- **Preserving native habitats** – working with fishers nation wide to protect habitat through the rollout of the national marine pest system and through adoption of codes of practice to improve water quality and reduce plastic and other waste;
- **Meeting by-catch targets** – assisting AFMA in the delivery of by-catch reduction targets and actions to address EPBC export permit conditions in Commonwealth fisheries;
- **Reducing Tilapia** – Use of new technology for removal of tilapia.

***'SeaNet finds, adopts and implements practical solutions that are good for fishing and good for the environment'***

Geoff Blackburn, commercial fisher, Chairman NSW Fishermen's Co-operatives Association

***'In the long term, economic sustainability depends on ecological sustainability'***

Pew Oceans Report, 2003

## Biodiversity Conservation in Action – reducing by-catch by 78% and protecting turtles

**PROJECT:** Trialing / Demonstration: Square Mesh Codends and turtle exclusion devices in the Queensland Trawl Fishery

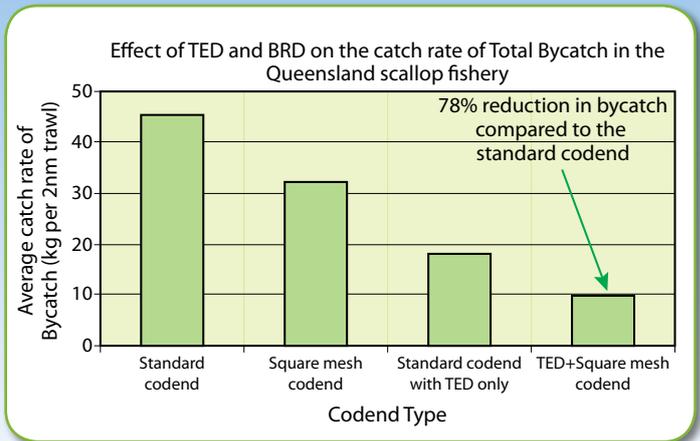
**PARTNERS:** FRDC, Queensland Seafood Industry Association (QSIA), Ecofish, Nth Queensland Trawl Fishery

**LOCATION:** Cairns



The extension project implemented by SeaNet Queensland showed trawler operators and net makers the benefits of using square mesh codends and turtle exclusion devices (TED).

The FRDC funded project was 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.



*Bycatch was reduced by 78% when the square mesh codend and TED were installed in the same net.*

The demonstrations showed that square mesh codends are very effective at reducing bycatch and regulating the size of target species. When the square mesh codends were used with a turtle exclusion device (TED), bycatch was reduced by 78%.

The SeaNet extension service constructed several square mesh codends for prawn and scallop fisheries so that they can be made available for trialing by fishers, free of charge, before purchase and arranged production of TEDs with Popeye Netmakers.

***'SeaNet extension officers are effective change managers'***

*Brad Warren, Executive chair, OWA*

## Biodiversity Conservation in Action – Reducing Whale Entanglements Code of Practice (DVD)

**PROJECT:** Code of Practice for Reducing Whale Entanglements and DVD

**PARTNERS:** Department of Environment and Conservation, Western Rock Lobster Council and OceanWatch Australia

**LOCATION:** West Coast Rock Lobster Managed Fishery



*New codes prevent these entanglements*

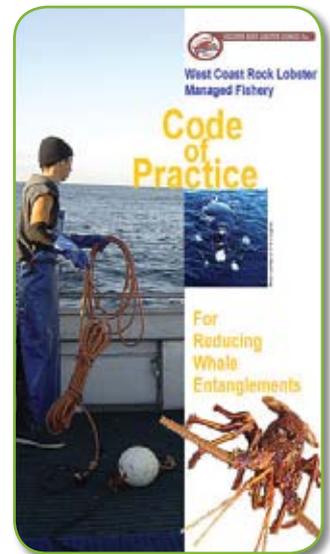
The West Coast Rock Lobster Managed Fishery Code of Practice for Reducing Whale Entanglements DVD was completed in June 2007.

The DVD was produced through collaboration with the Department of Environment and Conservation (DEC), Western Rock Lobster Council and SeaNet targeting all West Coast Rock Lobster Managed Fishery Licensees.

The DVD was designed to promote the Code of Practice and explains how to prevent entanglements as well as what commercial fishers should do if they come across an entangled whale.

Whale entanglements present complex and dangerous situations that require specialist skills and training if the whale is to be released safely and unharmed.

The positive impact of this SeaNet Code of Practice and DVD project is clearly evident; in 2008 there were no whale entanglements.



