



TRL RAG Meeting #20

Agenda Item 6: Industry run TRL fishery independent surveys

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CSIRO Oceans and Atmosphere
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Alternative potential levels of industry involvement in future TRL population surveys

- 1) Industry to run pre-season surveys and provide data to CSIRO for stock assessment or applying HCR
- 2) Industry to supplement CSIRO surveys (by completing additional sites to the CSIRO pre-season survey or conducting 0+ surveys)



- 3) Industry to be trained in the protocols used by CSIRO (dive surveys, data management and analysis). No diving
- 4) Consultancy to run survey (with industry divers) and provide data to CSIRO

Industry involvement in TRL research

Numerous examples of industry and scientist collaboration since 1988

TVH and TIB vessels/ fishers involved in data collection for various projects

- 1988-2001: CSIRO/AFMA project funded island based monitoring of TRL catch and effort at Mabuiag and Badu to compare fishery-independent and fishery-dependent indices
- 1993 - TVH vessel chartered for dive surveys of recently settled lobster
- 1994 - Local depletion study based at Warraber Island (islander divers involved)
- 2003 - CSIRO conversion ratio project (tail weight to whole weight)
- 2004 – Present: Kailis providing monthly records of commercial catch size frequency
- 2010 – 2012: Management Strategy Evaluation (MSE) project - workshops with communities and surveys with TIB and TVH stakeholders



Industry involvement in TRL dive surveys (1989-2010)

- Initial TRL population survey 1989 involved scientists and TIB divers
- Torres Strait islanders involved in other annual TRL surveys (1990s) (as CSIRO cadets)
- 2002 - More restrictive dive regulations for occupational scientific diving made it difficult to include non-CSIRO divers in TRL research surveys
- 2008 - TSRA and CSIRO tried to involve Torres Strait islanders in 2008 pre-season survey
 - TSRA planned to train divers to scientific SSBA standard to be involved in future pre-season surveys
 - Insurance costs too high so surveys continued to involve only CSIRO divers
- 2009 CSIRO conducted a diver survey training project – included a workshop on TI and a field trip to eastern TS (focus on methods to sample hand collectables). TI participants could only snorkel due to restrictions on SCUBA and Hookah



Recent initiatives to involve industry in TRL diving surveys (2013-present)

- 2013-2015 TRL Survey and Stock Assessment Research Project (2013/803)
included component to train industry in dive survey protocol

Major issue – Non-CSIRO divers can't dive from CSIRO chartered vessels because of indemnity and insurance

Aim to involve TVH and TIB in 2014 pre-season survey

- 2013 - CSIRO discussed with Kailis to provide a TVH vessel to train both TVH and TIB divers
- CSIRO staff to have a supervisory role on this survey

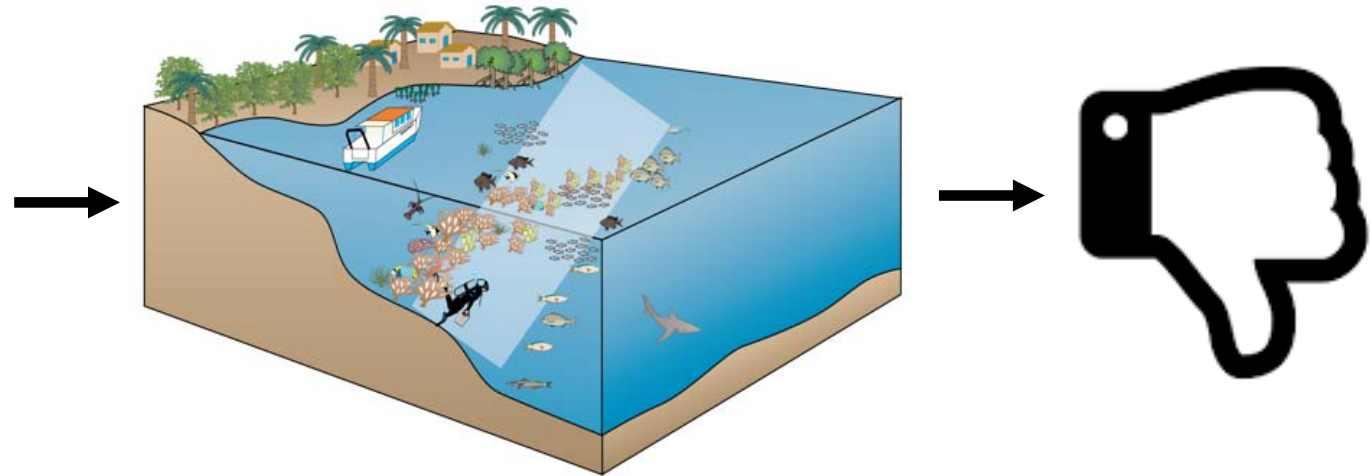
Issues:

