

future of fish

Down Under, fishermen do more than fish

An interview with Jeremy Prince and Peter Trott

In the Spencer Gulf prawn fishery, the fishermen are doing the data collection themselves. How did this come to happen?

PT: What we see in Australia is co-management arrangements where even though the state government has the final say, they have an agreement with the fishermen who, via strong leadership and working with government scientists, have created an at-sea compliance committee that says when the fishermen have to close an area to fishing. It was born out of necessity—economic and environmental. The fishermen couldn't afford government fees for things like observers and all the required surveys, so they decided to save themselves money and said we'll do it (the surveys) ourselves.

JP: In each case, the quality of leadership in the industry association is what will determine if something works. Without that, a perfect idea will not go anywhere. You need the local champion. In this case, a government biologist named Neil Carrick and several of the Spencer Gulf Prawn Boat Operators worked together to put together the co-management system.

How does the co-management system work?

JP: The issue was that the fishery was still competitive even though there were limits to the number of vessels and the size of each boat. Prawns start life in shallow water in ecologically sensitive habitat. As they grow, they move to deeper water, out of the seagrass beds and onto soft sediment habitat. The fishermen had a tendency to race each other to the prawns, fishing shallower and shallower, getting larger amounts of smaller, lower value prawns, and threatening sensitive environments.

With Neil's help, the Spencer Gulf Prawn Boat Operators have implemented a survey system, which they use to determine when and where to fish so that the value of the catch can be optimized. The fishermen are trained to do survey trawls and radio the counts of prawns per bucket and the catch rate over the tow time to the scientists on shore, who run the numbers through basic population models of the prawns. The fishermen do repeated surveys of the grounds before the season to see how the prawns are growing and where. Results from each of the vessels are radioed to shore where the numbers are run. If the prawns are not the right size the boats are called home. When the prawns are the right size, those areas of the ground with the larger prawns are opened for fishing, but the fishermen keep recording their catch rates, and when catch rates across the vessels fall below target levels the grounds are closed and the vessels are called home. An At-Sea committee involving industry leaders, scien-



JEREMY PRINCE

Jeremy Prince calls himself a free-range fisheries ecologist. He has 30 years experience with the property rights based fisheries management of Australia and New Zealand. Starting out as a government employee doing a doctorate on abalone ecology and assessment he realized that most fish resources are comprised of multiple, variable, local stocks that require monitoring and management by locals. From that point his passion has developed around implementing systems for local fishing communities to monitor and manage their own local spawning stocks. He advocates for a new type of fisheries expertise he calls Barefoot ecologists, after the Chinese Barefoot doctor program.

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tists and the manager use the data collected to open and close the fishery in real time.

How exactly do they decide to close an area . . . who decides? Is it just the scientists' numbers?

PT: Fishermen have a policy to close areas when the stock-size and abundance reach certain levels. This is decided at sea by a night committee who sits out on the water where the fishermen are fishing. It is done by majority: 5 people out of 9 have to say if they need to close fishery and move on based on the numbers the scientists report. If anyone crosses the committee (meaning they keep fishing in an area the committee has said to close), they can take away their license.

What about those who don't like the system? How can they be sure the guys on the committee are doing a good job?

PT: The committee is appointed by industry and fellow peers. At the start, this was very novel and there was risk from both sides, the government and the industry. But now since it has been in operation for awhile, they have a proven track record—still good catches, the fishermen are making good money. So why jeopardize this by voting in someone who might not do a good job?

How can the government be sure the fishermen are reporting accurate data (in other words, not cheating the system just to keep fishing)?

PT: Trust factor is the biggest thing, particularly in such co-management arrangements. It is not for every fishery, but if there is a good relationship, built up over the years, it can work. After all, it's in the industries' interest to look after the resource.

There are logbooks and outside observers occasionally help fact check the industry numbers. There is also research into stock assessments, bycatch species, habitat disturbance inside closed areas, etc. So, the government and the industry would find out if people doing the wrong thing. Also, if fishermen were taking undersized prawns, the suppliers would not buy them. They know the size range they are wanting to buy. Human nature is that some people will do the wrong thing some of the time. So, you make rules for the 10% that break rules and 90% will do what they are told.

So by saying there are good catches and good money, does this mean the fishery is sustainable?

JP: The fishery is currently trawling only 12% of the original area of the fishing grounds formerly trawled, the catch rates are high, and all the management targets are met or exceeded. A deckhand can earn \$50-60,000 in a hard 2-3 month fishing season, and, the licenses to fish are now very valuable. This is serving as a model and the government is trying to replicate it across other prawn fisheries.

What would you say was the most important factor leading to success?

PT: Open and transparent process and inclusion from DAY ONE, especially



PETER TROTT

Peter Trott has been with WWF Australia for two years in the position of Fisheries Program Manager - Oceania. Before joining WWF, Peter worked in fisheries management with two Australian State based fisheries agencies managing sharks, squid, octopus, small pelagics, rock lobster, and scalefish. Peter has 10 years experience in fisheries management, resource sharing, and ecosystem principles and has a Bachelor of Science Fisheries Management and Aquaculture and an Honors degree in Aquatic Sciences (aquaculture systems and disease).

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with the industry. Majority of things fall down when someone feels left out or didn't know x or y. You've got to earn respect and take the time to build up relationships among government, industry, and NGOs. As a former manager, I would go out fishing with industry people for the meetings. Don't sit at a board room. Majority of fishermen do not get into this game because they like to sit in an office- they are uncomfortable there. You have to show you know what fish are, you can handle yourself on their terms.

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