



Dr Alan Cottingham and Dr Chris Hellet from Murdoch University and PHCC's Dr Steve Fisher



Dr Alan Cottingham and Dr Chris Hellet from Murdoch University fish sampling

ARC Linkage Project

Balancing estuarine and societal health in a changing environment

This project is a collaborative scientific venture involving more than twenty researchers and land managers from four universities, two State Government departments, two local governments and PHCC. It investigates the links between catchment management and downstream effects and uses this information to model and predict changes in estuary health in response to changes in catchment land uses and estuary management.

The PHCC's two key roles in the initiative are to provide ongoing scientific and technical advice to the ARC Research Team, and communicate the project's aims and outcomes to the catchment community including land managers.

This will ensure that the initiative is aligned with the Science Strategy for the Peel- Harvey Estuary and linked to related regional activities, including the development of a report card on the health of the Peel-Harvey Estuary and catchment.

FUNDING PROGRAM

Australian Government's Australian Research Council with contributions from partner organisations

PHCC PROGRAM

Science Integration

PHCC PROJECT

ARC Linkage Project

FUNDING

Australian Research Council	\$541K
Department of Premier & Cabinet	\$120K
City of Mandurah	\$150K
Shire of Murray	\$30K
PHCC	\$15K
Murdoch University	\$234K
University of WA	\$91K
In-kind	
City of Mandurah	\$143K
Shire of Murray	\$5K
PHCC	\$105K
Department of Water	\$1,240K
University of Hull	\$144K
University of WA	\$175K
Southern Cross University	\$128K

STAKEHOLDERS

All of the above-named Partner Organisations are stakeholders. Others include Department of Primary Industries and Regional Development (including Fisheries and Agriculture) and Department of Transport

BENEFICIARIES

Stakeholders, community, businesses and visitors will be beneficiaries from this research project

PROJECT MANAGER

Dr Steve Fisher (PHCC Science Advisor) represents PHCC's interest in the project. His main role is to ensure the outcomes of the project are aligned with the Science Strategy for the Peel- Harvey Estuary, link related regional activities, and facilitate scientific discussions between the Research Team and the Partner Organisations.

The lead researchers are Dr Fiona Valesini (Murdoch University) and Dr Matt Hipsey (University of Western Australia).

STEERING COMMITTEE

Jan Star, Bob Pond, Dr Peter Hick, Dr Rob Summers and Jane O'Malley



ARC Linkage Project Partners

“Much of the 4000 km of the Peel waterways on the Swan Coastal Plain is degraded due to past and present management practices in our catchment. These practices, including inappropriate land uses, alteration of natural watercourses and construction of artificial drains have created sediment and reduced water quality in the catchment which, in turn, can lead to algal blooms or fish kills in the lower reaches of the rivers and in the Peel-Harvey Estuary itself. This project gives organisations with responsibility for management of the estuary or catchment the tools to make decisions that may affect the condition of the estuary informed by rigorous scientific evidence.” ~ Andy Gulliver PHCC Chairman (2017) ~

OUTPUTS & OUTCOMES

- Tracing the source of nutrients in the estuary to land uses in the catchment by coupling catchment and estuary models of nutrient transport and using isotopes as tracers
- Collecting information on fish populations, benthic (bottom dwelling) invertebrates, sediment quality and submerged aquatic vegetation
- Producing indices of estuary condition from this information and eventually a report card for the Peel-Harvey estuary
- Quantifying ecosystem services (or societal benefits) provided by the estuary
- Developing indicators of the socio-economic health of the Peel Region
- Developing a framework for an estuary response model which will assist in predicting an impact on the estuary from a change of practice or other disruption in the catchment
- XX (number) PhD students working in the Peel-Harvey

LOCATION

The entire Peel-Harvey Estuary and coastal plain catchment.

PUBLIC AWARENESS

- SHARE event (Social Help, Action and Resources for Environment) in September 2017 where the research team presented an overview of the project, their research findings so far and a history of development and landuses and environmental issues, including fish kills, since the 1800s. 40 community members attended
- Dr Steve Fisher and Fiona Valesini presented an overview of the project at the City of Mandurah Council Meeting in November 2016
- Dr Valesini presented to the Peel preservation Group at their AGM in Nov 2017
- PHCC media release published in the Mandurah Mail in January 2018
- Ongoing social media

LINKS TO OTHER PROJECTS

- Marine Stewardship Council Certification of the Western Australian Peel-Harvey Estuarine Fishery.
- Regional Estuaries Initiative (Department of Primary Industries and Regional Development)
- Science Integration
- Connecting Corridors and Communities: Restoring the Serpentine River
- Transform Peel