- East coast fishery was moved to 1st Jan therefore TVH vessel unavailable for Nov/Dec pre-season survey
- This arrangement was **not fully endorsed by the TRL RAG, AFMA or TSRA** as TSSAC commitment was primarily to increase traditional owner involvement

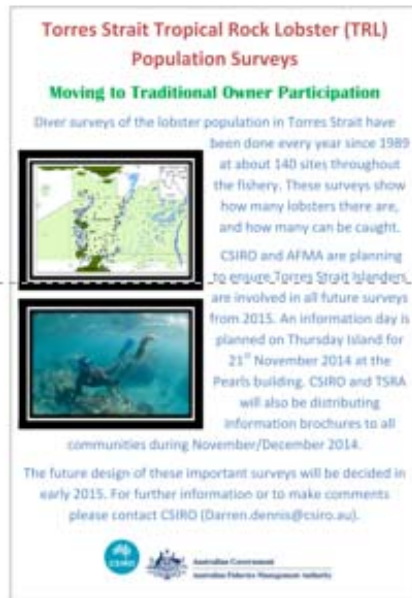
Next step

Could we get TIB tenders to conduct dive surveys at small number of sites independently?

- Option put to 2013 and 2014 RAG to gauge interest from individuals or companies
- CSIRO sought legal advice to see if we could contract out the dive surveys
 - Response – CSIRO has duty of care therefore unsuitable option
 - Also sub-contracting not allowed under the AFMA agreement



Brochure and survey operations manual developed (late 2014)



Expressions of interest in industry participation were called through TSRA LSMU.

Survey manual outlining methods and including site locations and maps prepared.

Timing was poor due to concurrent commitments of the TSRA rangers.



- Early 2015 - CSIRO developed a pre-proposal for a 3rd party to do future dive surveys with industry divers (with option of CSIRO supervising)
- Pre-proposal was passed onto TSRA and discussed among CSIRO/ AMFA/ TSRA
- Provided to FRDC for comment regarding progressing it through the TSSAC and to suggest other funding sources

Further engagement with TIB (July and Nov 2015)

TORRES STRAIT TROPICAL ROCK LOBSTER | KAIAR
 INDUSTRY PARTICIPATION IN RESEARCH - DISCUSSING OPTIONS
 Date: 16 July 2015 9:30 - 3pm
 Venue: CWA Hall- Loban Road (across from the Sports Complex),
 Thursday Island

