

The final OMP (2017) recommended for Nightingale

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Summary

This document provides the final specifications of the OMP recommended for Nightingale island.

An OMP for Nightingale has recently been developed which is based on the same structure as that for the current Tristan, Inaccessible and Gough OMPs. It will be used to set the TACs at Nightingale for three seasons (2017, 2018 and 2019). This is a target-based rule based on the recent commercial CPUE, *viz.*;

$$TAC_{y+1} = TAC_y + \alpha(I_y^{rec} - I^{tar})$$

where

I_y^{rec} is the average of the GLM standardized CPUE over the last three years ($y-2$, $y-1$, y),

I^{tar} is the CPUE target index, and

α is a tuning parameter which is varied here from 2.5 to 10. The larger the α value, the more “responsive” the OMP will be to changes in the catch rate in the future.

A rule to control the inter-annual TAC variation is also applied. The baseline % TAC change relative to the previous year (“max V%”) is restricted to a maximum of either up 5% down 5%:

If $TAC_{y+1} < 0.95TAC_y$ then $TAC_{y+1} = 0.95TAC_y$

If $TAC_{y+1} > 1.05TAC_y$ then $TAC_{y+1} = 1.05TAC_y$

Furthermore a ceiling (upper bound) on the TAC is introduced:

If $TAC_{y+1} > TAC_{ceiling}$ then $TAC_{y+1} = TAC_{ceiling}$

As for the other OMPs that have been developed, the addition of a precautionary metarule rule is also incorporated into the OMP, where the 5% TAC decrease constraint is increased to up to 20% if the (catch rate) index drops below a threshold (Ilim) level. Here the baseline Ilim level is set at 3.0 kg/trap.

The recommended OMP has:

I^{tar}	the CPUE target index of 5.0 kg/trap,
α	is 2.5,
max V%	5% up and 5% down,
l _{lim}	3.0 kg/trap, and
TAC _{ceiling}	85 MT.

Nightingale TAC for 2017

The calculation of the 2017 TAC for Nightingale is as follows:

$$TAC_{2017} = TAC_{2016} + \alpha(I_{2017}^{rec} - I^{tar})$$

$$TAC_{2017} = TAC_{2016} + 2.5(I_{2017}^{rec} - 5.0)$$

$$TAC_{2017} = 75 + 2.5(10.959 - 5.0)$$

$$TAC_{2017} = 89.90 \text{ MT}$$

This TAC value is greater than the maximum 5% increase from the previous TAC (75 MT); thus this TAC is adjusted to equal a 5% increase over the 75 MT, which is **78.75 MT**.

The I_{2017}^{rec} value of 10.959 is not below the metarule threshold l_{lim} value of 3.0 kg/trap, so the metarule is not invoked.

With a TAC_{ceiling} value of 85 MT, the final TAC is 78.75 MT rounded to 79 MT.