

### Testing critical assumptions of interventions & outcomes, & designing effective, efficient biodiversity monitoring to support strategy implementation

Project A2:  
MERI

This project will provide improved clarity and confidence in understanding how management interventions are likely to achieve the desired outcomes and improved monitoring design and range of efficient & cost-effective monitoring techniques to properly support the HWS MERI.

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This project is strongly focussed on supporting the overarching Monitoring, Evaluation, Reporting and Improvement (MERI) Framework and Plan for the Healthy Waterways Strategy. It will help identify critical assumptions between key MW interventions, their relationships with environmental conditions, and subsequently, on the status/condition of key values of interest.

The focus will be on interventions where there is high investment by MW and stakeholders, but low confidence in the effectiveness, efficiency and/or consistency of achieving the desired outcomes. This will involve designing and implementing studies specifically testing critical assumptions and outcomes of key interventions in a range of settings reflecting environmental and urban development gradients. Two key interventions that are strong candidates for investigation are **riparian revegetation** and **environmental watering of wetlands**.

This project will also investigate approaches and methods for improving the effectiveness and efficiency of biodiversity monitoring in waterways (including riparian and instream areas) and wetlands.

#### Methods

As the HWS MERI Framework and Plan development process is a work-in-progress, a broad outline of key tasks includes the following:

- Review relevant State agency MER frameworks/plans to understand their approaches and to help ensure consistency and broad alignment with

these;

- Support development of Program Logics for each key value target and identify the critical assumptions between interventions, environmental condition targets and key value outcome targets;
- Identify priority critical assumptions that ought to be tested, based on level of investment and uncertainty about desired outcomes;
- Determine if MW's current "gold"/works monitoring program can provide answers with respect to priority critical assumptions, and/or reliably assess changes in performance measures of interest;
- Articulate research questions, specify objectives, performance measures of interest and minimum effect size of interest for these;
- Understand the level of monitoring effort required to detect the effect size of interest for given performance measures at the required level of confidence; and
- Develop MER plans including the planned response to findings

#### Outcomes

This project will provide Melbourne Water with an improved understanding of how key management interventions influence environmental condition. This information will directly support the overarching MERI framework for the HSW.