AGENDA

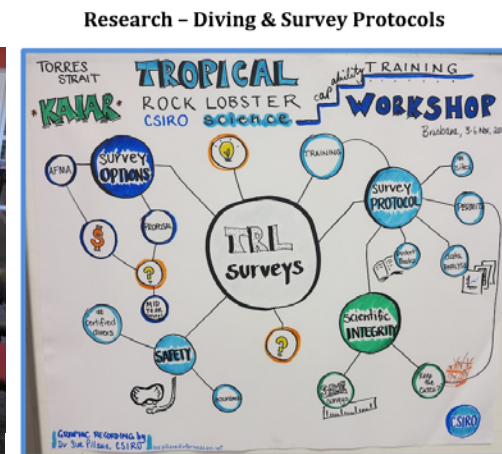
1. Welcome, apologies, adoption of Agenda and relevant updates regarding management of TRL/Kaiar
2. Science overview - summary presentation by CSIRO on recent Pre-season survey results, stock assessment and status of the resource
3. Involving the TIB sector in the research surveys -opportunities, challenges and planning the way forward:
 - 3.1. 2015 Pre-season survey itinerary (CSIRO)
 - 3.2. Supplementary TIB surveys (AFMA/CSIRO)
 - 3.3. Funding sources (My Pathways, TSRA)
 - 3.4. Native Title Inclusion
4. The key role of TIB data: current catch monitoring, transitioning to using TIB CPUE in stock assessments and discussion of TIB docket book data screening by TIB fishers
5. The next step in getting the science right - developing and refining a Harvest Control Rule for TRL/Kaiar, and exploring operational issues
6. Science capability training - proposal to host 3-5 individuals at a data analysis/stock assessment training workshop in Brisbane
7. Introducing new project to collaboratively explore a business case for grow-out opportunities
8. Science futures - identifying important research gaps and integrated science solutions, including links to Torres Strait strategic research needs summary document
9. Any other business



Torres Strait Tropical Rock Lobster science capability training workshop in Brisbane Nov 2015 (CSIRO funded)

KEY ISSUES

1. The objectives of the workshop are to provide some background information and improve the understanding of the TRL stock assessment and to progress TIB sector involvement in the fishery-independent research surveys.
2. CSIRO will be seeking to gauge the level of interest within the TIB sector for participants to attend the workshop.



"We want CSIRO on board to show, teach and help us with the surveys", TIB Fishers

Moving forward

So what have we learned from our experiences so far?

- 1) Non-CSIRO participation in dive surveys on CSIRO chartered vessels is not permitted
- 2) A 3rd party will be required to run a dive survey *independently* from CSIRO
 - Could this be AFMA/TSRA with CSIRO guidance (protocols/ workshop training and auditing)?
 - Could this be a company/ consultant with AFMA/TSRA, CSIRO scientific support initially?
- 3) CSIRO could provide a training workshop and audit this training to maintain a level of scientific integrity

A possible option for survey transitioning to Industry

Obtain funding for a '2 year pilot project' to run independently but parallel to CSIRO pre-season surveys

Objective: Establish a working group and strategic plan to deliver timely, reliable Industry-derived TRL survey data to CSIRO for input to HCR/stock assessment

Key deliverables:

- Identify and engage qualified industry divers / vessels, set OHS standards
- Train and assess industry participants to ensure QA/QC of current survey protocols
- Conduct 2 pre-season surveys to provide a reasonable basis for assessment
- Compare lobster relative abundance and age structure between industry and CSIRO surveys
 - Including independent assessment
- Risk analysis re transitioning survey to Industry
- Recommend feasibility of transitioning to Industry TRL surveys

Year 1

PRE-SURVEY PLANNING

Identify project working group (TSRA/AFMA/CSIRO/TIB/TVH?) to

- Manage funds (remuneration, vessel charter, training costs, survey equipment, permits)
- Prepare training workshop
- Co-ordinate survey logistics
 - Vessels/ hookah setup/ diver selection (Rangers, TIB, TVH?), equipment
 - Co-ordinate with CSIRO for survey comparison (dates, no. of sites per stratum)
 - Fisheries permits (PZJA, QDAF, GBRMPA)

Run 2 day Industry training workshop prior to pre-season survey to

- Teach survey methodology
- Test knowledge gained during workshop to achieve QA/QC

SURVEY

Complete a subset of survey sites (24 sites – 3 days)?

