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| **TROPICAL ROCK LOBSTER**  **RESOURCE ASSESSMENT GROUP (TRLRAG)** | **MEETING No. 19**  **13 December 2016** |
| Development of a Torres Strait Tropical Rock Lobster Fishery Harvest Strategy | **Agenda Item 8.1**  **FOR ADVICE and DISCUSSION** |

**RECOMMENDATION**

The RAG discuss and provide advice on any outstanding elements of the revised draft TRL Harvest Strategy (HS).

**KEY ISSUES**

Over the last two meetings the TRLRAG have recommended reference points, a preferred empirical harvest control rule (eHCR) and decision rules to be applied if the limit reference point is reached (detailed in background section below). A working draft of the harvest strategy has been developed to reflect these recommendations (**Appendix A**).

It is recommended that the RAG consider any outstanding elements and/or clarify any points of uncertainty for members on the harvest strategy elements already recommended.

AFMA recommends further consideration of the following:

* what reference point must be reached in order to re‑open the Fishery, is it when the biomass returns above the limit reference point, based on survey indices or something else;
* is an exceptional circumstances clause needed for the HS;
* what are the agreed rules if the biomass threshold reference point (B48) is reached;
* test and present the results of eHCR with alternate season start dates.

**BACKGROUND**

The RAG has recommended to the following reference points for the Fishery:

* B0 is the model-estimate of spawning stock biomass in 1973 (start of the fishery).
* BTARG is the agreed proxy for BMEY, BTARG = 0.65.
* BTHRES is the agreed threshold biomass level below which more stringent rules for calculating the TAC apply, BTHRES = 0.48.
* BLIM is agreed to be half of BTARG, BLIM = 0.32.
* If the limit reference point (BLIM) is triggered two years out of the most recent three year period, then the fishery is closed.
* FTARG is the model-estimated level of fishing mortality that keeps the stock around BTARG, FTARG = 0.15.

The RAG recommended:

* the eHCR include a maximum catch limit of 1000 t and the cap will be reviewed in three years using the integrated stock assessment model;
* eHCR 7 as the preferred option for the TRL Harvest Strategy (weightings: Pre-season survey 1+ index 0.7; Pre-season survey 0+ index 0.1; CPUE TIB 0.1; CPUE TVH 0.1);
* a pre season +1 survey trigger point of 1.25 average lobsters per survey transect, if in any year the index is lower than 1.25 it triggers a stock assessment.

The RAG recommended the following decision rules to be applied if the limit reference point (BLIM = 0.32) is triggered (**Figure 1**):

* If after the first year the stock is assessed below the biomass limit reference point it is optional to conduct a mid season survey, the pre season survey must continue annually.
* If the biomass limit reference point is triggered in two consecutive years, the fishery closes. It is optional to conduct a mid-season survey, the pre-season survey must continue annually.
* The fishery should remain closed until the stock assessment model shows the stock has recovered to be above the limit reference point.



**Figure 1.** Recommended decision rules to apply if the limit reference point is triggered.