SEANET

smarter fishing for industry

Bounty Of The Sea

In late February early March, Forster/Tuncurry proudly hosted their Bounty of the Sea Festival, an annual event that promotes local art and music, local business, and of course locally caught and produced seafood and wine. Community walks, art displays and restaurant specials were all part of the event with the highlight being the festival day at John Wright Park on the bank of Wallis Lake.

As a way of promoting Ocean Watch and SeaNet and our role in the local fishing industry, Dave Kreutz (SeaNet ETBF) and Dave Cranston (SeaNet NSW) took along the SeaNet display trailer.

The SeaNet/Ocean Watch display trailer at the Bounty of the Sea Festival

The day was a great success with over 1500 people attending. Because of the association with the Sydney Fish Markets, the SeaNet trailer was parked alongside their marquee where they gave free cooking demonstrations of fresh local seafood donated by the Wallis Lake Fishermen's Co-operative. Around 500 people enjoyed watching and tasting as expert seafood chefs prepared local product into gourmet dishes.

Interest arose on some of the trailer's display items before the festival started, as local fishermen and Wallis Lake Co-op representatives arrived. The trailer was set up with reference to local fishing industries and attending the festival gave Dave Kreutz and Dave Cranston the chance to communicate with a large cross section of people and SeaNet's role in promoting sustainable commercial fishing. Education is a vital part of improving the public perception/misconceptions about commercial fishing operations, and events such as this go a long way to changing attitudes and building support for local co-op's.

The next trailer outing is the 9th-10th of April at Killcare Beach on the Central Coast. The event is a Community Environmental Education Project focussing on the marine environment.

For more information contact Dave Cranston (SeaNet NSW) on: (02) 6559 2875, 0427 592 875 or at: davec@oceanwatch.org.au.

SmartGear Competition

The first international SmartGear bycatch competition was held in Annapolis Maryland, USA on February 17th and 18th. The competition, run by WWF, invited entries from around the world on innovative and effective bycatch mitigation methods and technologies. Emma Bradshaw, SeaNet's Program Manager was invited to join a panel of 15 international judges for the 55 entries from 16 countries in three categories - cetaceans, turtles and "other".

The first round of judging considered each design proposal using the following criteria and a finalist selected from each category:

- Is the fishing gear or technology described in the design proposal innovative and original?
- How well will it increase the selectivity for target fish species?
- How well will it reduce bycatch of non-target fish and other species?
- How well will it allow fishermen to maintain or increase profitable fishing of target species?

SmartGear Judging Panel - Back row left to right:
Glen Blackwood – Centre for Sustainable Aquatic Resources; Tim Werner New England Aquarium, USA (non judging); Charlotte Mogensen WWF European Policy Office, Belgium; John Watson – NOAA, USA (non judging); Daniela Kalikoski – Federal University of Rio Grande, Brazil; Pam Yochem – Hubbs Seaworld Research Institute, USA; Martin Hall – Inter American Tropical Tuna Commission, USA; Tom Grasso – Director of Marine Conservation Policy (WWF) (non judging); Erika Zollett, University of New Hampshire; Jessica Geubtner – American Fisheries Society, USA; Sarah Janicke - WWF Media Officer (non judging).

Front row left to right:
Scott Kraus – New England Aquarium, USA (Chair); Karen Baragona WWF Deputy Director, Species Conservation Program (non judging), USA; Andrew Revill – Centre for Environment, Fisheries and Aquaculture Science, UK; Moises Mug, WWF Fisheries Officer for Latin America and the Caribbean; Bundit Chokesanguan – Southeast Asian Fisheries Development Centre, Thailand; Malcolm McNeill – Sealord Group, New Zealand; Emma Bradshaw – SeaNet, Australia; Wilfried Thiele – FAO, Italy; Ole Misund – Institute of Marine Research, Norway.

