

Rock Flathead (*Platycephalus laevigatus*)



Stock Structure and Biology

The stock structure of rock flathead in Victorian waters is unknown. Female rock flathead can live for 21 years and grow to at least 50 cm TL. Male rock flathead only live for 16 years but likewise grow to 50 cm TL. Maturity (50 percent) is reached at 2 years and 23 cm TL (LML = 27 cm TL). Rock flathead are highly fecund and grow rapidly. The main spawning period is spring/summer in inshore coastal regions.

Management/Assessment Unit

Rock flathead primarily supports the commercial mesh-net and haul seine fishery in Corner Inlet. Up until 2016, when the removal of netting was implemented, the species was also important to the Port Phillip Bay commercial fishery. There are very small recreational catches in Port Phillip Bay, Western Port and Corner Inlet. This report only considers the population of rock flathead in Corner Inlet-Nooramunga, as a single management unit.

Assessment Summary

Corner Inlet

For this assessment, the status of the Corner Inlet rock flathead population was evaluated using:

- Nominal and standardised CPUE for commercial mesh-net, and nominal CPUE for haul seine,
- Length composition data from haul seine catches,
- Catch and effort data for the Corner Inlet commercial fishery.

This assessment found:

- *Fishing pressure* – At the state-wide scale, harvest of rock flathead has decreased since the peak harvest recorded in 2010 and has remained steady around 50t since 2015 (Figure 57). Over 70% of the peak harvest in 2010 was from Corner Inlet-Nooramunga, and most of the decline in catch, at least until 2016, is due to declines in catch from Corner Inlet-Nooramunga (Figure 57). While seine net effort has been relatively stable over the last 10 years, after declining to about from peak level observed in the early 2000s, mesh net effort has increased considerably since the lowest levels in the early 2000s (Appendix 2). Mesh net effort in 2021/22 was close to historic high levels, though has declined in recent years (Appendix 2). Length composition of seine net catches, which are less affected by selectivity bias than mesh nets, have been relatively stable, with fish up to 55 cm still being captured, and the dominant length categories being in the 28-31 cm length range (Figure 58, Figure 59 and Figure 60).
- *Biomass* – CPUE by mesh net is highly variable, with regular peaks at approximate 5-year intervals, and an underlying increasing trend from the early 1980s to the mid-2000s, though this could be influenced by non-species specific ‘flathead’ reporting earlier in the time series (Figure 61 a). Since the mid-late 2000s the

underlying trend has been decreasing, though there are two peaks in CPUE, one in 2015/16 and one in 2020/21 (Figure 61a). Seine net CPUE had a major peak from 2009 to 2011 (also observed in mesh net CPUE), but similar to mesh nets, has since declined, but in 2020/21 has increased significantly, with record levels being observed in 2021/22 (Figure 61b).

Stock status summary: Overall, while regular peaks in CPUE likely relate to recruitment variation, the underlying trend of a declining mesh net CPUE is noteworthy, particularly because of recent increases in mesh net effort and catch. While the length composition has been stable with a consistent presence of large fish in the catches, the combination of decreasing CPUE, increasing effort and increasing catch of rock flathead in Corner Inlet-Nooramunga may result in further stock decline.

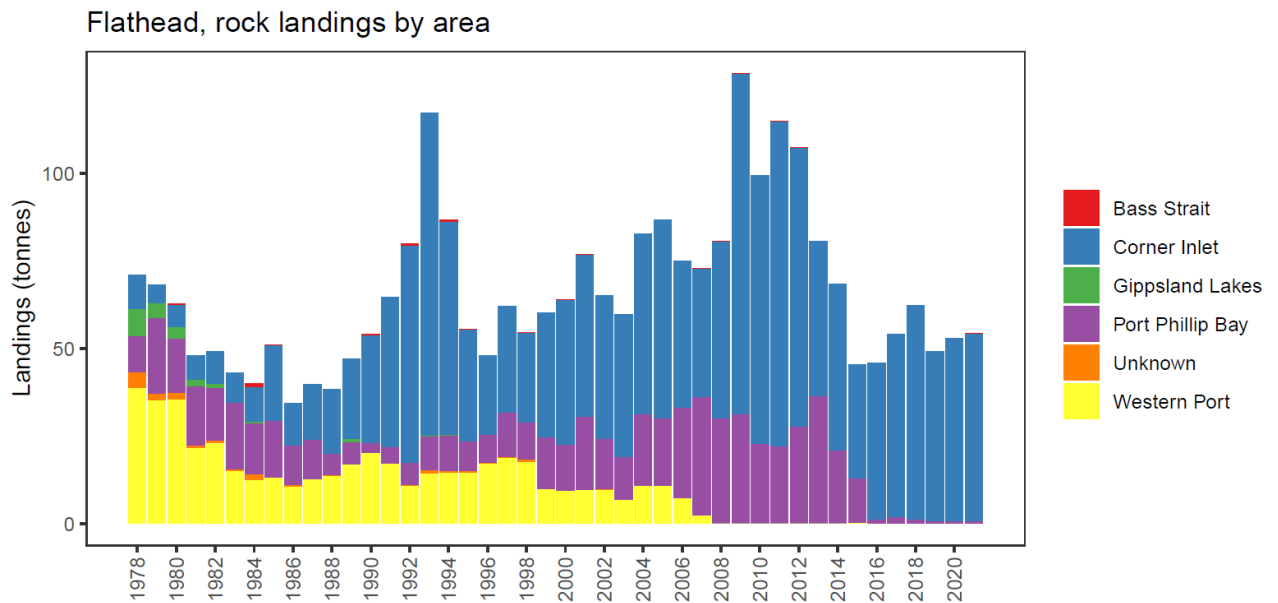


Figure 57 Total Victorian commercial catches of rock flathead by (a) area and (b) gear types, financial years 1978–2021.

