

# Dr Stephen Mayfield

## Science Leader, Fisheries

SOUTH  
AUSTRALIAN  
RESEARCH &  
DEVELOPMENT  
INSTITUTE  
**PIRSA**

### Qualifications

BSc (Hons) University of Cape Town  
PhD University of Cape Town

### Role

Dr Stephen Mayfield is the Science Leader of the Fisheries Science Program at SARDI Aquatic Sciences. The role is responsible for providing scientific leadership, effective and efficient management of contracts, projects, staff, data and financial resources, building and maintaining strong working relationships across a broad range of clients and timely delivery of relevant scientific advice to clients in support of ecologically sustainable fisheries management.

### Research focus

Stephen's research has focused on the biology and ecology of nearshore exploited marine species, notably abalone, mud cockles and rock lobster. This has included stock assessments for these species, development of practical approaches to reducing the scale of abalone assessment and management, assessing potential impacts of climate change, developing immunological approaches to diet assessment, untangling the relationships among rock-lobster diet, growth rate and food availability, understanding the role of rock lobsters in the survival of juvenile abalone and assessing the efficacy of Marine Protected Areas for rock lobsters in South Africa.

Current areas of research include development and implementation of fishery performance indicators and harvest strategies, stock-assessment methods for greenlip and blacklip abalone in South Australia, evaluating the potential for fisheries on unexploited abalone stocks, application of techniques to assess absolute abundance of abalone and mud cockles, optimising the spatial scale of abalone fishery management, reproductive biology of abalone, impacts of climate change on fisheries and the development of stock assessment and risk analysis models.

### Major projects

As Science Leader for Fisheries, Stephen's largest project is the Service Level Agreement (SLA) between PIRSA Fisheries and Aquaculture and SARDI Aquatic Sciences. These SLAs cover more than 15 fisheries and detail the data collection, analysis and stock assessment and stock

status reporting undertaken by SARDI in support of the sustainable fisheries management in South Australia.

As the sub-program leader for Molluscan Fisheries, Stephen has direct responsibility for managing and delivering against the SLAs for the South Australian abalone, mud cockle and pipi fisheries.

Stephen is also a co-investigator on numerous projects funded by the Fisheries Research and Development Corporation.

### Key publications

- Dent, J., **Mayfield, S.**, Stobart, B. & Carroll, J. (2016). Setting quotas using provisional data: a case study from the South Australian abalone fisheries. *New Zealand Journal of Marine and Freshwater Research*.
- Stobart, B., **Mayfield, S.**, & Carroll, J. (2016). Influence of wind and swell on catch rates in a dive fishery: case study from the South Australian abalone fishery. *Journal of Shellfish Research*, 35: 685-694.
- Stobart, B., **Mayfield, S.** & McGarvey, R. 2013. Maximum yield or minimum risk: using biological data to optimise harvest strategies in a Southern Australian molluscan fishery. *Journal of Shellfish Research*, 32: 899-909.
- Mayfield, S.**, Mundy, C., Gorfine, H., Hart, A. & Worthington, D. 2012. Fifty years of sustained production from the Australian abalone fisheries. *Reviews in Fisheries Science*, 20: 220-250.
- Mayfield, S.**, Chick, R.C., Carlson, I.J. & Ward, T.M. 2011. Invertebrate dive fisheries can be sustainable: 40 years of production from a greenlip abalone fishery off southern Australia. *Reviews in Fisheries Science*, 19: 216-230.
- Gorman, D., **Mayfield, S.**, Ward, T.M. & Burch, P. 2011. Optimising harvest strategies in a multi-species bivalve fishery. *Fisheries Management and Ecology*, 18: 270-281.

### Boards/Committees

- Abalone Harvest Strategy Review Working Group
- Status of Australian Fisheries Reference Group
- Lakes & Coorong Fishery Management Advisory Committee



P: +61 8 8429 0734

M: +61 401 122 108

E: [stephen.mayfield@sa.gov.au](mailto:stephen.mayfield@sa.gov.au)

