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## Water Availability in the Murray-Darling Basin

Murray-Darling Basin Sustainable Yields Project


13<sup>th</sup> March, 2009

 Australian Government  
National Water Commission  
Raising National Water Standards

 CSIRO


## Overview

- Introduction
  - Project background, scope and context
- Project Methods
- Overview of project findings for Murray-Darling Basin
- Q&A

 CSIRO

## Project terms of reference

- **Water Summit: PM and First Ministers, Nov 2006**
  - CSIRO to report progressively through to 2008 on sustainable yields of surface and groundwater systems within the MDB
- **Estimate current and likely future (~2030) water availability in each catchment/aquifer and for the entire MDB considering:**
  - climate change and other risks
  - surface-groundwater interactions
- **Compare the estimated current and future water availability to that required to meet the current levels of extractive use**



## Project context

**This Project**

Assessments of current & future water availability


Environmental impacts of alternate allocation regimes

Socio-economic impacts of alternate allocation regimes

Stakeholder and community consultation


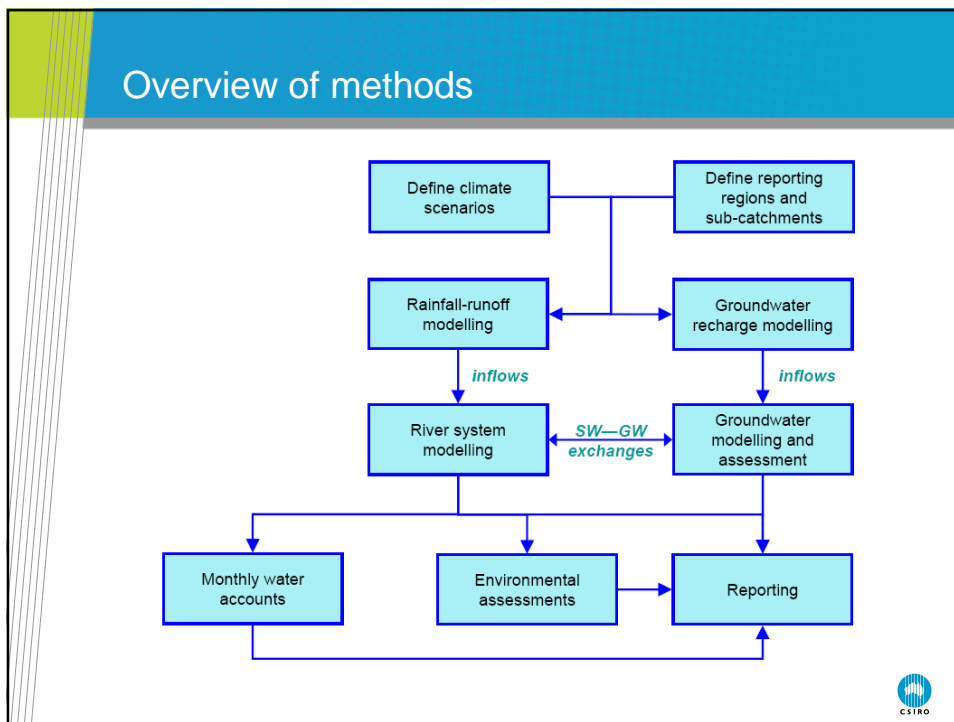
**Water resource planning, management and investment**

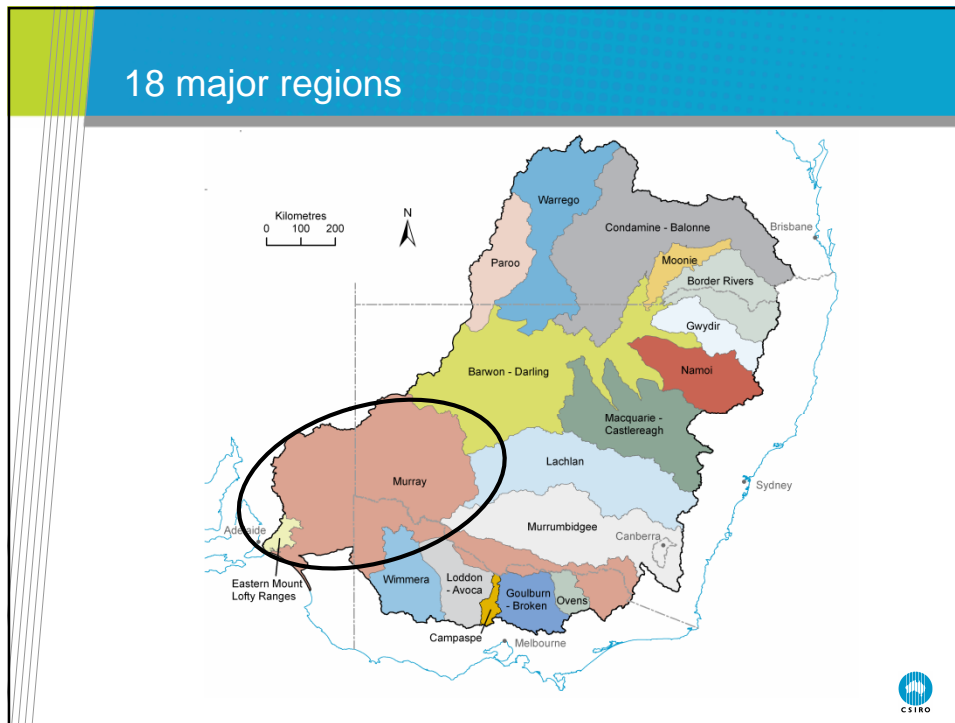
*This project has not determined sustainable yields or set a new cap on diversions*



## Project partners

- **CSIRO**
  - Project management
  - Technical leadership and major technical contributions
- **DEWHA and NWC**
  - Project governance
- **State government agencies and MDBC**
  - Project governance
  - Technical review
  - Provision of models and data
  - Technical input – especially river modelling
- **Consulting companies, eWater CRC, BRS & some universities**
  - Small to major technical contributions