The three winning entries were further evaluated to determine the grand prize winner by assessing:

- If the fishing gear or technology described in the design proposal is innovative and original?
- How well it increases the selectivity for target fish species?
- How well will it reduce bycatch of non-target fish and other species?
- How well will it allow fishermen to maintain or increase profitable fishing of target species?
- Could the fishing gear or technology described in the design proposal actually be developed?
- How easy is it to use?
- How practical and cost-effective will it be?

The grand prize winner was awarded USD$25,000 and each first prize winner USD$5,000. A number of non-prize winning entries which showed particular promise were awarded Honourable Mentions, including Denis Ballam's (SeaNet QLD) entry of the Popeye fish excluder for use in prawn trawl fisheries (see Sept 04 issue of SeaNet News).

WWF USA is currently exploring the next steps to promote the winnng entries and potential collaborations which might be developed between the winners and the Smart Gear judges and their organisations. It is also expected that funding for trials and other follow-up activities will soon be made available.

WWF USA will be make an official announcement on April 21st of the winning entries and Honourable Mentions. The three winning entrants being flown to WWF in Washington D.C. for prize presentation and media events. SeaNet News will distribute a special edition following the official announcement, covering the winning entries and honourable mentions.

For more information contact Emma Bradshaw on: (07) 5514 6021/0416 031 402 or at: ebradshaw@oceanwatch.org.au.

EMS in ACTION
Moreton Bay to Spencer Gulf

SeaNet has secured funds via Seafood Services Australia's, Industry Support Mentor Program, an initiative of the EMS Pathways for the Seafood Industry Project funded by Natural Heritage Trust to fly four Moreton Bay trawl fishers to Spencer Gulf as guests of the Spencer Gulf and West Coast Prawn Fisherman's Association Inc. They will spend 10 days in South Australia and approximately six days fishing, to witness the real time management practiced by the trawl fishers in their day to day fishing operations and the stock assessment surveys conducted by SARDI.

At the National Prawn Industry Conference in Cairns (Nov/Dec 2004), a paper was delivered by Greg Palmer from the Spencers Gulf Prawn Fishery. It outlined the real time management that allows the fleet to work at very fine detail to tune harvest strategies on an hourly basis if required. The "committee-at-sea" concept of complete cooperation within the trawl sector was very impressive.

As both Moreton Bay and Spencers Gulf trawl fisheries are participating in the EMS case study project and Moreton Bay is now a closed fishery, there appeared to be an opportunity for a

Spencer Gulf Trawl Fleet

technology transfer through the mentoring process, with the Spencers Gulf fishers demonstrating in real time to the Moreton Bay fishers how they achieved a high level of cooperation and economic efficiency.

This demonstration should be inspirational for the Moreton Bay fishers as they start to manage their closed fishery. After discussing the idea with both parties and gaining enthusiastic support, SeaNet requested funding assistance from SSA.

The objectives of this visit are to give Moreton Bay trawl fishers the experience of "at sea real time management", as practiced by the Spencer gulf trawl fishers and to demonstrate what can be achieved by co-operation at a co-managed fisheries level. It also utilises the synergy between both groups and their EMS development and enhances the continuous improvement process for the Moreton Bay fishers.

Contact Denis Ballam (SeaNet QLD) on: 0403 065 723 or at: burbrook@bigpond.com.

