# Eastern (*Arripis trutta*) and Western (*A. truttaceus*) Australian Salmon

## Stock Structure and Biology

In Victorian waters there are straddling stocks of Eastern and Western Australian salmon. Eastern and Western Australian salmon can live to at least 12 years of age and reach 81 cm fork length (FL). Eastern Australian salmon mature (50 percent) at 2–4 years (30–40 cm FL). Western Australian salmon mature (50 percent) at 3–5 years (60–65 cm FL). The main spawning period for eastern Australian salmon occurs from November to February in near coastal waters along the east coast of Australia. Western Australian salmon migrate from Victoria back to Western Australia, where spawning occurs in near coastal waters during April–May.

## Management/Assessment Unit

The Victorian component of the Australian salmon stocks supports the commercial purse seine ocean fishery, mostly off eastern Victoria, with small catches also taken from Corner Inlet. Recreational fisheries occur in Port Phillip Bay, Western Port, Corner Inlet, many estuaries and along coastal beaches. Although two separate stocks occur in Victorian waters, only the eastern stock is exploited (Corner Inlet and the ocean purse seine fishery) in sufficient quantities to warrant analysis. For this assessment, the status of the eastern Australia salmon stock was evaluated using nominal CPUE trends for the commercial purse seine ocean fishery off eastern Victoria. Australian salmon are frequently discarded by bay and inlet fishers which means that CPUE estimates generated by their catches are unlikely to provide a reliable proxy for stock biomass.

## Assessment Summary

For this assessment, the status of the eastern Australian salmon stock was assessed using:

- Nominal trends in CPUE of the Bass Strait purse seine fishery that operates in eastern Victoria. These data were filtered to only include shots with >100 kg of Australian salmon to effectively exclude purse seine shots targeted at other small pelagic species. The performance of the CPUE biomass proxies was assessed in relation to the average and minimum CPUE during the reference period of 1986–2015.
- The impact of fishing pressure was assessed using time series of commercial catch and effort.

Insufficient data are available from Victorian commercial or recreational fisheries to assess the status of the western Australian salmon stock. However, anecdotal information exists from a variety of recreational fisheries (surf and estuarine). In addition, the western Australian salmon stock extends from Western Australia to Victoria and it is possible to draw inferences from South Australian and Western Australian monitoring to inform the status of the stock.

This assessment found:

***Eastern Australian salmon***

- *Fishing pressure* – Ocean purse seine fishing effort has remained relatively consistent since the development of the fishery in the mid-1990s (Appendix 2). Australian salmon landings from the eastern stock have been variable and at their lowest in 2021/22 (Figure 84), and generally below average in recent years, with fluctuations likely driven by market demand (i.e. for rock lobster bait) and purse seiners preferentially targeting a variety of other schooling pelagic species.

- *Biomass* – CPUE was high during the early years of this fishery before fishing ceased temporarily between 1988 to 1995. Upon recommencing, CPUE was lower than it was previously and remained consistently below the reference period average for around a decade. During the last decade CPUE has been above the average for the reference period (Figure 85). A very large downward spike was observed in 2021/22 which saw landings below reference levels for the first time in decades, this is thought to be partly due to a low number of shots and an inability for fisherman to land a large school (Figure 85). Reasons for the low CPUE period are likely to be related to the larger number of operators who may have been less efficient and were targeting species apart from salmon. In recent years gear efficiency and specific targeting are likely to have ensured that CPUE remained above the reference average. These changes in fishing behaviour make it somewhat problematic to interpret CPUE trends within the context of biomass, particularly because this species schools heavily and purse seine shots are only undertaken when a school is located. Nevertheless, the fact that such large quantities are being taken in each shot (10–20 t) means that the size of Australian salmon schools has not declined noticeably since the development of the fishery in the 1980s, implying that biomass is likely to still be relatively high. However, CPUE trends for schooling species, and purse seine fisheries in general, can be misleading so it is important to consider other information when assessing a species/fishery such as this.

**Stock status summary:** The available evidence indicates that the eastern Australian salmon biomass has remained relatively stable since around 2005 and landings have been low to moderate during the last seven years, presumably due to low market demand for this species, which is predominantly used for rock lobster bait. Based on this evidence, the Eastern Victorian Australian salmon stock is considered to be sustainable.