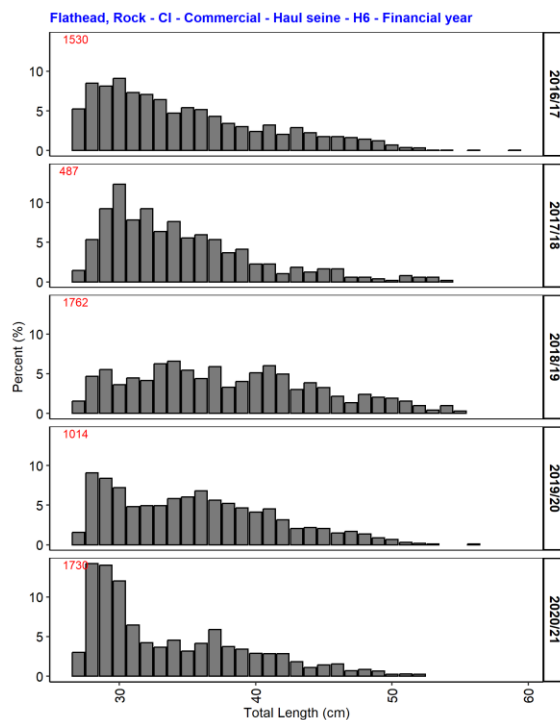


Figure 58 Frequency histograms of Corner Inlet length composition from haul seine catches financial years 2016/17–2020/21. Red numbers indicate numbers of fish measured scaled to catch sample weight.

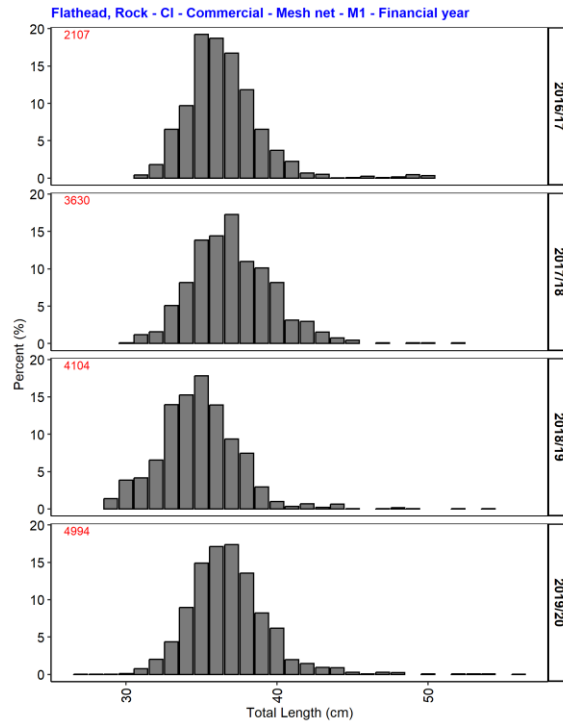


Figure 59 Frequency histograms of Corner Inlet length composition from mesh net (M1) catches financial years 2016/17–2019/20. Red numbers indicate numbers of fish measured scaled to catch sample weight.

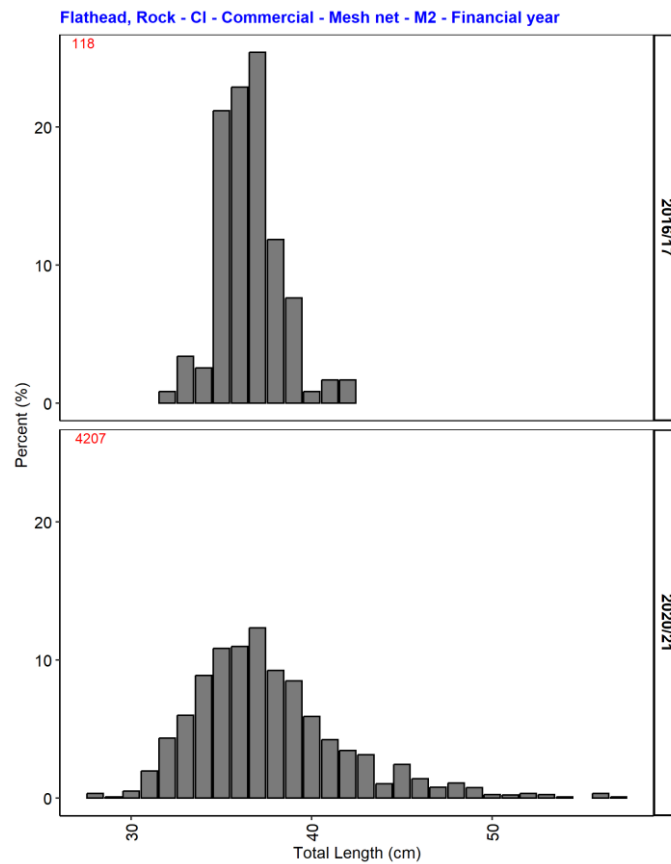


Figure 60 Frequency histograms of Corner Inlet length composition from mesh net (M2) catches financial years 2016/17 & 2020/21. Red numbers indicate numbers of fish measured scaled to catch sample weight.