### Scenarios

A: Historic climate (1895-2006) & current development  
 B: Recent climate (1997-2006) & current development  
 C: Future climate & current development  
 D: Future climate & future development

- Future climate
  - 2030 climate based on 4AR IPCC results
  - 3 global warming levels (low, mid, high)
  - 15 global climate models
- Future development
  - Commercial forestry plantations
  - Farm dams
  - Groundwater extractions

Autumn

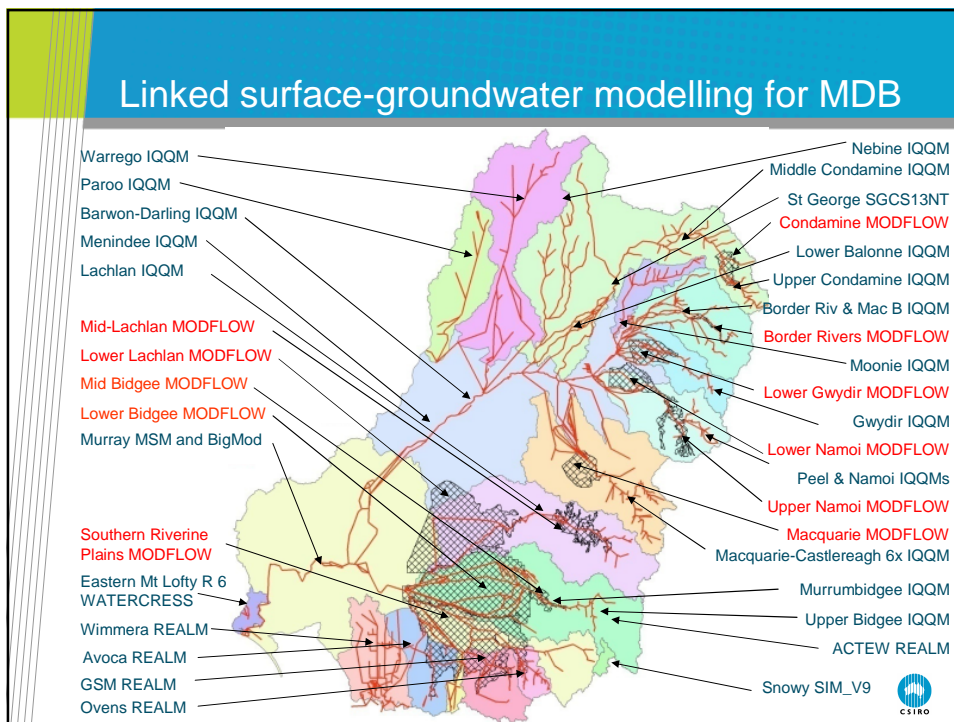
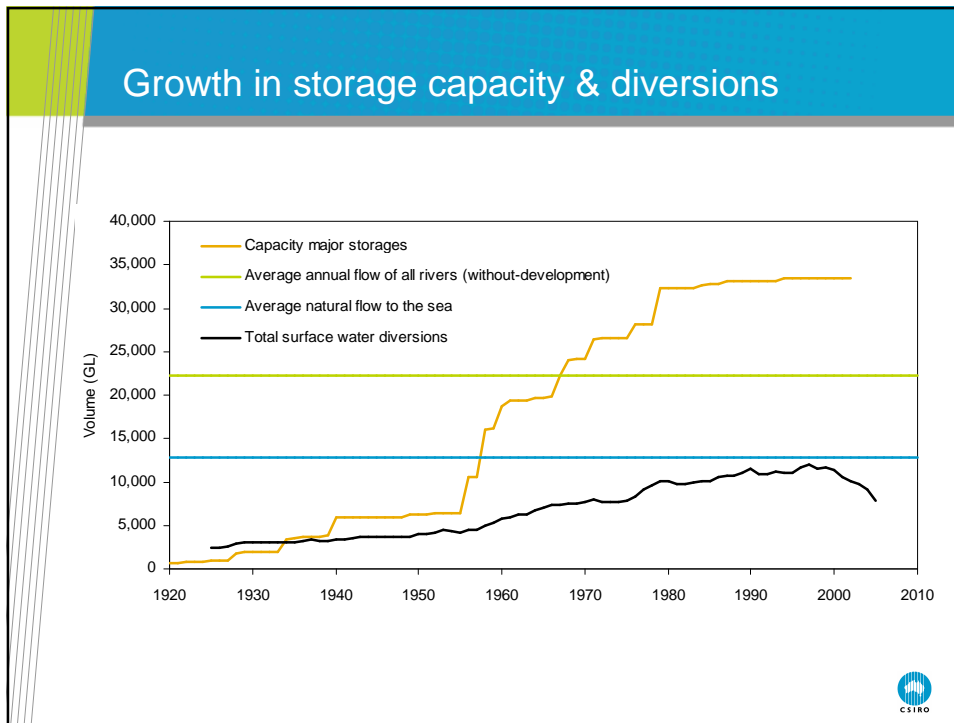
Summer