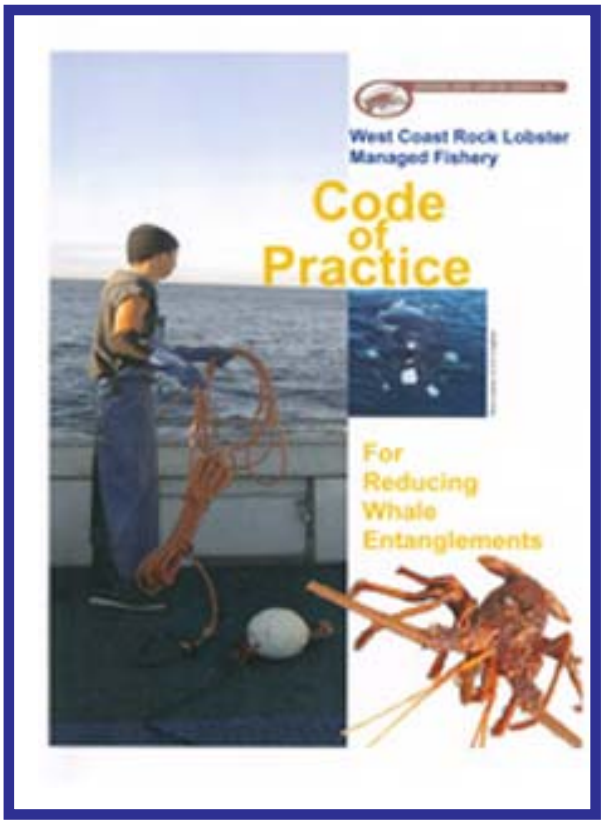
Fishing and Whales

Entanglement of marine mammals with fishing gear is a problem and internationally may be a serious threat to some cetacean species, particularly those that are endangered. The causes of entanglement in Australia are varied, but records of the types of materials involved include fishing nets, shark nets, pot rope used for attachment of lobster and crab pots to surface floats, aquaculture equipment and monofilament fishing line. Wildlife managers believe that the likelihood of further entanglements occurring in Australia will increase in line with whale numbers.

The scale of the entanglement problem varies from state to state. In Western Australia, a total of 33 whale entanglements between 1990 and 2004 have been recorded. Twenty three of these entanglements (Humpback Whales) have involved lobster pot lines.

The Western Rock Lobster Council Inc, and its fishers are working closely with the Department of Conservation and Land Management (CALM) and SeaNet to produce guidelines that will assist fishermen to respond effectively if an entanglement occurs. *The Western Rocklobster Managed Fishery, Code of Practice for Reducing Whale Entanglements,* is designed to equip fishers with details on recognised techniques developed for disentanglement procedures.

"This is a global issue not restricted to the Western Australian coast and the ultimate answer is to never have large whales entangled in fishing gear, but the reality is there will always be a high probability of entanglements with whale populations recovering and fishing effort in migratory path ways. This positive initiative to establish a code of practice for reducing whale entanglements by the industry will go a long way towards reducing that probability. A pro-active co-operative approach to meet the challenge leads the way towards a positive outcome for whales and the industry," Senior Wildlife Officer for CALM, Doug Coughran.



The Department of Conservation and Land Management is dealing with entanglement through the 'kegging' technique in use by Conservation Officers in Western Australia for several years. This technique was developed by the Centre for Coastal Studies in eastern USA.

The disentanglement training program provides a standard operating procedure for attaching long lines and heavy buoys to the whale to slow it down, tire it out and keep it on the surface, allowing trained personnel to approach more safely and attempt to remove the entanglement completely.

The entanglement is cut away using specialised knives attached to long poles. It is important to remove the rope not just free the animal. This procedure is being adopted by all Australian state government agencies. The rescue operations are conducted according to a recognised response system used for emergency situations in Australia. Fishers are also encouraged to participate in future training programs.

The readiness, local knowledge and vessel handling skills of fishers are invaluable to disentanglement operations. However an entangled whale can present a very dangerous situation and fishers are not encouraged to attempt dissentanglement without the assistance of CALM.

Contact Carl Bevilacqua (SeaNet WA) on: (08) 9492 8811 or email: seanet@wafic.org.au.

VBIFA EMS

The Victorian Bay and Inlet Fisheries Association (VBIFA) will have its Environmental Management System (EMS) launched on the 6th April by the Minister for Agriculture the Hon. Robert Cameron (Victoria).