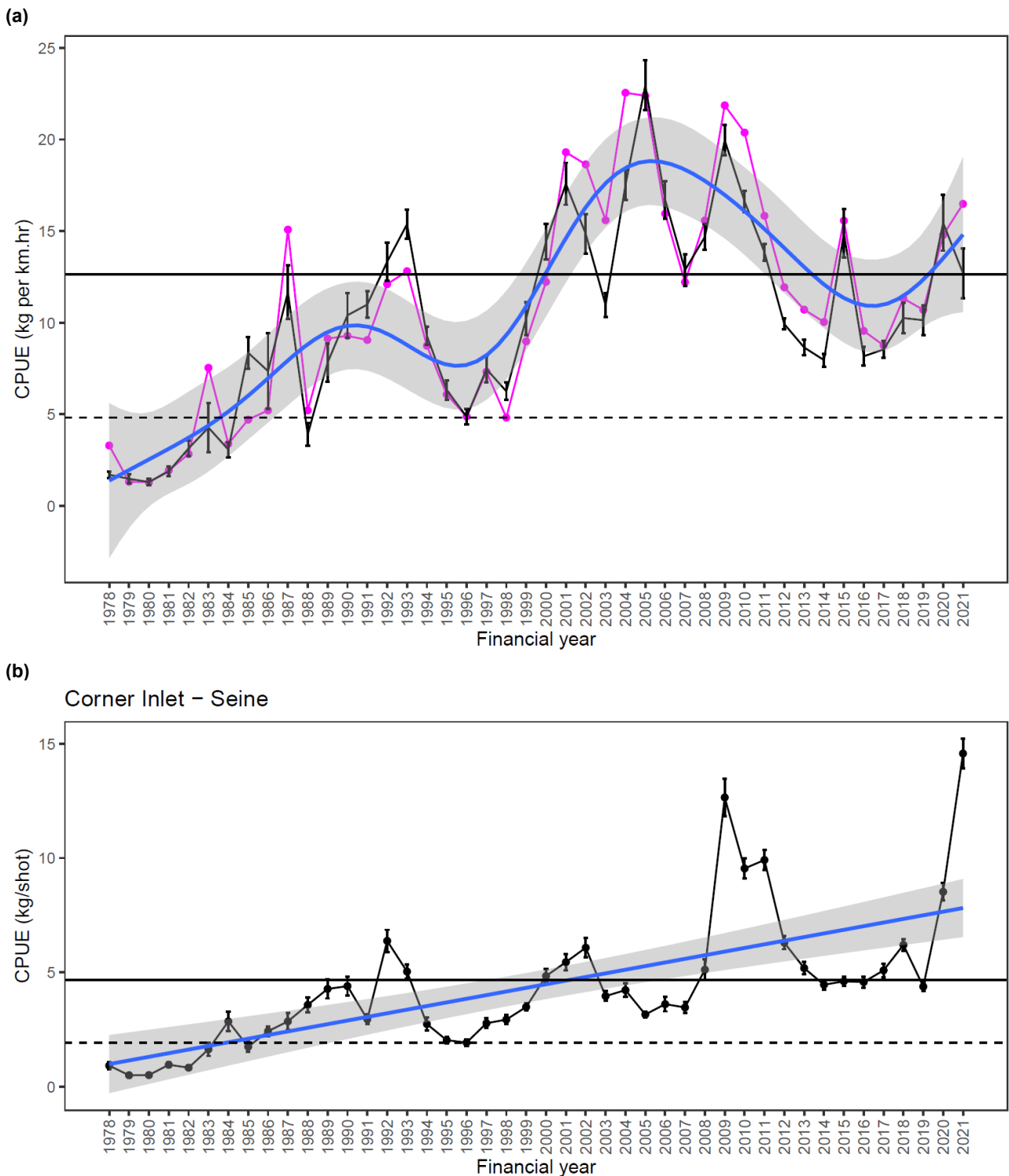


Figure 61 Catch-per-unit-effort (CPUE) of rock flathead by (a) commercial mesh net, and (b) seine net in the Corner Inlet during 1978–2021 financial years. Black line is nominal CPUE (\pm SE), magenta line is standardised CPUE, blue line is a generalised additive model (GAM) of the standardised CPUE trend with the shaded grey area representing the 95% confidence interval of the GAM. Horizontal black line is the mean standardised CPUE during the reference period (1986–2015) and the dashed black line is the minimum standardised CPUE within the reference period.