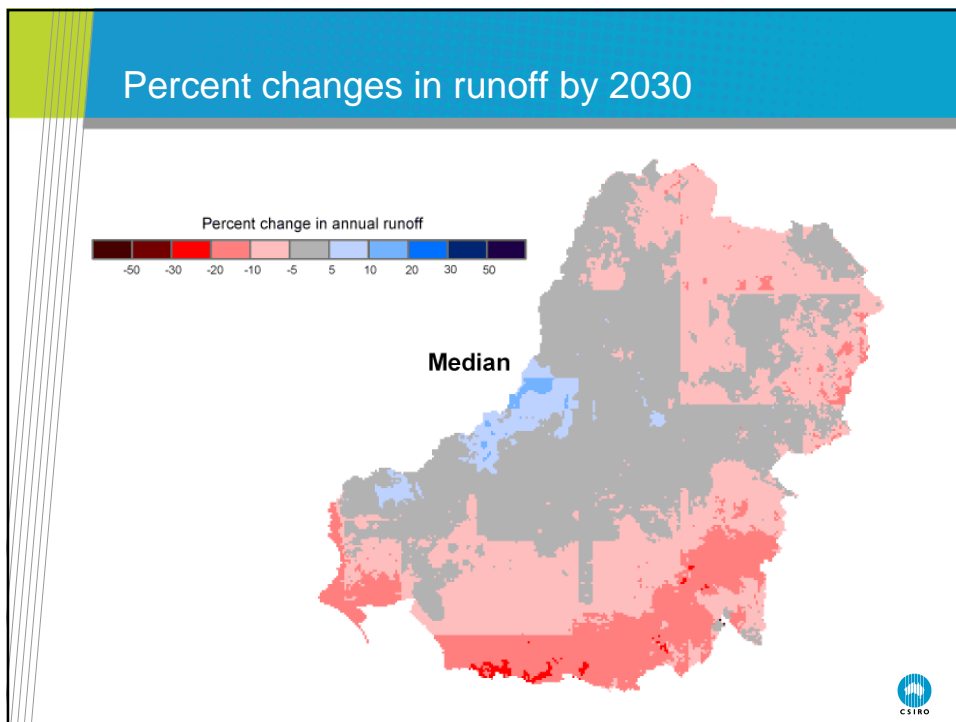
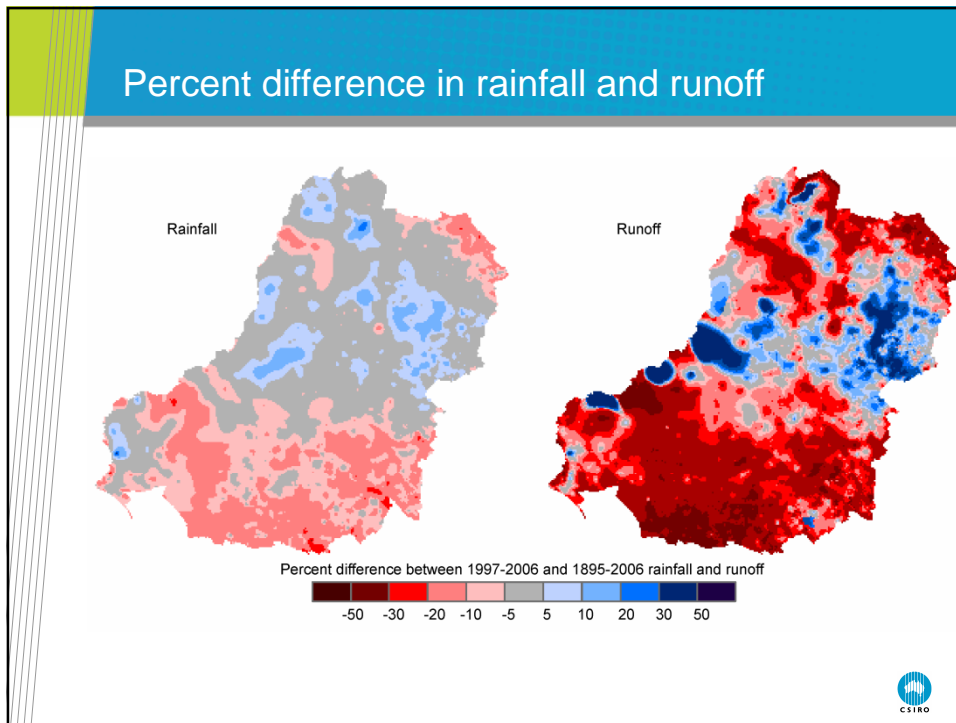
Winter

