

The Australian Seafood Industry: Extension and social licence

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Abstract. Improvements in efficiency and environmental performance often go hand in hand in commercial wild capture fisheries. In this paper extension techniques utilised by OceanWatch Australia's SeaNet program to aid transfer of knowledge and technology within the Australia seafood industry, and some lessons learned from the evolution of an extension network over a period of fourteen years are showcased. A case study discussing the extension outcomes of a Fisheries Research Development Corporation research project (Effectiveness of larger mesh size in reducing the capture of juvenile target species in select NSW beach seine operations) underscores the role of targeted extension in the prioritisation of end-users research needs and industry adoption of completed research leading to productivity and environmental gains. The case study highlights potential social licence benefits derived from extension of industry research outcomes to the local community, e.g. through an annual community awareness raising activity, the annual 'Loaves and Fishes BBQ'.

Keywords: social licence, SeaNet, Loaves and Fishes

Background

Gaining social license for the Australian seafood industry requires building and maintaining public trust that industry is doing the right thing environmentally and ethically, and living up to community expectations. In particular, Australia's commercial fisheries access publically owned resources, in publically owned areas and are often in direct competition with other stakeholders, including recreational fishers and the conservation sector. It is very important for the community to understand the social and economic value derived from the commercial fishing sector providing access to fresh local seafood, for industry to be able to continue to operate. In the absence of engagement with the community by the Australian seafood industry, the sustainability of the industry has been called into question through the use of information often misleading in the Australian context.

The recent 'super trawler issue' (ABC 2013) has demonstrated the dangers to the seafood industry of not proactively engaging with the community in an effort to promote, not only the science and fisheries management processes that underpin resource allocation decisions for the industry, but also the ethics and values of industry operators.

The Australian seafood industry has made unquestionable gains in the 21st century in the areas of fisheries management (Hilborn and Kearney 2012) and environmental stewardship at the seafood producer level (OceanWatch Australia 2010b). Australia's fisheries management is well regarded internationally, ranking 2nd of 53 countries for sustainability first management (Alder and Pauly 2008). Recent reports indicate that over 90% of the total catch of Australian fisheries come from stocks that have been assessed as sustainable, while just 3.5% of total catch come from overfished stocks (FRDC 2012).

Despite indicators of good management, sustainable stocks, and increasing environmental stewardship amongst commercial operators, a 2011 study (FRDC 2011) found just 27% of Australians believed commercial fishing is sustainable, unchanged from a similar 2003 study.

OceanWatch, Australia's SeaNet Program

OceanWatch Australia Ltd is a national not-for-profit environmental company that works to advance sustainability in the Australian seafood industry (OceanWatch Australia 2010a). OceanWatch's key activities involve:

- enhancing fish habitats and improving water quality in estuaries and coastal environments
- working with industry and local communities to minimise environmental impacts
- introducing industry and communities to sustainable technologies and behaviours.

To achieve these positive outcomes, OceanWatch Australia works in partnership with the Australian seafood industry, federal and state governments, natural resource managers, private enterprise and local communities. OceanWatch Australia's SeaNet program was established in 1999 to advance the sustainability of Australian fisheries and introduce conservation behaviours and new technologies to the industry. The SeaNet program is the only professional extension program operating within the Australian seafood industry. SeaNet's role is to:

- improve practices amongst fishers

- increase awareness and adoption amongst fishers of sustainable practices
- increase community understanding of sustainability of fisheries.

Over the past 14 years, the SeaNet program has facilitated many successes for the Australian seafood industry, including:

- major reductions in bycatch and accidental capture of species listed as threatened, endangered and protected (TEP) under the EPBC Act 1999
- development and adoption of fishery specific Environmental Management Systems, Codes of Practice and Codes of Conduct in many fisheries around Australia;
- industry participation in hands-on workshops and sea trials of new techniques and gear, and cooperative production of best-practice technical guides and handbooks;
- successful take-up of new technologies and gear by commercial fishers in various fisheries
- creating partnerships with researchers, government agencies and industry associations with a view to influence positive change to policies, regulations, guidelines, practices and technologies
- major clean-ups of beach and coastal areas with the collaboration of industry members
- development of effective working relationships between fishers, industry councils, and other marine stakeholders around Australia.

The SeaNet Program – reflections

Initially, SeaNet was created as an extension network to inform fishers of new techniques and technologies with a view to improve their environmental performance. Importantly however, after 14 years of SeaNet operations, it has become more apparent that extension can also be used to influence policy and management decisions by government and regulators. Most importantly for the seafood industry, extension is also a vehicle to engage the community in an effort to address the diminishing social licence that most Australian commercial fisheries are presently dealing with. Fishers are often more receptive to changing their practices for a productivity gain than for an environmental gain, although, there aren't too many fishers who don't see the link between a healthy marine environment and their financial viability. Changing practices for social gain, however, is now becoming more apparent to forward thinking industry leaders.