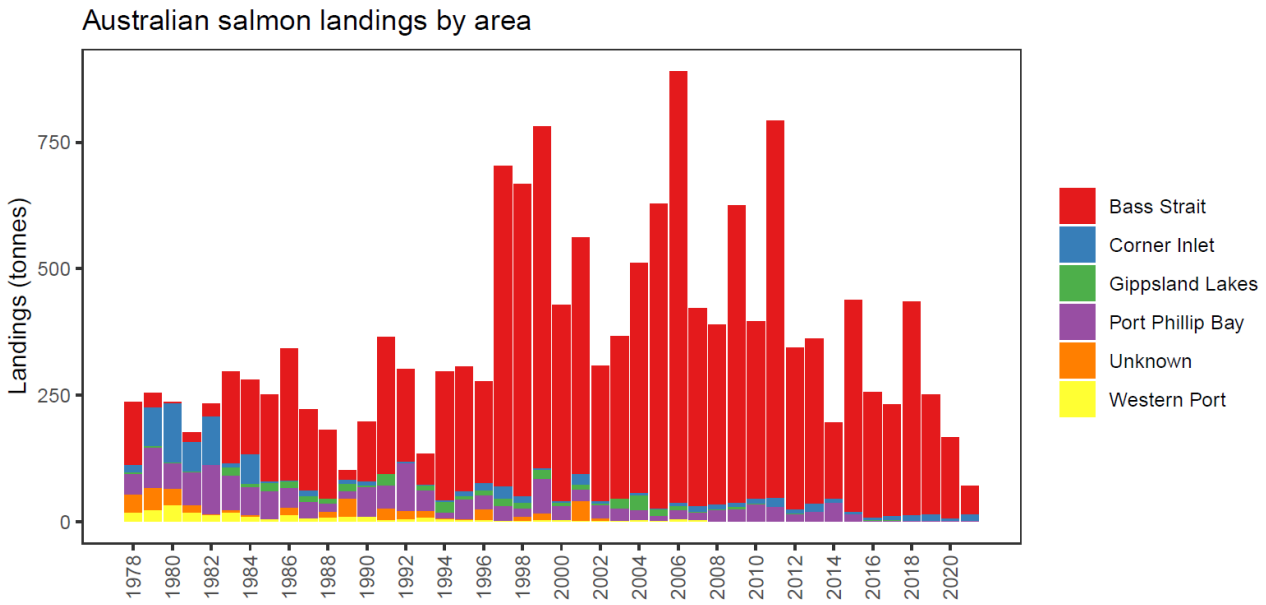


**Figure 84** Total catch of Australian salmon in Victoria from the commercial fishery by area, financial years 1978–2021.

### *Western Australian salmon*

**Stock status summary:** Insufficient data are available from Victorian commercial or recreational fisheries to assess the status of the western Australian salmon stock. The western Australian salmon stock is subject to very low exploitation by commercial fisheries in Victoria, nor is the species a common target of recreational fishers in the major Victorian bay and inlet fisheries; for example, “Salmon” were listed as the primary target species in only 0.38% of recreational fishers interviewed in creel surveys in Port Phillip Bay. Western Australian salmon are targeted in small scale recreational fisheries elsewhere (e.g. in estuaries and along the coast), however these are small within the context of the species wide ranging behaviour and the diversity of habitats that they are found. The mature stock resides exclusively in Western Australia and a variety of modelling techniques indicate that the stock biomass is around target levels and unlikely to be recruitment impaired (Wise and Molony 2018). Based on the above, western Australian salmon in Victoria is considered to be sustainable.

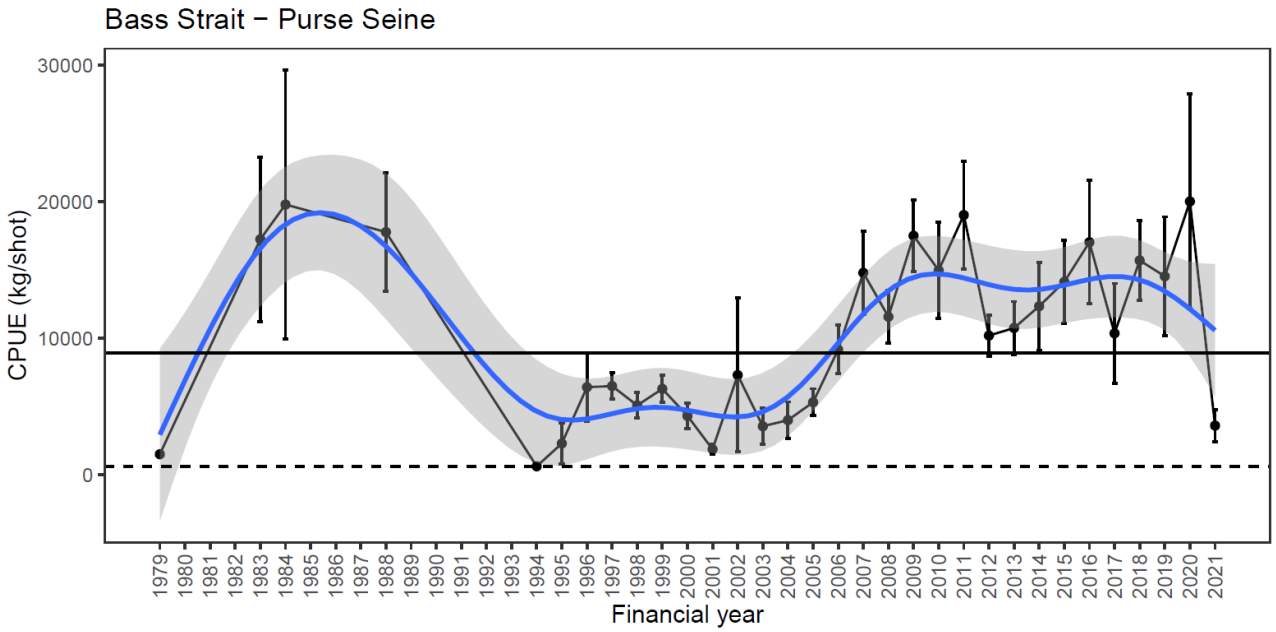


**Figure 85** Nominal Catch-per-unit-effort (CPUE) (±95% CL) of catches of eastern Australian salmon for the commercial purse seine ocean fishery (1997–2021 financial years). The blue line is a generalised additive model (GAM) of the CPUE trend with the shaded area representing 95% confidence intervals of the model. The black horizontal line is the average of the reference period (1986–2015) and the dashed line is the minimum observed value during the reference period.