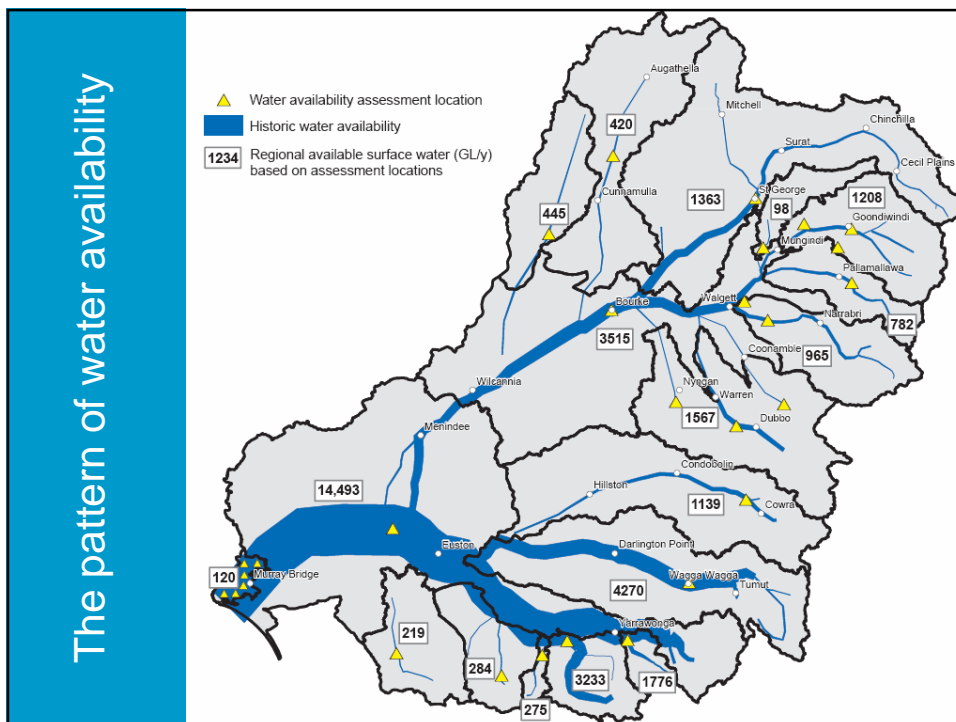
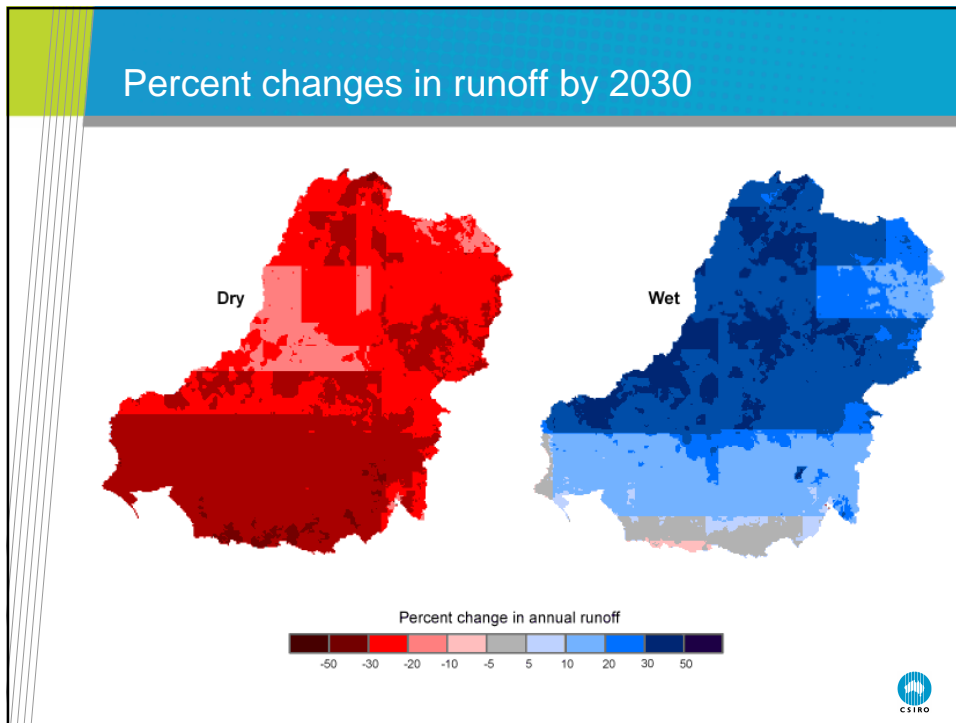
Spring

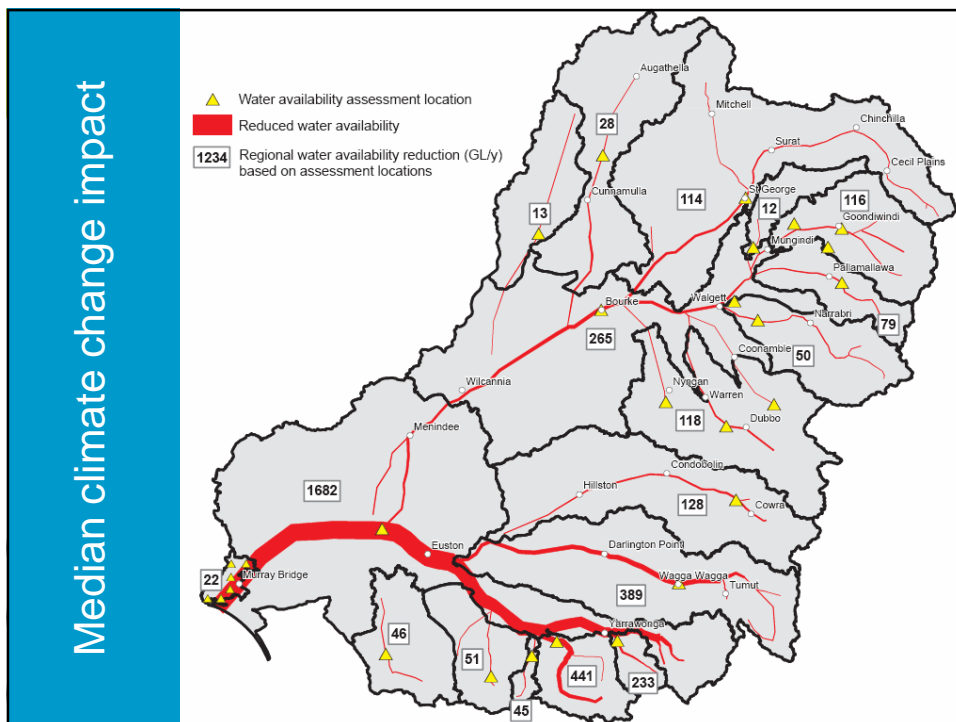