***'The Department of Environment and Conservation (DEC) has worked closely with the Western Australian SeaNet Extension Service to develop a Code of Practice for Reducing Whale Entanglements.'***

***A reduction in whale entanglements qualifies the need to maintain long-term cooperation between the SeaNet Extension Service and DEC, working towards the ongoing preservation of iconic marine mammals'***

*Douglas Coughran, Senior Wildlife Officer, Department of Environment and Conservation, Western Australia*



## Protecting biodiversity and threatened species

- Development, trialing and adoption of new technologies and take-up
- Development of guidelines for Introduced Marine Pest prevention in all fisheries
- New deep setting techniques in tuna and billfish fisheries around Australia
- New standard tori lines in tuna and billfish fisheries around Australia
- Adoption, trial and take-up of square mesh codends
- T90 codends in South-Eastern Trawl Fishery (NSW, Tas, SA)
- Turtle exclusion devices
- New shallow water gillnet
- Acoustic alarms in Nth Qld fisheries
- Circle hooks in tuna and billfish fisheries and other fisheries around Australia
- Method for reducing plastics
- Seal Excluders in Rock lobster pots
- Popeye fishbox by-catch reduction device, Northern Prawn fishery
- Ghost net removal in the Gulf of Carpentaria
- Bio-security tool kit for Abalone divers
- Fish oil as Sea bird deterrent

## Coastal and beach clean-ups and gear recovery with industry

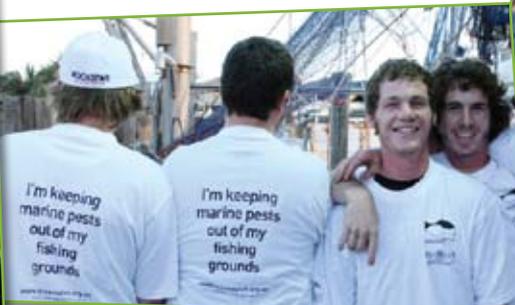
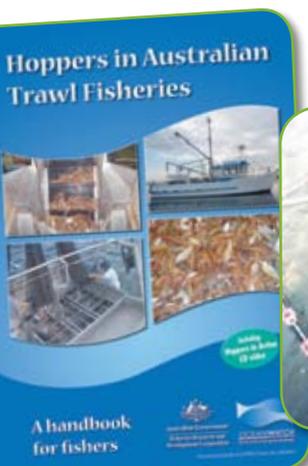
- Dirk Hartog Island clean-up
- SA Net Fishers clean-up of Parham Reef
- Marine rubbish collections from motherships
- Oyster basket recovery and recycling process
- Oyster infrastructure clean-up
- Collection and recycling fishing net and line
- Car removal program in Spencer Gulf
- Abrolhos Islands clean-up
- Coronation Beach to Bowes River clean-up
- WA Cape to Cape clean-up
- York Peninsula clean-up

## Communications, training, mentoring, workshops and hand-books

- Organised training sessions and workshops with fishers around Australia
- Marine pest prevention guidelines – national rollout to all fisheries
- Sea turtle mitigation workshops
- Face-to-face meetings, information / education on wharfs, with coop's and fishermen
- De-hooking threatened species training
- Displays at Seafood Directions, seafood industry events/festivals around Australia
- Protected Species Handling Manual
- Hoppers and hopper handbook
- Sawfish Identification Guide
- By-catch reduction device workshops for trawl fisheries
- Prawn Trawl Fishers Mentoring programs (Moreton Bay, Spencer Gulf and West Coast)
- Turtle education programs and fisher training in deployment of turtle satellite tracking devices
- Implement actions required by Environment Protection and Biodiversity Conservation Act 1999
- Monofilament Recycling education program and brochure
- Sea bird education workshops

***'FRDC recognises the critical importance of extension as an integral part of the R&D function. At the end of the day it is about changing people's behaviour, and that is the essence of SeaNet'***

Peter Neville Chair, FRDC



The OceanWatch Australia SeaNet officers work all over Australia in most Australian fisheries. Some achievements in environmental management include the examples below.



