

# VICTORIAN ROCK LOBSTER FISHERY

## STOCK ASSESSMENT SUMMARY

### WESTERN ZONE

#### **Trends in Catch and Effort**

- During the past decade the fishing effort in the western zone of this fishery fell to below two thirds of the peak levels (897 thousand potlifts) achieved in 1999-2000.
- The catch per unit effort (CPUE) has declined since 2003-4 to 0.32 kg/potlift, but then increased over the last 2 years to 0.39 kg/potlift in 2010-11

#### **Model Predictions**

- The stock assessment model estimated egg production in 2010-11 at 72% of the egg production in reference year 2001-2 (well above the 35% limit) and estimated the available biomass at 70% of the available biomass in 2001-2 (well below the 173% target).
- The forward projection from the model indicates that a TACC of 260 t would allow the available biomass to rebuild to the target level within 10 years (by 2020-21).

#### **Unstandardised CPUE**

- Unstandardised CPUE from logbooks indicates a general increase in abundance over the last 2 years since 2009-10.
- Biomass trajectories from the model are consistent with the unstandardised CPUE over the same period, so the TACC does not need to be reviewed by the RAG.

### EASTERN ZONE

#### **Trends in Catch and Effort**

- Fishing effort peaked at 260 thousand potlifts in 1993-94 and then fell to below half this level by 2008-9.
- Over the last 2 years effort has increased to 150 thousand potlifts in 2010-11.
- CPUE fell to its lowest levels in the mid-1990s (0.21 kg/potlift) but this has increased marginally over the last 2 years to 0.41 kg/potlift in 2010-11

#### **Model Predictions**

- The stock assessment model estimated egg production in 2010-11 at 137% of the egg production in reference year 2001-2 (above the limit of 104%) and estimated the available biomass at 110% of the available biomass in 2001-2 (well below the 219% target).
- The forward projection from the model indicates that a TACC of 48 t would allow the available biomass to rebuild to the target level within 10 years (by 2020-21).

#### **Unstandardised CPUE**

- Unstandardised CPUE from logbooks indicates a general increase in abundance over the last 2 years since 2009-10.
- Biomass trajectories from the model are consistent with the unstandardised CPUE over the same period, so the TACC does not need to be reviewed by the RAG

**COMMENT**

- Both zones of the fishery are experiencing an upturn in CPUE following above average recruitment predicted by the model from pre-recruit data for 2007–08 and 2008–09.
- Predictions using pre-recruit data for the subsequent two years and predictions based on puerulus settlement monitoring for the subsequent four years, indicate recruitment for the 4-year period from 2012–13 to 2015–16 will be about average.
- Three conclusions are drawn against the revised decision rules (Figure 1) of the Management Plan.
  1. Egg production is above the limit reference point in each of Western Zone and Eastern Zone.
  2. Based on the results of the current assessments, a TACC of 260 tonnes in Western Zone and 48 tonnes in Eastern Zone would be expected to rebuild the available biomass to the target by 2020–21. The assessment and resultant TACC to achieve the target will be reviewed annually.
  3. Model biomass trajectories are consistent with the upward trends in nominal CPUE from 2008–09 to 2010–11 in each of Western Zone and Eastern Zone.

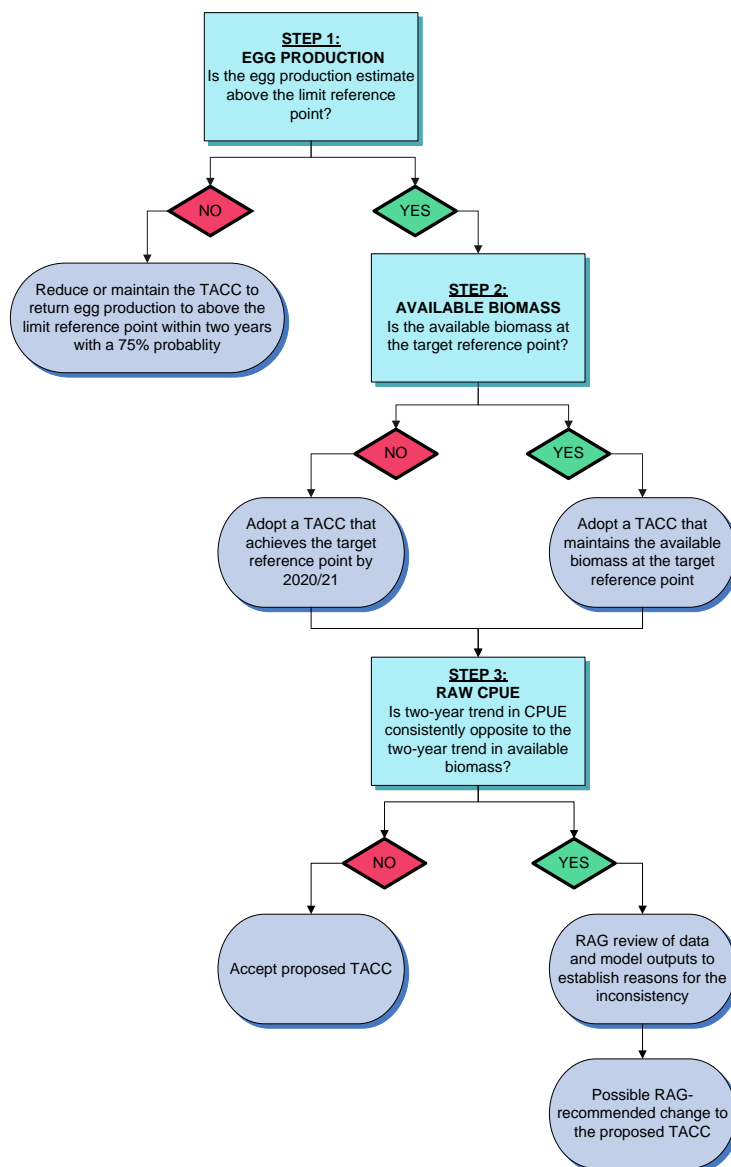


Figure 1: Revised Decision Framework to be used to set the total allowable catch in Victoria’s Rock Lobster Fishery