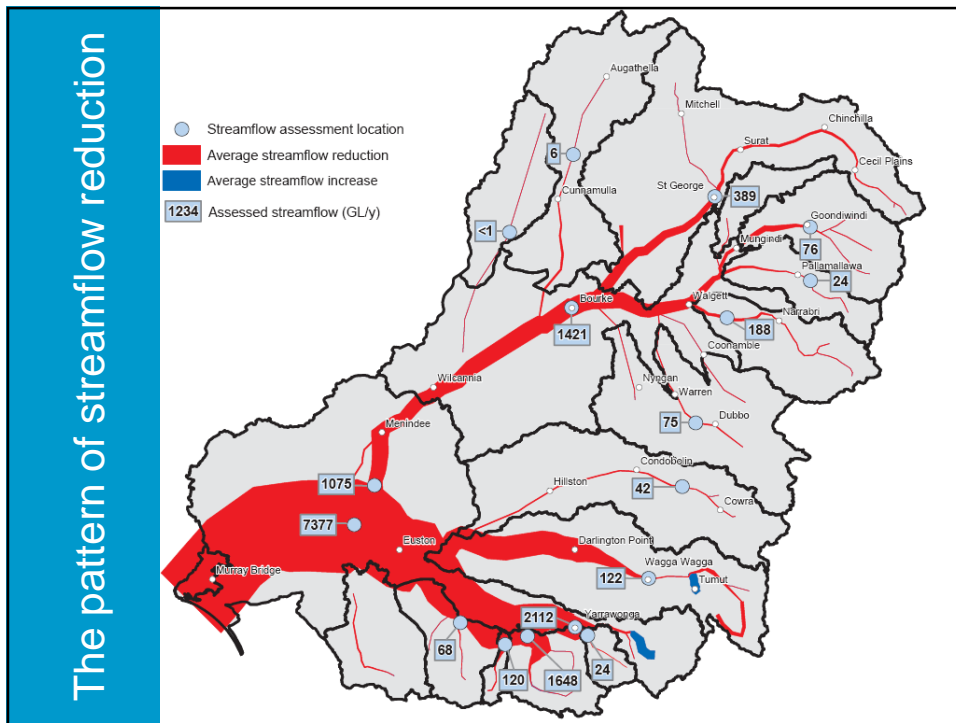
>> continuation of existing water sharing arrangements