### Development/adoption/extension and revision of Environment Management Systems

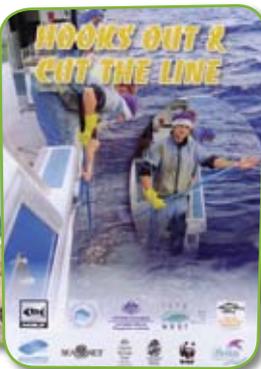
- Gulf of Carpentaria fishers
- Tropical Rock Lobster Fishers (QLD)
- Aquarium Fish Collectors
- Estuary-General Fishers in NSW
- South Coast Estuarine Managed Fishery (NSW)
- Oyster growers in NSW – Manning River, Wallis Lake, Wonboyn Lake, Currembene, Clyde River, Pambula and Conjola Lakes
- South Coast Cockerle Fishery (NSW)
- Crowdy Head ocean trap and line fishers (NSW)
- EMS Pathways – inshore Haul Net Fishers – SA and Vic
- EMS extension in Marine Scalegfish Fishery (SA)
- Victorian Bay and Inlet Fisheries Association
- Wide Bay Burnett Great Sandy region (in conjunction with QSIA)
- QLD Crab (in conjunction with MBSIA)
- Mandurah Licensed Fishermen's Association EMS
- South Coast Licensed Fishermen's Association CoP and EMS

### Development and take up of Codes of Practice/ Code of Conduct

- Whale entanglements prevention CoP and DVD
- Industry Code of Practice for responsible fishing
- Sea lion and seal interaction CoP
- Coral Reef line fishery CoC
- Crab Fishery CoC
- Cape Grafton to Cardwell Inshore Mesh fishery CoC
- Rock Lobster Fishers CoP
- Scallop CoP
- Abalone Fishery CoP
- Southern Squid Jig Fishery CoP
- Port Phillip and Westernport Bay CoP
- Marina and vessel management CoP
- Correct handling of material on wharf facilities CoP
- Northern Shark Fisheries CoP
- South Coast Purse Seine CoP
- Victoria Abalone Divers Association CoP
- Cockerle CoP
- Eastern Tuna and Billfish CoP
- Western Tuna CoP
- Western Tuna Deck Manual ( Deckies CoP)
- Tasmanian Scallop Fishery CoP
- Commercial Divers CoP
- Danish Seine CoP

### Studies, surveys, monitoring, trials

- The *By-catch Reduction Device* Library – lending service for testing and trialing of new gear by fishers
- Net fishers survey SA
- Addressing localised depletion of Razor fish in Streaky Bay
- Marine turtle satellite tracking project
- Maximising the survival of by-catch release for fishing gear
- Study of Eastern garfish
- Rotated mesh panel (T90) for Trawl fishery by-catch reduction trials
- Danish Seine mesh selectivity trials (Vic and NSW)
- Beach Seine mesh trial
- Lakes and Coorong fishery by-catch study
- Circle hooks effectiveness trials
- Waste production studies
- Trap trials – Lake Argyle
- Identifying and reporting sawfish interactions (WA)
- Evaluation for whale acoustic alarms / mitigation devices
- Towed acoustic array (Qld)
- CSIRO sampling program
- Barnes Hook trials with tropical fish
- Trials of 98gm Swivel for sea bird mitigation
- Evaluation of hoppers for by-catch reduction
- Marine Mammal Tracking
- De-hooker and line-cutter trials
- Acoustic modification of Tilapia behaviour



Trained and equipped to reduce the impact of marine pests in our fishing grounds



## Biodiversity Conservation in Action

**PROJECT:** Developing and trialing Turtle-Smart Crab Pot

**PARTNERS:** Commercial fishers of Moreton Bay

**LOCATION:** Morton Bay



This case study is a key example of environmental stewardship in action; fishermen pro-actively searching for and finding solutions to environmental concerns and then encouraging take-up of the new technology in other fisheries.

SeaNet supported the concerns of commercial fishers in Moreton Bay to protect marine turtles and find a way to reduce turtle interactions with crab pots.

Their concerns about turtle interactions with the pots, led Bruce Sutton, one of the members of the Moreton Bay fishers, to the solution. His simple and effective modification to the crab pot design was found to keep turtles out but maintain the pot's effectiveness for catching crabs.

Following this success, the Moreton Bay fishermen wanted to trial the modified crab pot to prove its effectiveness and ultimately encourage take-up of this new gear by all crab-pot fishers around Australia.

*'The fishers knew the pots worked but they wanted it to be statistically tested to demonstrate this to all crab pot fishers, both commercial and recreational.'*

Michael Wooden, SeaNet

## Biodiversity Conservation in Action

**PROJECT:** Removal of marine and other debris from beaches along isolated stretches of the WA coast

**PARTNERS:** Western Australian professional fishing industry

**LOCATION:** Dirk Hartog Island, Shark Bay



The Western Australian professional fishing industry with the help of the SeaNet Officer undertook several coordinated efforts to remove marine debris from beaches along isolated stretches of the WA coast, the first was on Dirk Hartog Island.

The clean-up of debris, which had accumulated over many years, was a combination of commercial and recreational fishing gear and domestically generated rubbish.

