

Recently completed projects

Pilot study into improved pot design for the Western Rocklobster fishery

FRDC project number 2007/249

Start date: 9/07 End date: 12/08

A group of fishermen from each zone, Dr Simon de Lestang (Department of Fisheries), Mr Kevin Donohue (RLIAC Executive Officer), Professor Bruce Phillips (Curtin University) and a pot manufacturer decided to trial two new pot designs for the 'reds' phase of the 2007/8 season.

One of the constraints which the committee took into account when deciding on any new design was the costs associated with a fisher having to purchase new pots.

Consequently, it was decided that if a more efficient pot was to be taken up to any real extent by the WRLF, it would have to be a modification of the existing traditional batten pot.

Early in the New Year, prototypes of each pot design underwent a preliminary trial in C zone. After the results were compiled, it was decided to conduct the pilot phase trial using one design only. This design comprised two side entrances and a parlour which prevented animals from escaping.

A total of 70 pots were constructed and the pilot phase trial commenced across all zones in early February. These new design pots were found to catch less lobster than traditional pots possibly due to their smaller volume. One fisher was permitted to trial a number of 48 inch lobster traps over the remaining few months of the 07/08 season. These traps were found to catch more lobster than traditional pots over extended soak times.



Prototype pot showing side entrance



Prototype pot showing configuration of side entrances

Biodiesel for the WRLF

FRDC Project number 2007/241

Kondinin Group for the WRLC

In 2007, in response to increasing fuel prices the industry representatives requested that the Western Rocklobster Council investigate the use of biodiesel in the rocklonster industry.

The WRLC commissioned the national independent farming group the Kondinin Group to investigate the feasibility of using biodiesel in the lobster industry. Kondinin Group was selected as it undertakes similar research on behalf of its members on a wide range of topics.

With financial support from FRDC, this project has now been completed. This report provides a thorough and comprehensive review of all aspects of the use of biodiesel in our industry, presented in a very clear and simple format.

Please click on the link below to download this final report.

RESEARCH UPDATE

Improving economic efficiency through detailed review of input controls in the Western Rocklobster Fishery

FRDC project number 2007/052

Start date : 2/07 End date: 12/09

The WRLC Bioeconomic model is now available in CD-ROM format to all industry stakeholders. The model outputs were presented to industry at numerous PFA meetings throughout the 2007/8 season and provided the RLIAC with a means to take the economics of fishing businesses into consideration when developing their 2008/9 management packages, not just puerulus settlement figures and other biological data.

Bioeconomic model workshops will be conducted across all zones throughout the 2008/9 season. Each participant has the option of either working with estimates of operating costs obtained from a recent RSM-Bird Cameron survey or they can input their own costs into the economic model and obtain estimates of return on investment (ROI), catch per pot, profit per pot or industry effects corresponding to a particular management package. The model allows fishers to investigate various management scenarios using either input or output controls i.e. quota. This has never been done before.

No records of costs or any data whatsoever put into the WRLC Economic model will be stored or distributed. The WRLC is only interested in collecting the outcomes of each Economic model run-through to ensure that each fisher has their own input in to the management of their fishery. Needless to say, the success of the WRLC Economic model in determining the best 2008/9 management package for the WRLF is entirely dependant upon each and every fisher's participation.

Improving Profitability in the Western Rocklobster Fishery using a rocklobster trap

National Seafood CRC

Project Start Date: 11/08 End Date 12/09

A season long trial across all zones using these 48 inch traps has recently been approved and funded by the National Seafood CRC in tandem with WAFIC. If found to be successful these pots have the potential to alter the fishing pattern of the entire fleet with a focus on extended soak times across the entire season resulting in significant savings in bait and fuel.

The fishery currently has strict controls on the pot characteristics to maintain equity among participants and to ensure exploitation rates remain constant. The introduction of a lobster trap which causes a reduction in the number of pot lifts has the potential to enhance the primary measure of exploitation in the WRLF namely, catch per unit effort (CPUE). A 10-20% reduction in pot lifts over an entire season would result in cost savings to the tune of \$6-12 million annually. This project aims to trial a lobster trap which will encourage fishers to alter their fishing behaviour thereby increasing their CPUE which translates directly to cost savings in fuel and bait usage.



48 inch trap with refined entrance

The decision to use more efficient pots could be undertaken at an individual fisher level, but this requires robust conversion rates for any modified design(s) to ensure that the integrity of the fishery's input based management system is not compromised.

The 2008/9 season-long trial will be carried out to address further issues such as

- how these pots would compete with existing pots used in the fishery
- how they would affect collection of catch and effort data used in the fishery
- Calibration factors to ensure equity is maintained among fishers using different pots
- by-catch of icon species and sea-lions and finally
- the costs associated with production.

Investigation into the use of RFID tags in the Western Rocklobster fishery

WAFIC IDU project number 02-11

Start date: 9/07 End date: 12/08

Preliminary discussions with all processors in the WRLF have been conducted. All processors have agreed to further consultation in the coming months with the WRLC and Control Corp who were responsible for automation and general streamlining of numerous processing facilities in the South Australian Rocklobster Fishery.

A cost-benefit analysis will be conducted for each processing facility at remote weigh-in stations, recieval points or depots and factories and presented on an individual basis.

Investigations into the use of semi-active RFID tags attached to individual units (pots) in the WRLF will also be carried out. Implementation of RFID tags on pots used in the WRLF has the potential for Fisheries WA to monitor and regulate inputs into the fishery at a much lower cost.

The system may be capable of instantly quantifying effort i.e. number of pot pulls from a spatial perspective and resulting catch on a daily basis and no longer having to rely on paper trails relayed between fishermen and the Department of Fisheries which are analysed up to nine months in arrears.