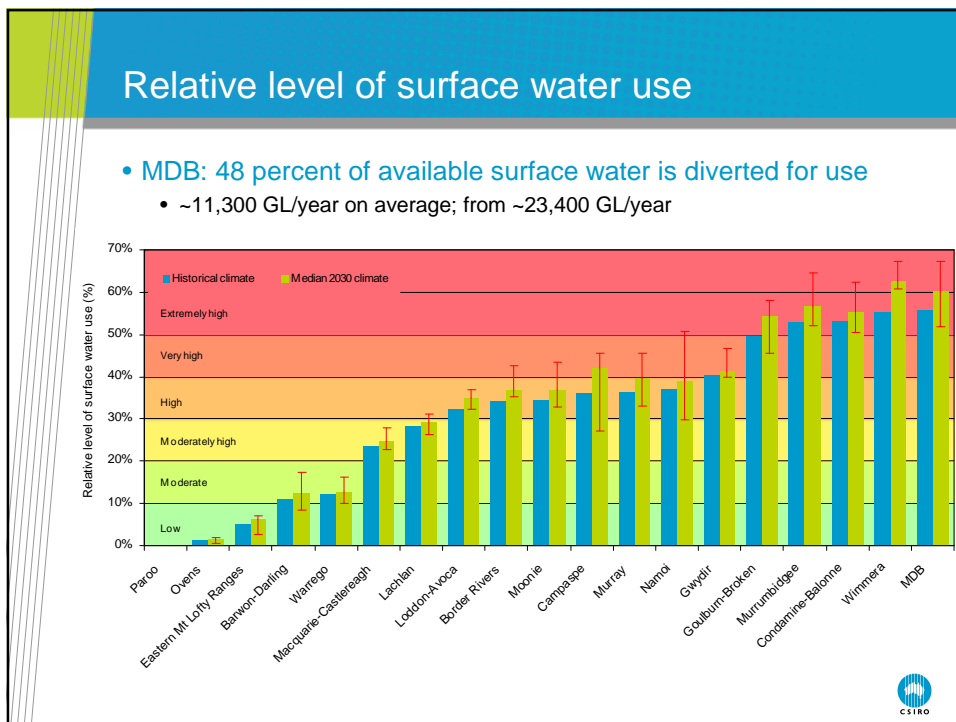
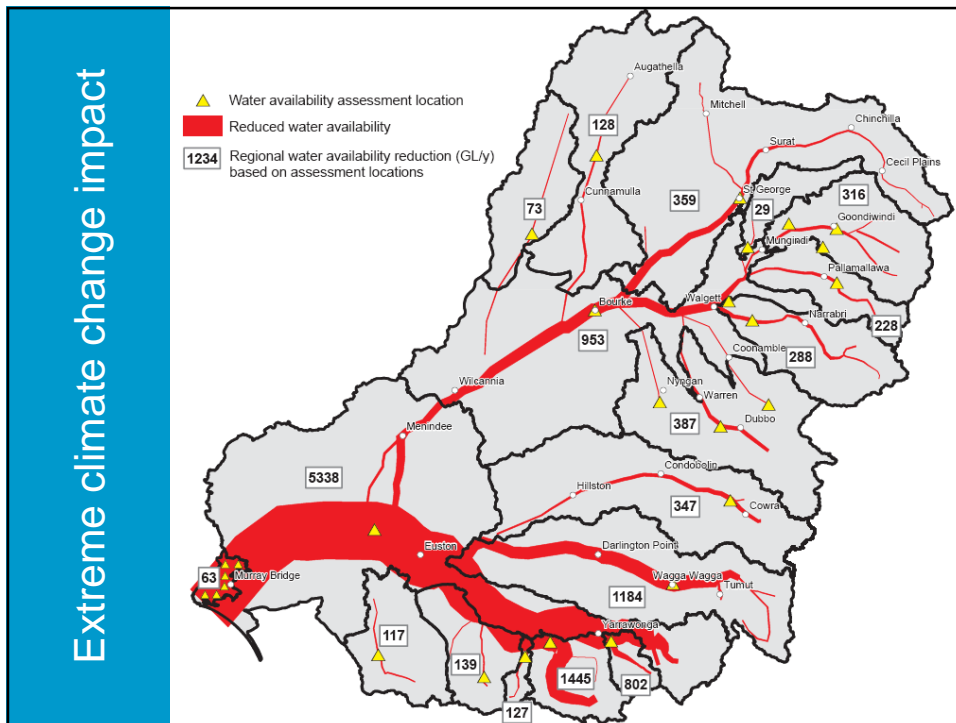
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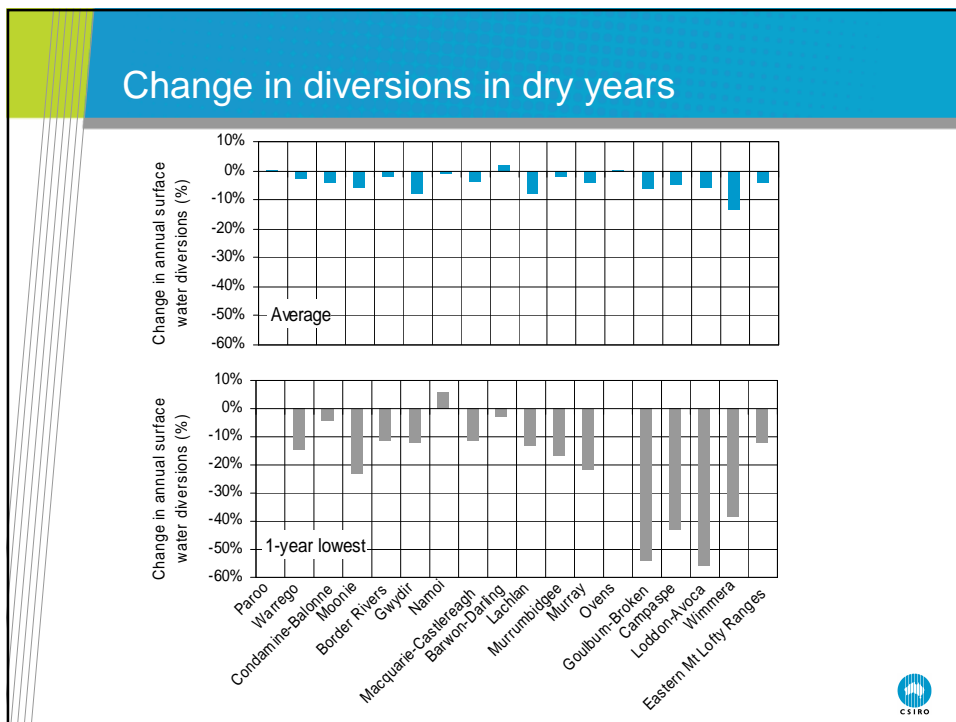
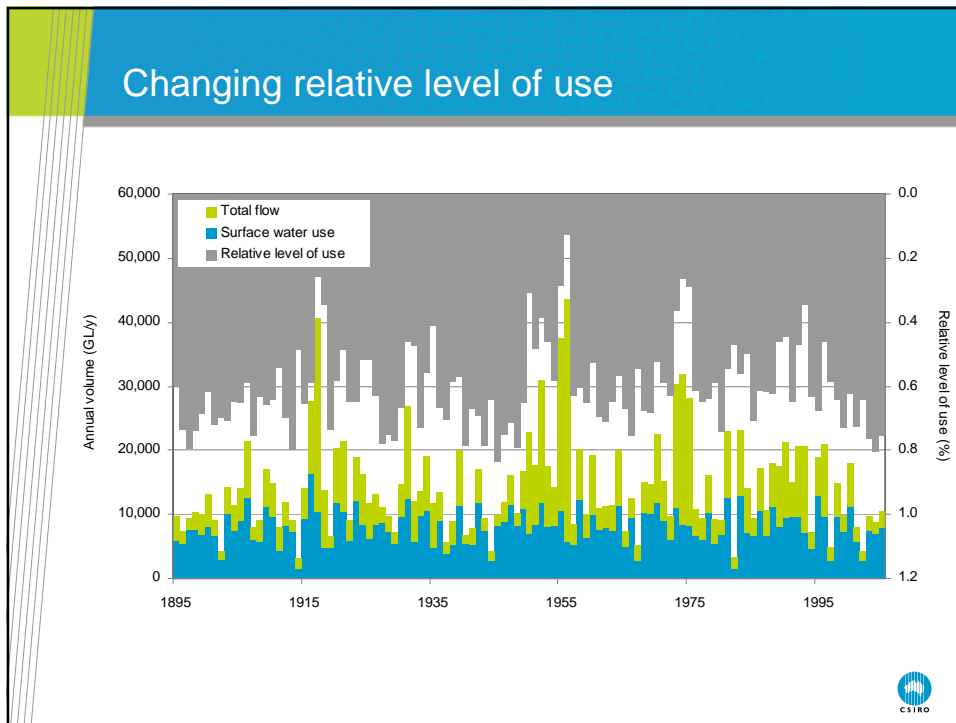