Since July 2005, SeaNet WA has conducted and facilitated professional fisher involvement in four cleanups:

- Dirk Hartog Island mystery beach (1372 Kgs + 666 floats for recycling),
- The Easter group of the Houtman Abrolhos Islands (30 cubic meters),
- The Cape to Cape cleanup (13 large bags – 200kg), and
- Coronation Beach to Bowes River (187 large bags).

The Dirk Hartog Island project was a great success, the SeaNet Officer and members of the Lobster Fishery were awarded the *Community Stewardship Award* by the Minister for Fisheries and Department of Fisheries Reward and Recognition Program.

*'The removal of debris from these places is a direct industry response and contribution to environmental stewardship'*

Anna Cronin – CEO WAFIC and Chair NSIA

## Biodiversity Conservation in Action

**PROJECT:** Beach Haul Project – Beach Seine net testing

**PARTNERS:** FRDC

**LOCATION:** South West Rocks Beach Haul Project, NSW



*Undersize fish escaping from new net size*



The SeaNet officers met with the members of the beach haul crew to resolve the fishermen's concerns over the capture of undersized bream in their gear.

With FRDC funding, SeaNet organised the trial of different mesh sizes, and net configurations.

The trial involved applying for permits, making the new gear, collecting the data, and writing up the research reports with successful outcomes.

Management regulations have now changed to allow the fishermen to use the new more selective gear, that greatly reduces catches of undersized fish.

*'SeaNet is the Landcare equivalent for Australia's marine environment'*

Brad Warren, Executive chair, OWA



**Michael Wooden –  
SeaNet Extension Officer,  
New South Wales**

- Bachelor of Science degree (Fisheries Management and Aquaculture) and Masters degree (UNE, National Marine Science Centre)



**Neil Macguffie –  
SeaNet Extension Officer,  
Western Australia**

- Bachelor of Science in Marine Biology and Masters in Living Marine Resources (Australian Maritime College)



**Nathan Bicknell –  
SeaNet Extension Officer,  
South Australia**

- Bachelor degree in Fisheries and Aquaculture management. From a Pt Lincoln fishing family
- Worked with AFMA as Fisheries Observer onboard Commonwealth vessels throughout Australian and international waters



**Dave Kreutz –  
SeaNet Extension Officer,  
Southern Queensland**

- Professional fisher since 1990 in NSW offshore and estuary fisheries and a skipper in the Eastern Tuna and Billfish Fishery (ETBF) around Australia
- Involved with Threat Abatement Plans, Pelagic Working Groups and underwater setting chute programs



**Tim Liebelt –  
SeaNet Extension Officer,  
Victoria**

- Bachelor Natural Resource Management from Adelaide University and a Diploma in Seafood Industry



**Fiona Ewing –  
SeaNet Extension Officer,  
Tasmania**

- Bachelor of Science from the University of NSW and a Post Grad Diploma of Fisheries Technology (Australian Maritime College)
- 15 years experience working in various Commonwealth and Tasmanian fisheries and AFMA as a foreign observer



**Denis Ballam –  
SeaNet Team Leader  
Far North Queensland**

- 17 years within the seafood industry with seven years as an owner operator within the Queensland East Coast Trawl based in Cairns
- He has worked as a SeaNet officer for ten years building an extensive network within Queensland and has had many successes introducing new technologies



**Lyn Lambeth –  
SeaNet Extension Officer,  
Northern Territory**

- Fisheries science degree (Australian Maritime College)
- Owner-operator in various fisheries and worked extensively with small-scale fisheries throughout the Pacific before returning to Australia

### Major awards

- WA Department of Fisheries Community Stewardship Award (2006)
- Australian Seafood Industry Environment Award (2005)
- SA Australian Seafood Industry Future Environment Award (2005)
- United Nations Association of Australia World Environment Day Award for Excellence in Marine and Coastal Management (2005)
- Honourable Mention in the first WWF SmartGear International Competition (USA) – SeaNet Qld entry of the Popeye fish excluder for use in prawn fisheries (2005)
- RiverCare 2000 Award – SILVER AWARD, Tertiary Industry – Ocean Watch Commercial Fisheries Project

***'SeaNet is the only full time, professional extension service operating within the Australian seafood industry'***

Peter Dundas-Smith, Chair, Australian Seafood CRC

# SeaNet – 10 years of working in partnership around Australia

## National Partners and Committees

Department of Agriculture, Fisheries and Forestry  
Department of Environment, Water, Heritage and the Arts  
Fisheries Research and Development Corporation (FRDC).  
Australian Fisheries Management Authority (AFMA)  
National Introduced Marine Pest Coordination Group (NIMPCG)  
National Coastal Acid Sulphate Soil Committee  
National Shark Recovery Group  
National Turtle Recovery Group