- Observer on Industry vessel for field auditing?
- Industry to record on field sheets, enter and check data on (own) field computer
- Dataset (field sheets and database) to be returned to working group
- Adequate data backup system needed

POST SURVEY

Analytical comparison of CSIRO and Industry data collected at the 24 sites

Debrief (1 day meeting to discuss results, issues)

Milestone report

Year 2

PRE-SURVEY PLANNING

- Prepare training workshop
- Co-ordinate survey logistics
 - Vessels/ hookah setup/ diver selection (Rangers, TIB, TVH?), equipment
 - Co-ordinate with CSIRO for survey comparison (dates, # sites per stratum)
 - Fisheries permits

Run 1 day Industry training workshop prior to pre-season survey to

- Teach survey methodology
- Test knowledge gained during workshop to achieve/maintain QA/QC

SURVEY

Complete either a larger subset of survey sites (40 sites – 6 days) or all sites?

- Observer on Industry vessel for field auditing?
- Industry to record on field sheets, enter and check data on field computer
- Dataset (field sheets and database) to be returned to working group
- Adequate data backup system in place

POST SURVEY

Analytical comparison of CSIRO and Industry data collected at overlapping sites

FINAL REPORT AND RECOMMENDATIONS

Data: can we measure/compare for QA/QC

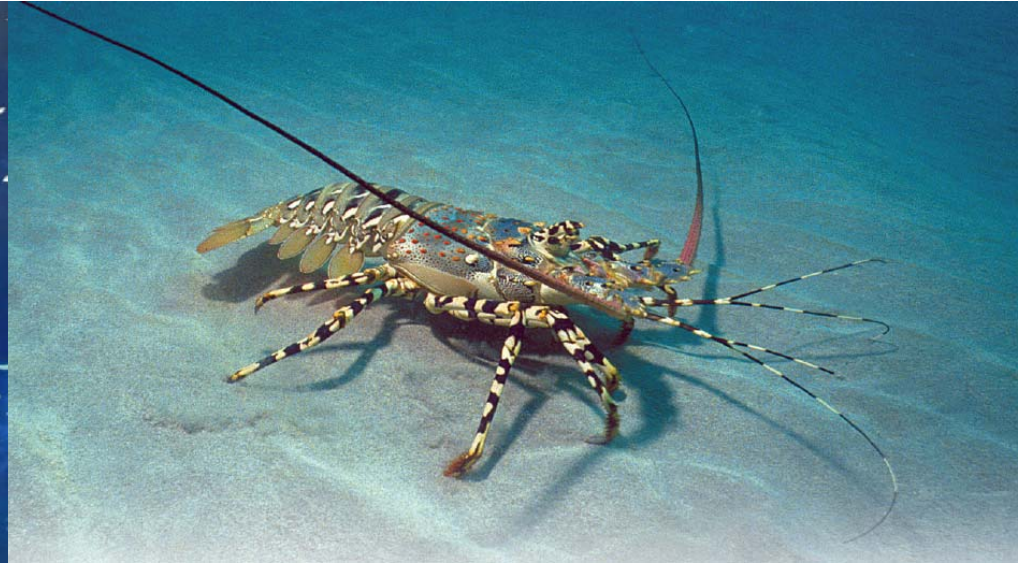
Workshop training

Assessment of survey methods

- Completing field datasheets based on transect scenarios. Metadata provided and transects, with various lobster numbers and sizes surveyed.
 - % of field sheets completed correctly – data in correct fields
 - Habitat assessment (many groups to record – substrate: sand, rubble, consolidated rubble, pavement, live coral, biota: seagrass, algae, sponges, gorgonians, holothurians, crinoids).
May be too much too fast – experience required; are cameras feasible – require time and experience to process after survey

Survey

- Relative abundance of lobsters and survey variance
- Age structure
- Consistency of data collection amongst different divers
- Habitat assessment? - difficult
- Data recording, data entry, data checking



Thank you

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