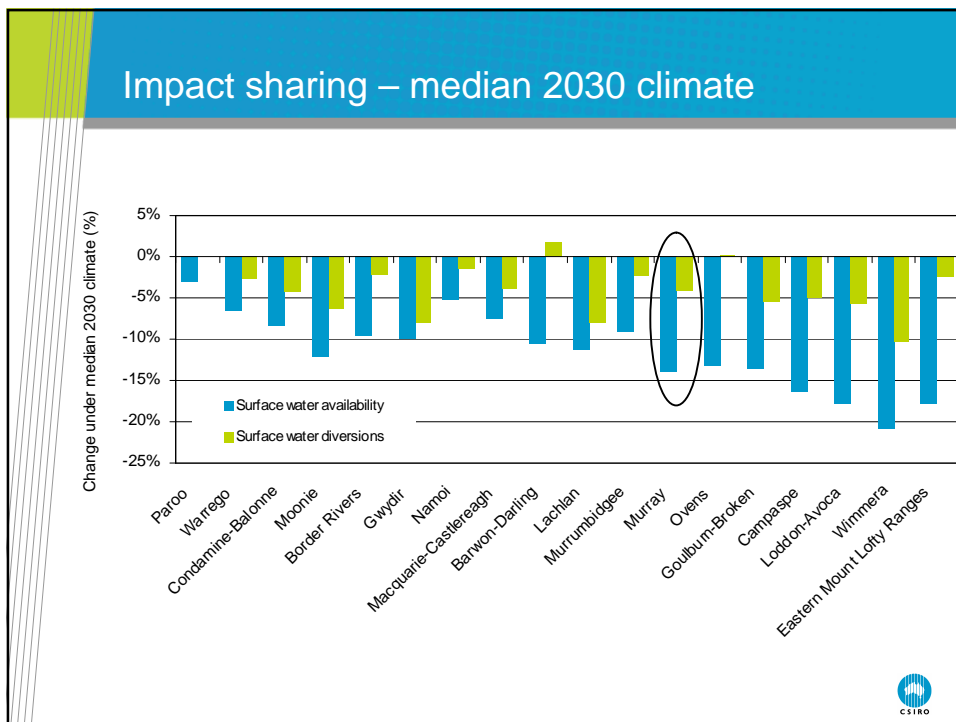
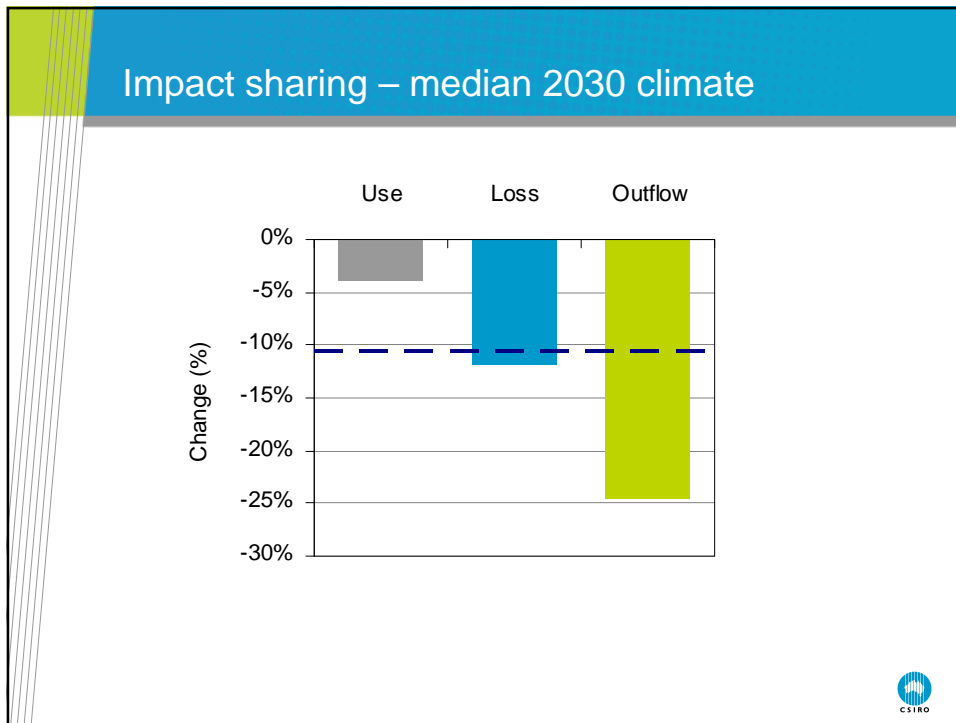