Fishers in Victorian bays and inlets are proud of their environmental performance, having modified their activities and fishing gear in response to environmental challenges, effectively addressing community concerns regarding bycatch and habitat impacts. The EMS aims to effectively communicate these and future successes and initiatives to stakeholders. VBIFA members feel they are in the best position to develop practical solutions and implement best practices that meet environmental needs and are effective for industry.

The EMS incorporates a process to review fishing practices and identify associated risks and impacts, devise actions to minimise these risks and impacts, and annually review performance of the EMS through a cycle of continual improvement. The VBIFA EMS is structured around two key principles:

1. Focus on prevention first, then mitigation when necessary; and
2. Promote cooperation between fishers and sharing of experience as essential tools to minimise risks.

SeaNet has been involved with the VBIFA EMS from its inception, initially generating interest in an EMS, facilitating the creation of VBIFA and appointment of the project officer to assist VBIFA, Dr Pascale Baelde.

The VBIFA EMS is one of six pilot EMSs as part of the Seafood EMS Pilot Project run by Seafood Services Australia and funded by the Natural Heritage Trust. The pilot project aims to learn from the development and implementation of EMSs in various fisheries and sectors around the country.

Contact Jim Newman (SeaNet Vic) on: (03) 9824 0744 or email: seanet@siv.com.au.

New Trap Designs Ready for Lake Argyle Cobbler

In conjunction with Tim McBride of Westrap Welding, Deane Spurge, Chair of the Lake Argyle Kimberley PFA Sub Committee and Carl Bevilacqua (SeaNet WA), four trap designs have been finalised and built for trial in the Lake Argyle Freshwater Catfish Fishery.

Drawing on Tim's vast knowledge of trap design, who builds and supplies most of the traps for the Northern Demersal Scalefish Managed Fishery, four different entry points have been developed. The traps are 1200mm x 1200mm x 700mm (approximately 1 cubic metre) with a 100mm outer mesh covering and escape grids incorporated to mitigate the potential of trapping nontarget species.

The trials are scheduled to begin late April where initially the four designs will be closely scrutinised to identify the most effective design/s to pursue and where necessary, make adjustments and improvements. The most effective designs identified will be selected for trials over the following two years.

Contact Carl Bevilacqua (SeaNet WA) on: (08) 9492 8811 or email: seanet@wafic.org.au.

Circle Hooks - For Better or Worse?

The SA Marine Scalefish fishers (MSF), the SA Fishing Industry Council (SAFIC) and SeaNet are well on the way to discovering the truth about circle hooks for commercial line fishing of SA species, such as snapper King George whiting.

With the help of the Department of Agriculture, Fisheries and Forestry's (DAFF) National Landcare Innovation Grants, the fishers will be trialing a range of circle hooks for use in the three line fishing sectors: bottom longline, floating longline and handline.

The objective of the project is too assess the effectiveness of circle hooks at catching and retaining fish, while reducing handling times and minimising injury to the hooked fish. Currently, circle hooks have limited uptake throughout the line fishery in SA, and it is hoped that if the results of the trial demonstrate that circle hooks are a better option, that there would be voluntary uptake of the gear through the best practice section of the industries environmental management system (EMS).

To date, the industry has been investigating which of the 1000 Mustad hook patterns would best work for the target species, taking into account minimum legal sizes, the various technical aspects of the operation, fishing location and bycatch normally encountered.

Many fishers have been using circle hooks on the bottom set longlines, and their contribution to the understanding of the hooks and deciding which hooks are worth trialing has been invaluable to the project.

The project has been designed in line with the national project looking at the survival of line caught fish. In this way, the results will be directly comparable and provide additional information from the commercial sector. The preliminary results from the national project, from Infofish, have also provided invaluable insights into the functionality of circle hooks.

The next phase of this project is to begin collection of the official field data. However, anecdotal information from participants will also provide an excellent opportunity to ascertain the effectiveness of these hooks compared to those hooks currently used.

For further information on the MSF Circle Hook Trial, contact Claire van der Geest, (SeaNet SA) on: 0429 984 323 or email: seanet3@safic.com.au.

