



# SARDI Aquatic Sciences Fisheries

## Introduction

The Fisheries Science Program is a nationally recognised provider of fishery expertise and fishery stock assessments. The Program conducts biological, ecological and fisheries research and modelling, and provides scientific advice to State and Commonwealth Governments on issues related to the ecologically sustainable utilisation of Australia's fisheries resources.

## Overview

SARDI scientists specialise in the biology and ecology of marine fishes and invertebrates, and fisheries biology and stock assessment. Staff work closely with State and Commonwealth fisheries research agencies, industry organisations and other stakeholders, and have strong collaborations with researchers in other agencies and universities.

The program's focus on stock assessment of key species is achieved by investigating and better understanding their life history and ecology to determine the effects of fishing on populations.

Fishery-independent surveys of abundance are conducted for many species including Abalone, Australian Sardine, Southern Rock Lobster, Snapper, prawns and Blue Swimmer Crabs.

The primary outputs are integrated stock assessment reports that provide the scientific basis for sustainable fisheries management. We also support harvest strategy development for each fishery.

Scientific findings are published in peer-reviewed reports, and national and international journals.

There are five sub-programs.

## Crustacean Fisheries

This sub-program focuses on Southern Rock Lobster, Western King Prawn, Blue Swimmer Crabs and Giant Crab. Research involves analysis of data from logbooks, voluntary catch sampling, puerulus monitoring and fishery-independent surveys. A key output is real-time fishing strategy development with industry.

## Molluscan Fisheries

This sub-program focuses on two species of abalone (Greenlip Abalone and Blacklip Abalone), several cephalopods (Southern Calamari and Giant Cuttlefish) and bivalves (Pipi and Vongole). Research involves analysis of data from logbooks and fishery-independent surveys to estimate harvestable biomass. There is also a focus on reducing the risks of overfishing and increasing revenue.

## Finfish Fisheries

The Finfish Fisheries sub-program works on stock assessment and fisheries biology of a wide variety of demersal and estuarine finfish.

The primary focus is on the SA Marine Scalefish Fishery, the Lakes and Coorong Fishery and the Australian Sardine Fishery. Research is targeted into the population dynamics and fisheries biology of King

George Whiting, Snapper, and Southern Garfish – key species harvested in SA’s complex, multi-species, multi-gear Marine Scalefish Fishery. For the Lower Lakes and Coorong, research is targeted to the key estuarine species of Mulloway, Yellow-eye Mullet, Flounder and Black Bream. For the Sardine and Snapper fisheries, independent surveys to estimate harvestable biomass are a key component of the program.

## **Fisheries Modelling**

This sub-program develops stock assessment models and provides leadership in statistics, survey design, and data analysis across the Fisheries Science Program. Primary roles are to infer the changing abundance of fish stocks over time from multiple fishery data sources for fishery assessment and model-based bioeconomic harvest strategy evaluation for quota setting and stock management.

## **Fisheries Information and statistics**

This sub-program develops and maintains databases of commercial catch and effort and fishery-independent survey data. Migration to electronic reporting is a key current focus.