

## Greenback Flounder (*Rhombosolea tapirina*)



### Stock Structure and Biology

Greenback Flounder has a wide distribution in Australia, from Jervis Bay on the central coast of New South Wales, around the south of the continent including Tasmania, and up to Mandurah on the south-eastern coast of Western Australia [Kailola et al. 1993]. They also occur in New Zealand [Sutton et al. 2010].

The broad distribution of Greenback Flounder in Australia is thought to be divisible into a number of separate biological stocks. Genetic studies have demonstrated that the most significant division occurs between Australian and New Zealand populations [van den Enden et al. 2000]. Within Australia, there is strong evidence that populations in western Tasmania are genetically isolated from populations in Victoria, and northern and south-eastern Tasmania. These results are consistent with those of Kurth [1957], who identified distinct western and eastern Tasmania populations based on morphometrics. Biological stock structure along the southern mainland coasts of Australia is not known.

### Assessment Summary

In the absence of consistent, long-term estimates or population abundances and harvest by anglers, the status of the Victorian Greenback Flounder stock and its associated fisheries were evaluated using standardised CPUE from haul seine and mesh net catches of flounder and sole from commercial landings in Corner Inlet. This enabled use of the entire time period for which catch and effort were available, noting that there have been shifts in species reporting from 'Flounder, unspecified' to species-specific reporting. Given this, and the fact that Greenback Flounder are the most common all flounder (Greenback and Long-nosed) and sole species were combined (Figure 132). There could be disagreement with this, but it is reasonable to assume that many fishers may have misidentified these species in the past, and this was the only way to analyse the data back to 1978. Gear type was also limited to the two types based on catch history (Figure 133).

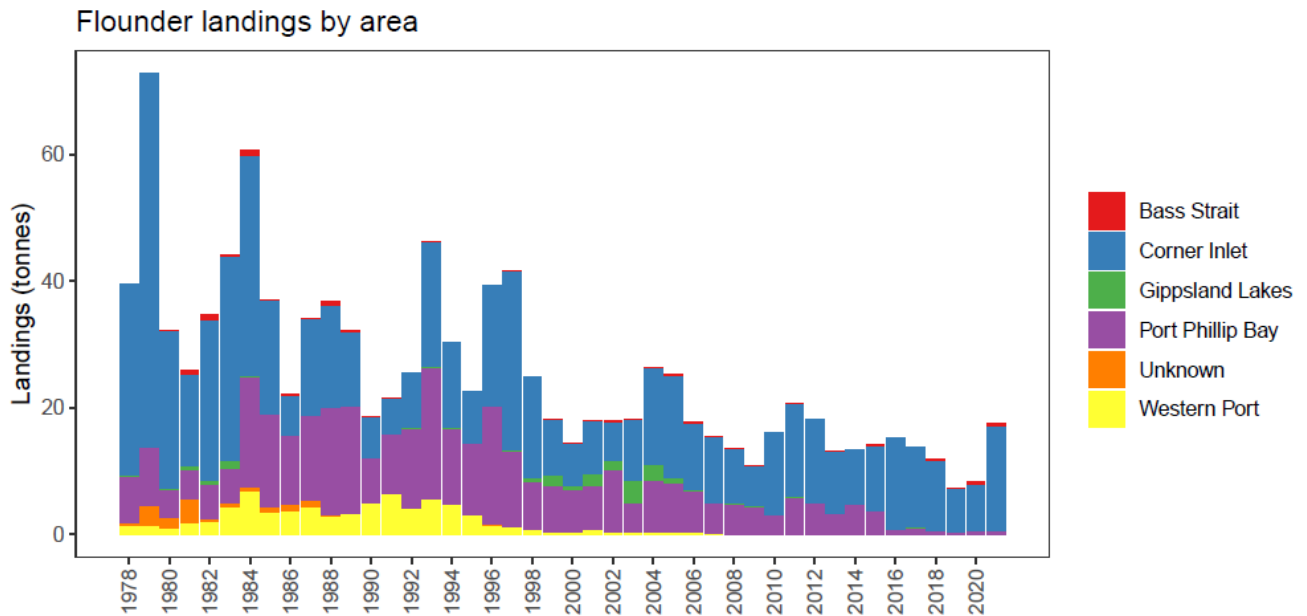
This assessment found:

- **Fishing pressure** – Victorian catches of this species have averaged 11 t annually over the past two decades and accounted for 73% of the national cumulative commercial catch over the past five years.
- **Biomass** – Haul seine catch rates have shown an increasing trend in the standardised curve since a trough in the early 1990s (Figure 134) but have been highly variable over time with peaks in the raw data in 1978/79, 1984/85, 1997/98, 2004/05 and 2011/12 (Conron et al. 2016). In contrast, the trend for mesh net catch-per-unit-effort (CPUE) follows a consistently negative trajectory which levelled out close to zero after the mid-2000s (Figure 134). This produces a conflicting impression about stock status, but the mesh net results have much higher uncertainty and hence are less reliable. This is because of a history of commercial operators targeting flounder, likely with specifically designed mesh nets (loosely slung with small drop), whereas in recent years fishers in Corner Inlet have predominantly targeted rock flathead and mesh net flounder landings are low. The two species would rarely be encountered together given that flounder live entirely on sand and rock flathead live entirely on seagrass in Corner Inlet so this would have a major bearing on CPUE unrelated to changes in biomass.