The most important principal OceanWatch operates under is that you can't have good extension outcomes without open engagement with your audience in an environment of trust. True engagement takes time to plan and execute and best practice extension requires networks that have been developed and matured over time, and is a long term investment. This trusted partnership aspect of extension is often overlooked. Extension, particularly within the public sector, is too often seen as a one way flow of information, a paternalistic view of information transfer. What this extension model communicates to the target audience is remoteness from the issue, a do things my way because I know best type scenario. When you are working with an industry full of people who problem solved on the run as part of their normal existence, credibility can be easily lost, whether warranted or not.

Many operators in the Australian wildcatch fishing sector emphasize that potential adoption of research outcomes should be a major initial driver for research investment. Adoption outcomes, the ultimate return on investment for industry, can only be achieved through targeted extension. In this context, extension officers can be a valuable tool to aid in the selection of appropriate research priorities, by engaging with industry and bringing forward potential projects to meet the end users research and development needs.

A role for extension in generating social licence?

Extension is about working with people in a community to facilitate change in an environment that has social, economic and technical complexity. Social licence is the need to work with and gain the approval and support of local communities and other stakeholders, and implies acceptance by the community (Lacey et al. 2012).

The Australian seafood industry's reliance on legislation, regulation and fisheries management processes to demonstrate sustainability to the community and critical stakeholders has been shown to have gained little traction in the quest for community acceptance of the Australian seafood industry, particularly for the wildcatch fishery sector (FRDC 2011). Gaining and maintaining social license means going further than just complying with legislation and regulation imposed on the industry. For industry to create a positive perception amongst the community, it can be argued that the industry needs to become more accessible, transparent, and prepared to explain its activities within the public domain. Increasingly, the seafood industry needs to build trust within the community based on sharing and displaying the ethics

and values of the industry, and underpin that trust with science and evidence, transparent management and industry practices.

The role of extension in the building of community trust can be in communicating the positive environmental and social outcomes of industry initiated research, and the explanation of the complex fisheries management processes that underpin the sustainability of the shared resource. The seafood industry's expression of their environmental stewardship can also be displayed through raising community awareness of the voluntary adoption, of Environmental Management Systems (EMS), Codes of Practice (CoP) and Codes of Conduct (CoC). Making details of the EMS or codes available within the public realm also increases transparency. While information regarding industry's sustainability and stewardship credentials is often available to those that search for it, it is only when that information is extended to the community on the community's terms that the full value of improvements in industry practice are realised from a social perspective.

Extending research outputs leading to diverse outcomes for multiple stakeholder groups

Case study – FRDC 2008/036 - Effectiveness of larger mesh size in reducing the capture of juvenile target species in select NSW beach seine operations

The aim of the 'Effectiveness of larger mesh size in reducing the capture of juvenile target species in select NSW beach seine operations' research project sponsored by the Fisheries Research and Development corporation (FRDC 2008) was to collect and present evidence to NSW Department of Primary Industries (NSW DPI) Ocean Haul fishery managers, underpinning a request by the catching sector for regulations to be modified in the NSW Ocean Haul fishery, allowing flexibility for fishers to use larger mesh sizes to reduce the potential capture of undersize target species in their hauls. The original aim of the research was to create a positive biological outcome, namely a reduction in the capture of undersized Bream and Tarwhine, leading to improved stock sustainability.

Beach seine nets can be set around a sighted school of fish, or in an area where fish are known to congregate. As shown in Figure 1, the net is set from a dinghy, with the first length of rope being set perpendicular to the shore, the net set parallel to the shore, and the second rope set back to the shore. The ropes are then hauled onto the beach evenly, by hand, four-wheel drive vehicle or tractor, herding the fish into the net. Hauling continues until the net and fish are dragged onto the shore, or the fish are concentrated in the bag. One of the factors limiting the ability of Ocean Haul fishers to only target fish above legal size limits is the selectivity of their gear. The species of schooling fish to be targeted are normally able to be identified by experienced spotters within the fishing crew, but the size of individual fish within the school are not always able to be determined until the fish are caught. The potential for mortality of undersized fish within a haul shot has implications from stock sustainability, and community acceptance perspectives, and has been a difficult issue for industry to address.

