

# RESEARCH DIRECTIONS

## Understanding the impact of human induced environmental changes on the decline of the Murray River turtle

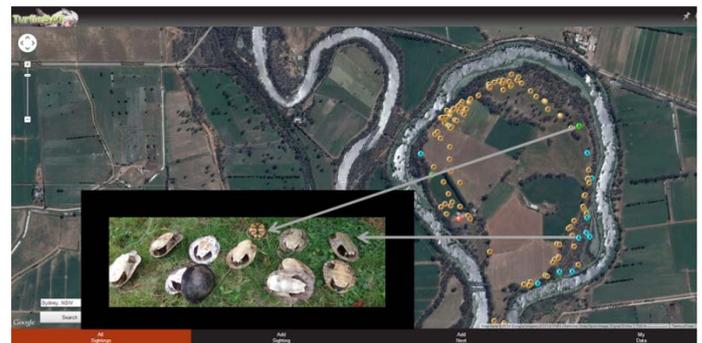
Dr Ricky Spencer of the School of Science and Health and Mr Tim Barlow of the Goulburn Broken Catchment Management Authority have been awarded \$25,000 in Partnership funding from UWS to investigate the ecological function of turtles in the Murray River and the impact that their potential extinction would have on the structure of local food webs.

Dr Spencer explains that 'turtles are great evolutionary survivors. But a combination of human-induced changes in the environment has created a downward spiral so powerful that without strategic intervention much of the turtle lineage will have disappeared by the close of the 21st century. Nearly half of all turtle fauna are threatened or extinct in the wild, including Murray River turtles.'

Besides their conservation value as an iconic native vertebrate, the rapid decline of Murray River turtles may have far greater implications for the entire ecosystem. Due to the longevity of the river turtle, changes to the river ecosystem caused by human behaviour, such as the introduction of invasive species (eg. Foxes and European Carp) and changes in water management, may only now be manifesting into population declines and extinctions.

This study will explore the complex food web dynamics that have been affected by human-induced changes in the Murray River environment, as well as experimentally test effective fox management programs.

Dr Ricky Spencer and Mr Tim Barlow will partner with the Goulburn Broken Catchment Management Authority and work in collaboration with the public land managers, Parks Victoria and the Department



of Environment and Primary Industry, on this project to develop detailed assessment and management guidelines for best practice management of freshwater turtle populations in the region. Dr Spencer notes that, 'we expect the guidelines to become standard practice and adopted by all public land managers throughout Victoria, NSW and SA, as well as become the international standard for assessing and managing freshwater turtle populations, which are one of the most threatened groups of animals throughout the world.'

**Project Title:** Ecological Function of turtles in the Murray River: Risks of Extinction and Human Induced Changes in the Structure of Food Webs

**Funding has been set at:** \$25,000

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**October 2014**

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