

Creel survey of the Blackwood Estuary, 2005-06

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EXECUTIVE SUMMARY

The current status of the recreational fishery in the Blackwood Estuary, south-western Australia, was quantitatively assessed via a boat-based creel survey from September 2005 to August 2006. Sampling was stratified by both season and day-type and, in total, was conducted on 144 days over the 12-month period. Daily sampling consisted of a count of fishing effort and boating activity, and surveys of catches by boat-based and shore-based recreational anglers.

Recreational boating activity in the estuary was highly seasonal, with most boats observed in summer and autumn. Fishing boats accounted for 35% of the 2 523 boats recorded during counts, with a further 14% of boats observed motoring with fishing equipment on board. High levels of boating activity were recorded near the town site of Augusta during summer and autumn holiday periods.

In total, interviews were completed with 699 boat-based and 513 shore-based angling parties. The retained catch of 2 631 fishes comprising 17 species was dominated by *Sillago schomburgkii* (47%) and *Arripis georgianus* (17%). *Acanthopagrus butcheri* was the most frequently targeted species (27%), followed by *S. schomburgkii* (21%). Only 41% of the boat-based angling parties and 37% of the shore-based angling parties surveyed had retained fish at the time of interview. Compliance with minimum legal length regulations was found to be an issue, particularly for *Arripis truttaceus* and *Sillaginodes punctata*, which were commonly misidentified.

Fishing effort was greatest during summer and over the Easter period, when there were influxes of tourists to the region. More anglers were recorded on weekends and public holidays than weekdays in every month of the year except for December and January. Fishing from boats was recorded throughout the estuary, while shore angling was mainly concentrated in accessible locations near Augusta.

The overall catch rate was 0.835 (± 0.044) fish retained/ angler/ h, with the catch rate for boat-based angling parties slightly higher than for shore-angling parties. The highest mean catch rate recorded for an individual species was for *S. schomburgkii*. Total annual fishing effort was estimated to be 44 655 ($\pm 3 157$) angling hours for boat-based anglers, and 26 910 ($\pm 2 421$) angling hours for shore-based anglers. Total harvest was calculated to be 40 383 ($\pm 4 258$) and 20 908 ($\pm 2 571$) fish, respectively, for each sector. Approximately eight tonnes of fish were harvested from the Blackwood Estuary over the survey period.

Comparison with a similar 12-month creel survey conducted in the Blackwood Estuary in 1974-75 showed some major differences. Catches were much lower in 2005-06, with the total estimated harvest (number of fish) less than a quarter of the previous study. Total annual fishing effort in angler hours was remarkably similar, although boat-based effort had decreased and conversely, shore-based effort was significantly greater in 2005-06. The recalculated overall catch rate for 1974-75 was 4.170 (± 0.072) fish/ angler/ h, almost five times the value obtained in 2005-06.