The increasing trend in haul seine CPUE slowed asymptotically from the mid-2000s reaching its zenith in

2018/19 (Figure 134). It is unclear if it has now stabilised or is at the top of a cycle that will show a decreasing pattern over the next two decades like it did from the late 1970s to early 1990s. Although the CPUE trends from the two different types of nets would indicate an undefined classification if the assumption that CPUE was reflecting biomass in each instance, the uncertainty in this assumption for mesh net CPUE supports relying exclusively on haul seine CPUE.

**Stock status summary:** Biomass proxy (CPUE) from haul seining is currently 1.5 times its long-term average (1986–2015). This is evidence that there is no recruitment impairment or biomass depletion, thereby implying that the stock of Greenback Flounder in Corner Inlet is sustainable.



**Figure 132** Catches of flounder and sole combined from reported commercial landings among Victorian bays and inlets (1978/79–2020/21 financial years).

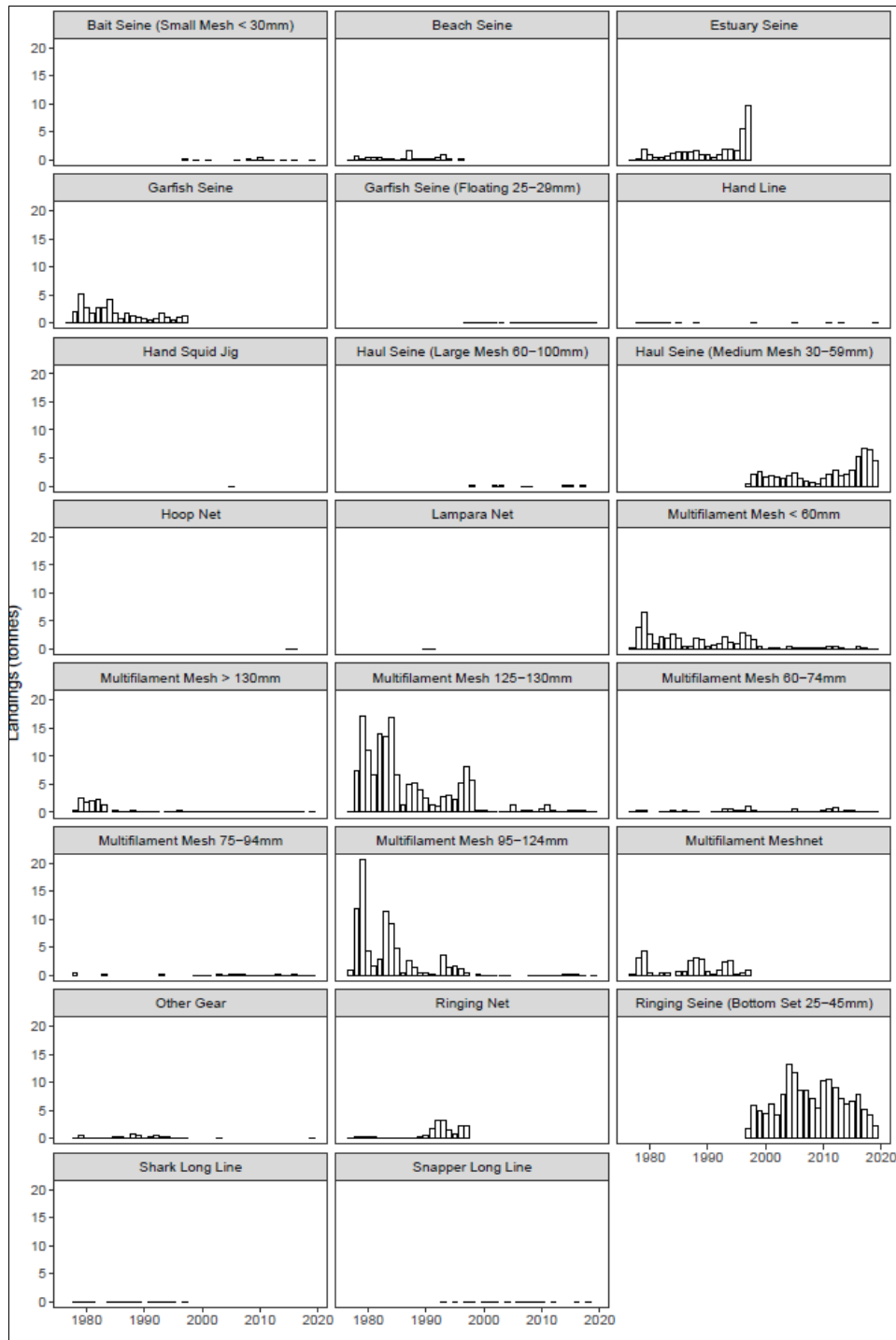
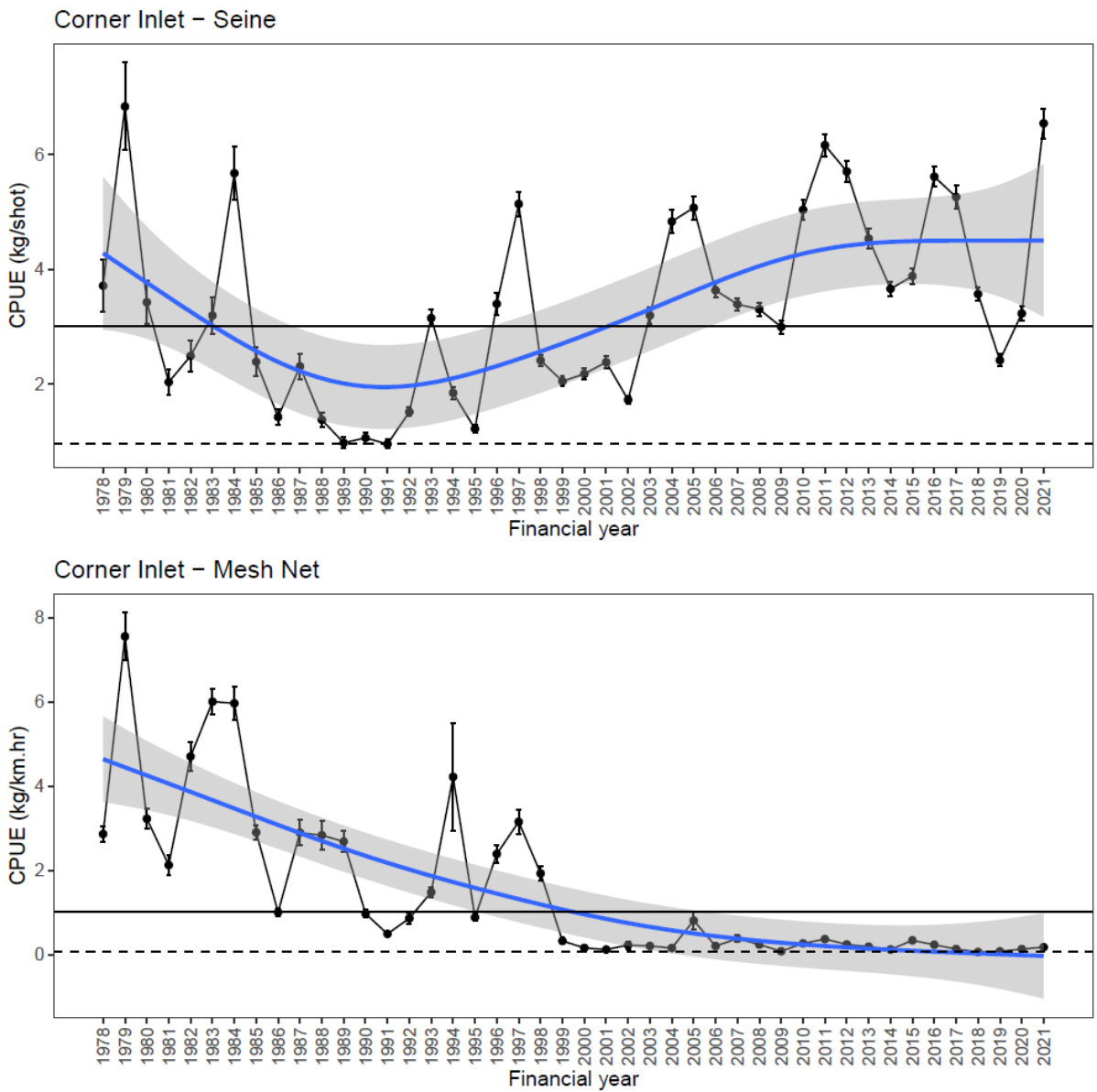


Figure 133 Catches of Greenback Flounder among gear types reported from Victoria during the past four decades.



**Figure 134** Catch-per-unit-effort (CPUE) for haul seine and mesh net catches from corner inlet during 1978/79 – 2020/21.