### Research partners

FRDC  
CSIRO Marine Laboratories – Fisheries Division  
Victoria Department of Primary Industries  
SA Research and Development Institute (SARDI)  
Qld Dept of Primary Industries and Fisheries  
NSW Dept of Primary Industries

### National SeaNet Steering Committee

Katherine Sarneckis, CEO Northern Territory Seafood Council  
Winston Harris, CEO Queensland Seafood Industry Association  
Brad Warren, Executive Chair, OceanWatch Australia

Ross McGowan, CEO, Seafood Industry Victoria  
Grahame Turk, Chairman, NSW Seafood Industry Council  
Chris Melham, CEO, Commonwealth Fisheries Association  
Neil MacDonald, CEO, Wildcatch Fisheries SA  
Neil Stump, Executive Director, Tasmanian Seafood Industry Association  
Felicity Horn, EO, Western Australia Fishing Industry Association  
Patrick Hone, Executive Director, FRDC  
Ted Loveday, Director, Seafood Services Australia



*'It's not the strongest species that survive, nor the most intelligent, but the ones more responsive to change'*

Charles Darwin



## SeaNet Extension Service – Reference Groups

### Queensland

Neil Gribble – Queensland Department of Primary Industries (research partner)  
Jim Newman – Commercial Trawl Fisherman  
Bruce Batch – Queensland Seafood Industry Association, Net delegate for Cairns region

### New South Wales

Geoff Blackburn – NSW Co-ops Association Chair  
David Mitchell – NSW SIAC/ R7 OHMAC  
Darren Reynolds – NSW DPI Senior Fisheries Manager  
Paul Bagnato – S-E Trawl Fisherman, Sydney

### Victoria

Steven Nathan – Rock Lobster Fisher, Portland  
Dale Sumner – General Manager LEFCOL

Ross McGowan – Executive Director, Seafood Industry Victoria  
Bill Lussier – Department Primary Industries  
Tim Allan – Caring for our Country Facilitator, Victoria

### Northern Territory

Katherine Sarneckis – CEO, Northern Territory Seafood Council  
Nigel Weston – NRM Board NT  
Chris Calogeras – C-Aid Consultants  
Jethro Gill – Offshore Fisheries

### Western Australia

Felicity Horn – Western Australian Fishing Industry Council  
Brett McCallum – Executive Officer, Pearl Producers Association

Nathan Harrison – WADF  
Nic Dunlop – Conservation Council of WA

### South Australia

Neil MacDonald – CEO, Wildcatch Fisheries SA  
Tony Flaherty – Mount Lofty & Adelaide Ranges NRM Group  
Denis Holder/Karen Holder – Council Member and for the Pot Fishers Association of SA/WSIN

### Tasmania

Neil Stump – CEO, Tasmanian Seafood Industry Council  
Andrew Sullivan – Principal Fisheries Management Officer, Fisheries (Scalefish)  
Dr Philippe Ziegler – Research Fellow (Resource Modelling), TAFI

## Working in partnership – Stakeholder engagement

Every year the SeaNet Extension Service engages with a wide range of stakeholders through shared interests or partnering on agreed projects. Over the last ten years SeaNet has worked with:

Department of Agriculture, Fisheries and Forestry  
Department of Environment, Water, Heritage and the Arts  
All state and NT departments of primary industry and fisheries  
Key Coastal CMAs and NRM Groups around Australia  
AFMA  
Australian Antarctic Division  
Australian Maritime College  
Bureau of Rural Science  
CSIRO Marine Laboratories – Fisheries Division  
FRDC and Reef Health Advisory Group  
Great Barrier Reef Marine Park Authority and Cairns Local Management Advisory Committee  
Coastcare  
Threat Abatement Working Group  
NOAA Fisheries

NSW Seafood Industry Council  
NSW Fishermen's' Coop Association  
Master Fish Merchants' Association  
Sydney Fish Market  
Gulf of Carpentaria Ghost Net Steering Committee  
NT Seafood Council  
Commonwealth Fisheries Association  
National Introduced Marine Pest Coordination Group (NIMPCG)  
National Landcare Program  
Project Aware  
Queensland Seafood Industry Association / ECOfish  
Seafood Industry Victoria  
Seafood Services Australia  
Wildcatch Fisheries SA (South Australia Fishing Industry Council)

South Australia Research and Development Institute  
Tasmanian Seafood Industry Council  
Western Australia Fishing Industry Council  
Western Pacific Fisheries Management Council  
Western Rock Lobster Council  
WWF  
Marine and Coastal Community Network



*This project is supported by OceanWatch Australia, through funding from the Australian Government's Caring for our Country.*