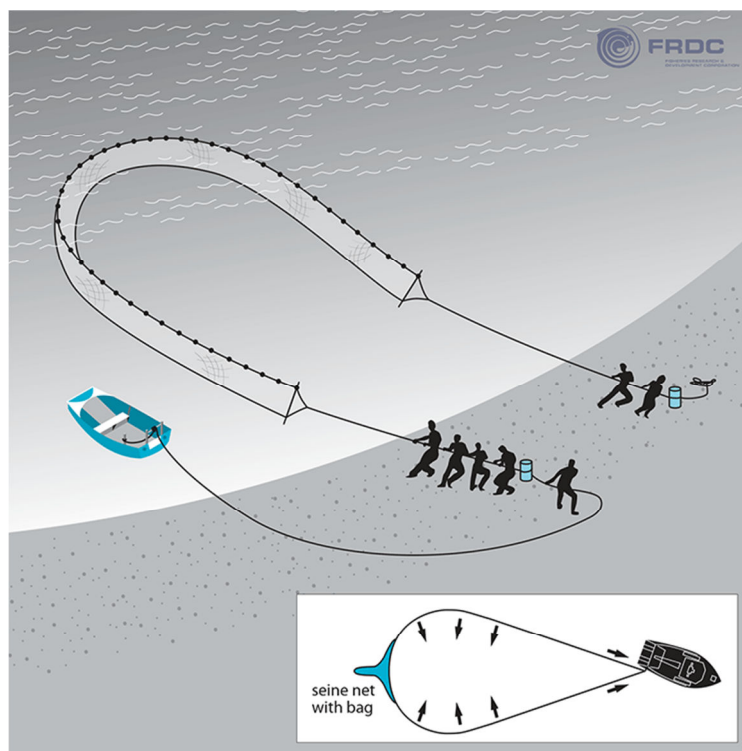
NSW Ocean Haul Fishery operations are carried out on public beaches. Species harvested by ocean haul fishers are also targeted by recreational anglers, creating a sense of competition for the resource between those sectors.

The research project – extension component

The original scoping work for the project occurred when the South West Rocks beach haul crew approached the NSW SeaNet Officer with ideas to reduce potential bycatch of juvenile fish in their operations, with flow on benefits for other NSW Ocean Haul Fishery participants. Few commercial fishers are able to undertake their own research unassisted, and the facilitation and research role played by the SeaNet extension officer was crucial in the positive outcomes generated throughout the project.

Initially, extension of the aims of the project was interwoven with negotiations for funding from FRDC and research permits from NSW DPI to enable the project to proceed. Importantly, because the research was driven by a desire for more flexible management regulations by grass roots fishers, the research outputs were relevant to the practices of the fishers, and ready to be adopted at the completion of the research.

The research component of the project was undertaken in partnership with the South West Rocks crew, by NSW SeaNet Officer Michael Wooden, who has a background in beach seine research. As the fishing crew were involved in performing the trial 'shots' for the research project, adjustments to the fishing gear were able to be made on the run, combining research and gear development. All reporting was completed by the SeaNet Officer, with extension of preliminary results throughout the project to keep the major stakeholders engaged.

Figure 1. A beach seine net in operation

Source: Fisheries Research Development Corporation

The initial purpose of the research project was to provide evidence that allowing flexibility of mesh sizes used by beach haul fishers would reduce bycatch in the fishery. Initially there was some resistance by fisheries managers to changing the status quo as the mesh sizes legislated to be used hadn't changed since the 1880s. A major catalyst for enabling change to the fishery's regulations was video footage shot underwater showing the escape of juveniles from the larger mesh haul net. The footage has proven to be an extremely powerful extension tool, and has been used in many diverse forums to engage stakeholders.

Following the completion of the research project and changes to fishery regulations, a road trip was undertaken during the beach haul season to extend the results of the research and subsequent management changes to all NSW Ocean Haul fishery operators. SeaNet extension officers went to the fishers' workplace, i.e. NSW beaches during the winter fish travelling season, engaging face to face with beach haul crews throughout NSW. Due to rules governing 'priority of shot' and other factors, it is very unlikely that fishers could attend structured meetings during the fishing season, so it was important that information was delivered one on one in the fishermen's workplace.

It is also important to note, extension and communication for this project occurred before, during and after the research activities of the project. It could be said that the research was undertaken within a climate of extension, rather than extension being undertaken at the completion of the formal research project. This is a major reason for the successful uptake and adoption of research outputs by NSW DPI managers and commercial fishers operating in the Ocean Haul fishery as well as the positive social outcomes attributed to the annual Loaves and Fishes BBQs, described later in the report.

Converting research outputs to social licence outcomes - The 'loaves and fishes BBQ'

OceanWatch Australia in partnership with professional fishers from South West Rocks (SW Rocks) held the 3rd annual Loaves and Fishes BBQ on Good Friday, 29th March 2013. SW Rocks is a town on the north coast of NSW with a population of 4,816 (ABS 2011) which has a significant influx of tourists, many of whom fish recreationally, over the Christmas and Easter holidays. The current SW Rocks ocean haul crew operate from Trial Bay beach, adjacent to the township, carrying on a tradition which dates from the early 20th century.

