

**RECREATIONAL ANGLING CREEL SURVEY AND  
BOATING ACTIVITY ASSESSMENT  
IN THE ROTTNEST ISLAND RESERVE,  
WESTERN AUSTRALIA**

**2003**

**Claire Smallwood**

**Thesis submitted in completion of the requirements for the degree of BSc (Hons) Marine  
Science**

**School of Environmental Science**

**Murdoch University**

**Supervisor: Lynnath E. Beckley**

## ABSTRACT

Rottnest Island, located 18km west of Fremantle, is a popular holiday destination with approximately 500 000 visitors each year. It is an A-class reserve managed by the Rottnest Island Authority and the marine portion extends approximately 800m from the shore. A roving creel survey of shore-based recreational angling and inshore boating activity was conducted from January to September 2003.

In total, 854 anglers were recorded during the survey and their distribution around Rottnest was found to be affected by the distance from the settlement areas, day type and weather conditions. The main target species was *A. georgianus* (46%) although there were a total of 42 fish taxa recorded during the survey. The catch was mainly *A. georgianus* (62%), non-target species (20%) and *R. sarba* (10%). Effort during the nine month survey period was estimated at 17 869 angler days with the total catch 49 069 kept and released fish. An estimate of angler numbers indicated that only between 4 848 and 5 711 anglers fished from the shore during the survey period.

The majority of vessels visited the reserve in summer with higher numbers recorded on weekends, except for unattended tenders which showed an inverse relationship with other boat types. There eight different mooring locations around the reserve and results showed that only four had an average occupancy of greater than 70% in the summer months. From May until the completion of the survey, no mooring area exceeded 10% capacity. SCUBA diving was the most popular marine recreational activity conducted in the summer months, with surfing the most frequently recorded in winter. These activities, along with fishing and crayfishing, are undertaken in numerous locations around the island.

Management concerns in the reserve include non-compliance with fishing regulations, large catch of non-target species, access and occupancy of moorings, the impacts of boating and user conflicts. The data from the survey can be used by agencies to address these issues through education, monitoring and zoning.