South East Trawl Fishery Bycatch Reduction

SeaNet Victoria is continuing work with fishers in the South-East Trawl Fishery on reducing bycatch. This work is part of the FRDC funded project *FRDC 2001/006 Promoting industry uptake of gear modifications to reduce bycatch in the South-East and Great Australian Bight Trawl Fisheries.*

This project is facilitating the uptake of modified codends that reduce the bycatch of small fish, by promoting the benefits of reduced bycatch levels and assisting fishers to adopt larger mesh and square-mesh codends in their operations. Recent figures from logbooks suggest that about 40% of vessels in the fishery, contributing up to 60% of all fishing 'shots', are using modified codends of some description (AFMA Logbooks).

The majority of these vessels are using diamond mesh codends larger than the 90mm legal minimum. The larger meshes enable small non-commercial fish and juvenile commercial fish to swim through the codend and escape the net, thereby reducing the amount of small fish retained. The fishers benefit by retaining larger, better quality fish and reducing the amount of deck work necessary to sort the catch.

The use of square-mesh panels is also being adopted, though this method requires considerable experimentation to adapt the concept to the practices and gear of individual vessels. This approach is based on the principle that meshes are oriented to stay more open during the trawl, presenting an opportunity for smaller fish to escape. This method, however, presents some difficulties in locating the panel in the best position, difficult installation, and some wastage of materials. Fishers and netmakers have worked out some good solutions to these issues such as the rotated mesh concept.

Fishers have found that the benefits of square mesh can be achieved, while sidestepping the issues of awkward codend weight distribution, material wastage and difficult installation associated with square mesh. To achieve this, they have removed a panel of meshes from a diamond mesh codend, and stitched the same piece back into the gap, orientated across the lay of the rest of the codend. This panel is cut an appropriate size as extra meshes are needed lengthways to compensate for the resistance of the net material to stretch this way.

The result is a panel of meshes that are held open by the structure of the rest of the codend, but do not stretch in an awkward manner when bearing weight. These panels are easy to install and do not result in the waste of trimmed materials. This method is being deployed on a number of vessels to test its value in the fishery. One of the recent benefits of this modification is that it allows small grenadier, currently prevalent in the fishery to escape.

The location of these panels is an important aspect to their success. Fish behaviour studies have shown that different fish respond to trawl nets in different ways, which has implications for selectivity of trawl gear (Piasente *et. al.* 2004♦). In the codend, fish often show a response to escape through the upper panels, which has resulted in good bycatch reduction when positioning square mesh panels in the upper side of the codend.

A codend with a square-mesh panel to facilitate the escape of small fish. This design may be superseded/ improved upon by the rotated mesh concept being developed.

Fishers are now developing a range of modified gears to reduce the bycatch of small fish that specifically suit their operations and the target fish. Depending on the area or depth in which they are working, a number of different net configurations may be used. Furthermore, by using these modified gears, fishers can achieve better yields from larger, more valuable fish preferred by the markets.

Contact Jim Newman (SeaNet Vic) on: (03) 9824 0744 or email: seanet@siv.com.au.

♦Piasente, M., I. A. Knuckey, S. Eayrs and P. E. McShane (2004). In situ examination of the behaviour of fish in response to demersal trawl nets in an Australian trawl fishery. Marine and Freshwater Research 55(8): 825–835.

Fishing Line Recovery Project

SeaNet/Ocean Watch in association with the Noosa Integrated Catchment Association (NICA) and the University of Queensland have recently completed the fishing line recovery project. Twelve purpose made bins were installed at popular recreational fishing sites throughout the Noosa Shire for the collection of monofilament fishing line.

The four month trial was a success and as such, the project will continue and the number of bins expanded. Various councils and local authorities have shown interest in the project which will hopefully be adopted throughout the region.

For more information or a copy of the final report contact Emma Bradshaw on: (07) 5514 6021 or email: ebradshaw@oceanwatch.org.au.