The 3rd Annual Loaves and Fishes event was designed to connect the community and holiday makers with the local fishers, fishery managers, researchers, fisheries officers and OceanWatch Australia. The aim was to extend information to the community with the intention of:

- raising the profile of recent management changes within the fishery based on the industry initiated research project (Wooden 2010)
- improving awareness of the activities of local fishers, particularly those operating in the NSW Ocean Haul fishery
- raising the profile of their sustainability improvements and environmental stewardship
- contributing to the social licence of the local seafood industry.

The event was focussed around a free sea mullet BBQ, with a gold coin donation and Easter egg raffles to raise money to benefit the South West Rocks Surf Life Saving Club. The local SW Rocks Ocean Haul fishers provided the fish for the BBQ, caught on the same beach as the event was held, cooked the BBQ for the community, and were on hand to answer questions and discuss aspects of the fishery with the community. Static information was provided in the form of display boards with photographs and information concerning various aspects of the fishery, including history of the fishery in the area, research outcomes, fishery management tools and indigenous participation in the fishery. Boats and nets used in the fishery were also displayed at the event.

The Loaves and Fishes events have had a positive impact in a small NSW coastal community that is currently grappling with the issue of fishery closures and marine parks. The events give the local community the opportunity to engage with local fishers, fishery managers, compliance officers and the Oceanwatch SeaNet program, to become more informed about the activities of commercial fishers in their region, and the positive sustainability improvements being undertaken by the industry.

Loaves and fishes BBQ – Evaluating changes in perception

The Loaves and Fishes BBQ 2013 was attended by around 700 people on the day, with 44 individuals being chosen at random to participate in an evaluation of the event through a survey comprising nine questions. The questions were designed to measure participant's perceived and actual knowledge of fishing practices and fisheries management strategies, as well as the participants overall perception of the local fishing industry and how that may have been influenced by their attendance at the event. (OceanWatch 2013) The evaluation of community perception is of particular relevance considering the social factors impacting on the operation and viability of the fishery and questioning in the public arena regarding the sustainability of the fishing method. Most vocal opposition to the operation of the fishery has historically come from recreational anglers, who are competing for the same commonly owned resource as the commercial operators. Responses to survey questions relevant to this paper are discussed below.

Survey Question Have you been to previous Loaves and Fishes Barbeque events? If yes, did your perception of the industry change after last time?

This question was designed to measure potential changes in community perception as a result of previous Loaves and Fishes events. Slightly more than half (57)% of respondents indicated they had been to a previous Loaves and Fishes event (Table 1). With regard to change in perception of previous Loaves and Fishes attendees, only one individual respondent, (4%) indicated their perception of the fishing industry was less positive through previous attendance at a Loaves and Fishes activity. Eighty per cent of respondents indicated that attendance resulted in a more positive perception of the industry (Table 2). These results clearly indicate that the awareness raising activities and community engagement of previous Loaves and Fishes BBQs have improved most respondent's perception of the seafood industry.

Table 1. Percentage of respondents who have previously attended a Loaves and Fishes BBQ event.

Responses	Number	Percentage
Yes	25	56.8
No	19	43.2

Source: OceanWatch Australia 2013

Table 2. Respondent's change in perception through attendance at previous Loaves and Fishes BBQ activities.

Responses	Number	Percentage
Less Positive	1	4
No Change	4	16
More Positive	20	80

Source: OceanWatch Australia 2013

Survey Question What is your perception of the local fishing industry? Almost all (96%) of respondents indicated support for the local fishing industry.

Survey Question Has your perception changed after today's event? Most (84%) of respondents indicated a positive improvement in their perception of the local fishing industry through participation in the 2013 Loaves and Fishes event (Table 4).

Table 3. Changes in respondent's perception of the local fishing industry after attendance at Loaves and Fishes 2013

Responses	Number	Percentage
No Answer	1	2.3
Negative	0	0.0
No Change	4	13.6
Positive	37	84.1

Source: OceanWatch Australia 2013

Conclusions

The Loaves and Fishes BBQ 2013 has been responsible for generating support for the local fishers, or at the very least, encourages supporters of the local fishers to publically display their support through attending the event. For a group of fishers who have been under a great degree of pressure to continue operating with a contentious fishing practice in a public area under constant community scrutiny, the benefits of the Loaves and Fishes events are obvious.

Our partnership with Oceanwatch in this event, and other projects we have tackled, is invaluable. Every year I think I can't do this anymore, but when you see the positive vibe that is flying around this town at the moment you realise that there is no going back (*Dave Mitchell, South West Rocks fisher*).

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