Based on the two scenarios discussed, this project will provide a cost- benefit analysis regarding the implementation of RFID technology. The outcomes of this feasibility study will be presented on the 2008/9 RLIAC coastal tour.

Western Rocklobster Council R&D Program

FRDC-MOU project number 08-XX

Start date: 10/08 End date 10/11

A distinct lack of cohesion amongst R&D organisations to the Western Rocklobster

fishery, namely the Department of Fisheries WA, WRLC, WAFIC, RLIAC, processors and tertiary institutions has been identified by the WRLC as being a major impediment to maximising the benefits of R&D.

The WRLC believes that a united approach is required to dedicated team well implemented R&D program is of paramount importance if the Western Rocklobster fishery is to survive the difficult times ahead. The perfect storm currently facing the fishery with respect to poor catch predictions, ever increasing cost of fuel combined with labour shortages places further emphasis on the critical role which R&D has in this fishery.

This project stems from three distinct needs:

- to create a single WRL industry strategy/plan for R&D to help forge an alliance between the various organisations.
- to identify a suite of issues including biological and economic sustainability through a collaborative research effort aimed at building the value of the WRLF with a view to regaining the right to be recognised as “ Australia’s most valuable single species fishery” and “the world’s best managed fishery”.
- to address the strategic issues of R&D prioritisation, funding and linkages to both industry development plans and government objectives of industry development to maximise the benefits of R&D.

Evaluating the potential use of change-in-ratio and index removal techniques for determining harvest rates and efficiency increases in the Western Rock Lobster Fishery

FRDC Project Number:

Project start date 11//08 End date 4/09

Principle Investigator: WA Department of Fisheries

Co-Investigator: Stewart Frusher, Norm Hall, Andrew Winzer

The Western Rock Lobster Industry is currently moving from a uni-dimensional decision-rule framework, based solely on breeding stock levels, to a more robust two dimensional approach incorporating both breeding stock and harvest rate measures. This approach represents best practice fisheries management and is consistent with Commonwealth Fisheries Harvest Strategy Policy. This new approach was recently vetted during a review on stock assessment methodologies used in the Western Rock Lobster fishery.

The importance of robust estimates of breeding stock, which are directly affected by fishing efficiency, and of harvest rate, have made these indices areas of research priority. As such the Department of Fisheries has included these in it's current “Action Plan” to the Marine Stewardship Council. Change-in-ratio and index removal techniques have been shown to produce robust estimates of these indices in other fisheries including the Southern Rock Lobster Fishery. Although well developed for the Southern Rock Lobster fishery, these methods require specific

assumptions concerning their data sources and are not easily transferable to fisheries for other species. An examination of the appropriateness of these techniques to the data sources available in the Western Rock Lobster fishery is required before these techniques can be used to develop robust estimates for management of this fishery.

This project aims to determine whether current data sources contain information that is appropriate for using change-in-ratio and index removal techniques to produce harvest rate and efficiency increase estimates. To determine whether additional data/surveys is/are required for these techniques to produce robust estimates of harvest rate and efficiency increase for this fishery. To assess the relevance of these estimates for the management of the Western Rock Lobster fishery.

Implementation of a waste management strategy for the Abrolhos Islands

Funded by NACC

Start date 11/05 End date 7/09

The project will address waste management issues at the Abrolhos Islands based on discussions with the Abrolhos Islands Body Corporate (AIBC), Abrolhos Islands Professional Fishermans Associations (PFAs) and the Board of the Western Rocklobster Council (WRLC), commencing in July 2008.

One initiative outlined in the waste management strategy (WMS) involved both in season and out of season water quality testing of the Abrolhos Island group. A sampling regime was put in place and adhered to over the past three years and has provided conclusive evidence to support the hypothesis that rocklobster fishers inhabiting the Abrolhos Islands from March to June each year has no detrimental effect on the water quality at the Abrolhos Island group.

Numerous trial solutions for solid and liquid waste have been applied to various islands across the archipelago, scoping the effectiveness of the proposals in the WMS. Commercial waste, domestic waste and human waste disposal solutions have also been tested, and reports on the effectiveness of each solution and its potential for use at other islands have been provided. The final phase of this project will endeavour to further refine waste management initiatives already in place across the Abrolhos Island group. These initiatives include refinements to incinerators, increasing the volume of commercial and domestic waste shipped back to the mainland, removal of long drops from the edge of the islands and conducting a toilet trial on Big Rat Island. The success of these initiatives is reliant upon the WMC engaging with members of the AIBC, fishers and community groups to ensure that measures put in place as a result of the WMS continue on in to the future.

As a result of the milestones not being met under the direction of the previous WMC, the WRLC projects officer, Dr Andrew Winzer will take on the role until the completion of the project. The final phase of this project revolves around the implementation of various initiatives outlined above with both the in-kind support, accommodation and financial support of fishers inhabiting the Abrolhos Island Group. To a lesser extent, small scale toilet trials will also take place throughout the 2008/9

season with a view to the island community acting upon any positive outcomes derived as a result.

Related Research in progress:

Climate change / Oceanographic modelling
WA Department of Fisheries
FRDC Project
Lead - Nick Caputi / Ming Feng

Maximum Economic Yield Assessment for the WRLF
WA Department of Fisheries
FRDC Project
Lead - Nick Caputi / Chris Read

Monitoring undersize lobsters / deep/w settlement (meshed pots) in the WRLF
FRDC Project
Lead – Simon de Lestang

Impact of removals from deepwater on the WRLF (deep-water ecology project)
FRDC Project
Lead – Lynda Bellchambers / Mathew Pember

Lobster behaviour and catchability
Murdoch University PhD student – Natalie Toon

If you have any further queries after reading these updates or have any ideas for projects please contact Andrew Winzer email: andrew@wrlc.com.au or phone: 9340 5002.