

National Centre for Fisheries & Aquaculture

generating wealth for New Zealand

working with industry to increase the value & sustainability of seafood & aquaculture

- fish abundance & productivity
- population modelling & risk analysis
- estimation of sustainable harvest levels
- fish biology & ecology
- fish & shellfish culture
- research & development for commercial application
- effects of aquaculture on the environment

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Pay-off for rock lobster fishery

Things are looking up for the southern red rock lobster fishery thanks to close consultation and some smart maths.

In the 1990s, the southern substock (Otago, Fiordland, Foveaux Strait, Stewart Island) was in poor shape. Since then, NIWA scientists, and our collaborators at Trophia and Starrfish, have worked with the National Rock Lobster Management Group and other stakeholders on better ways to manage the fishery.

The group adopted an 'operational management procedure' approach, in which stakeholders first define their objectives (e.g., healthy stock size, good catch rates, minimal risk of poor outcomes). Competing objectives involve tradeoffs, so good communication is vital.

The aim is to find a management procedure which best meets the agreed objectives. The scientists develop hundreds of alternative harvest strategies, and conduct thousands of test simulations, to work out which decision rules are best.

This approach appears to be paying dividends. Last year, the available commercial catch increased by 6%, and the stock is expected to reach the target level well within the target timeframe of 10 to 14 years.

Winning sticks produce premium oysters

NIWA and a group of leading oyster farmers have developed award-winning oyster culture sticks coated with seed oysters.

Catching wild spat is a large burden on growers during late summer, and can be hampered by toxic algal blooms in some harbours. Most importantly for growers' returns, the density of spat on sticks can be unpredictable. Spat density has a very big effect on the shape of the oysters produced and, therefore, whether they attract premium prices.

Our sticks were settled with oysters in tanks at NIWA's Bream Bay Aquaculture Park as part of a Technology New Zealand Technical Assessment Project. After some manual stock management by Barry Jessop from Parua Bay Oysters, we won the 'best stick of oysters' at the 2004 New Zealand oyster farming industry awards.

We are now developing the technology for the commercial supply of the sticks, with an emphasis on controlling spat densities to improve stock management and economic returns. The project is being undertaken by NIWA in a consortium with nine oyster farming companies in New Zealand, including Sanford, Biomarine, and Clevedon Coast Oysters.



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