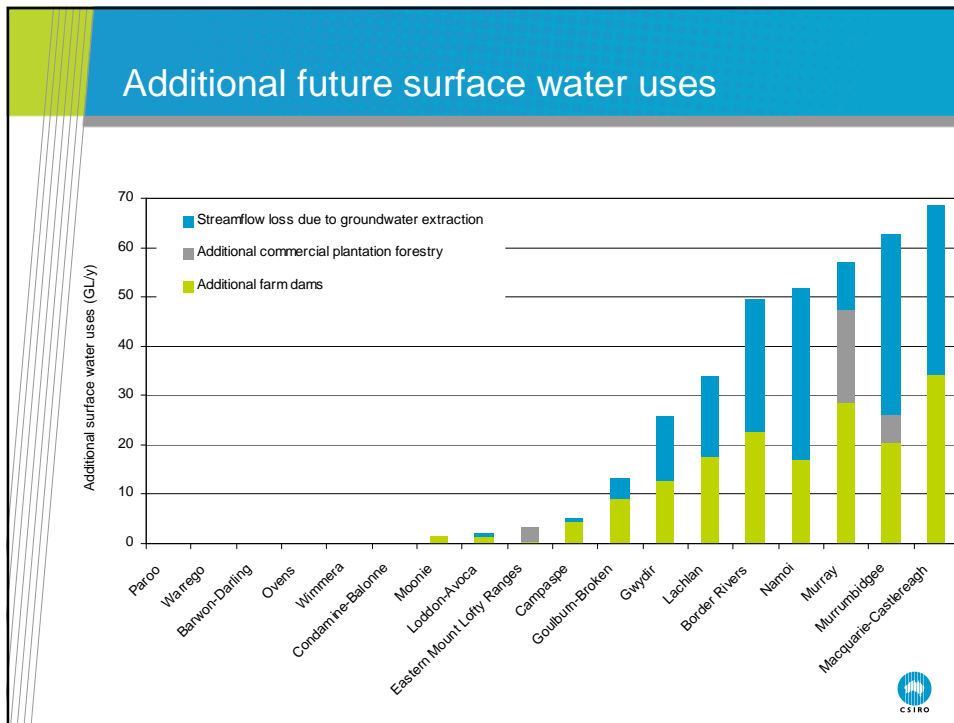




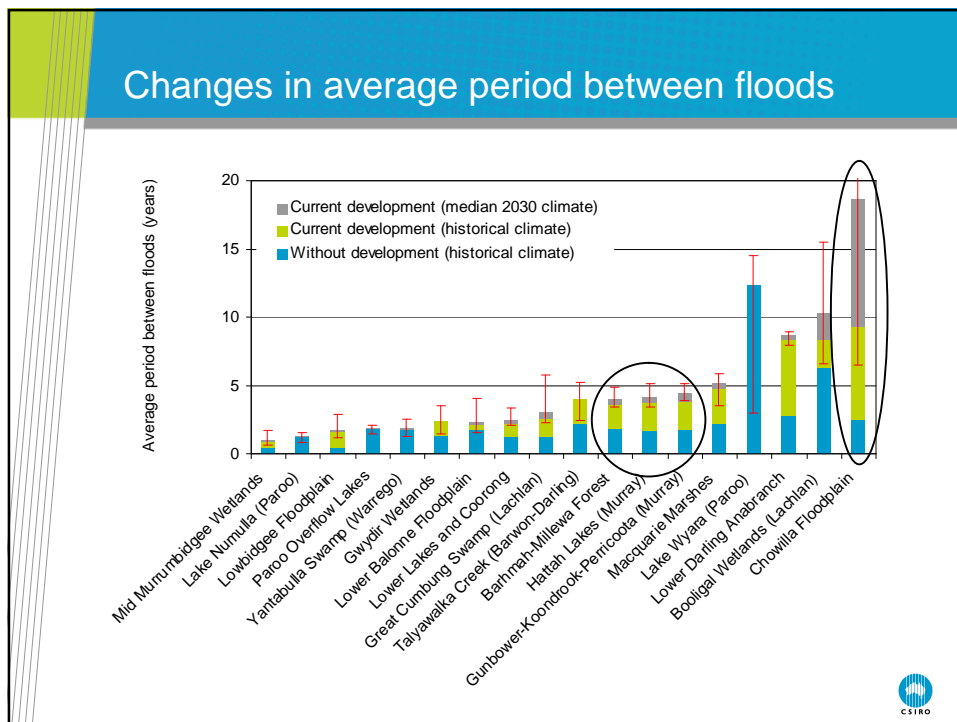
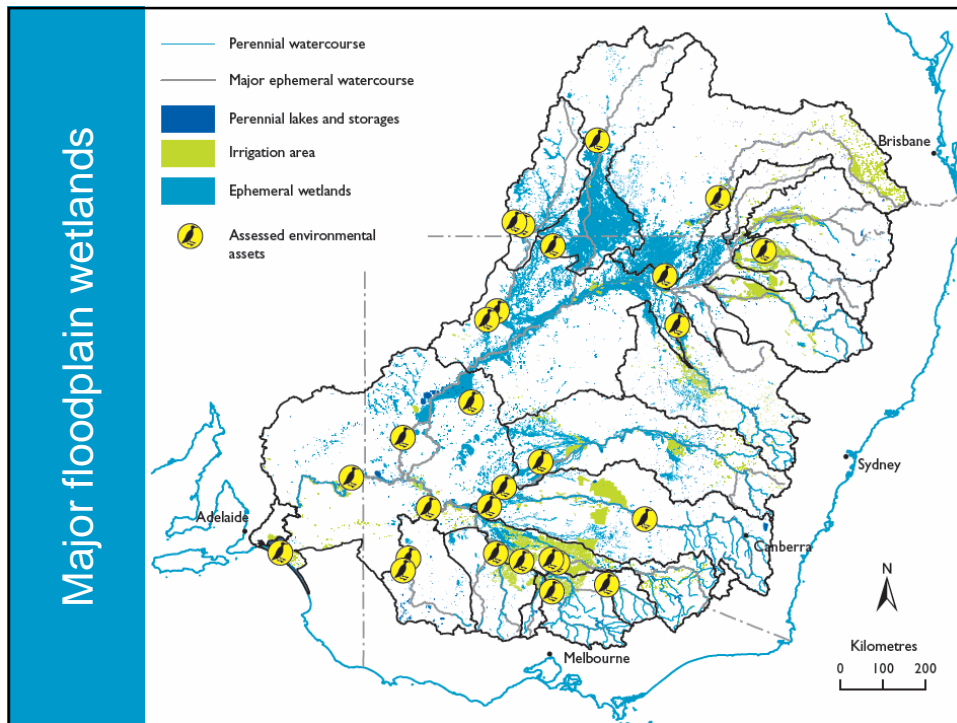


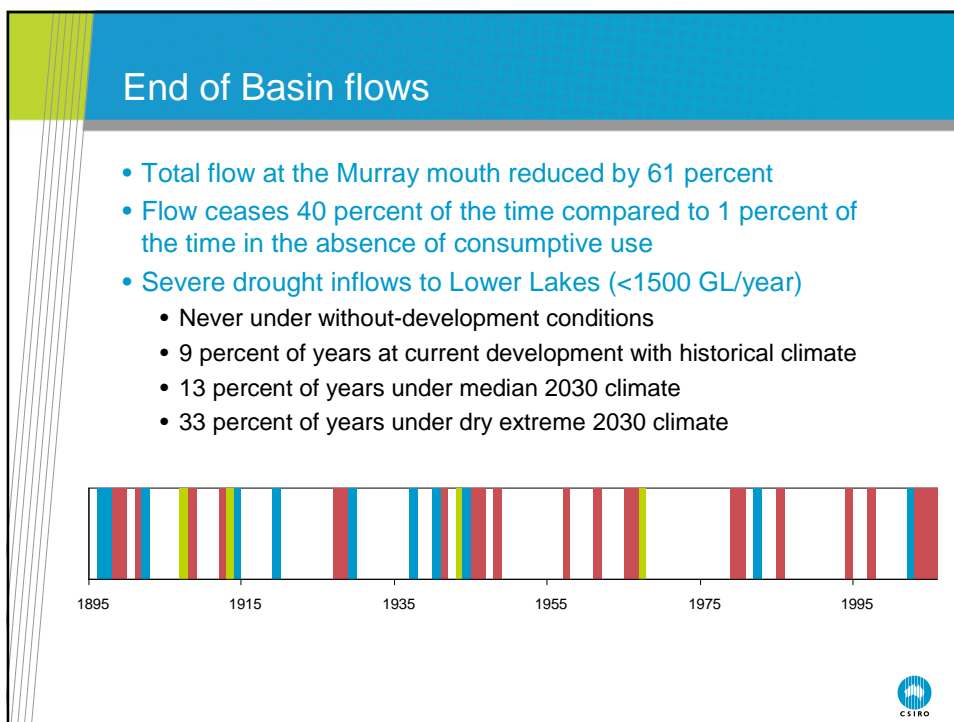
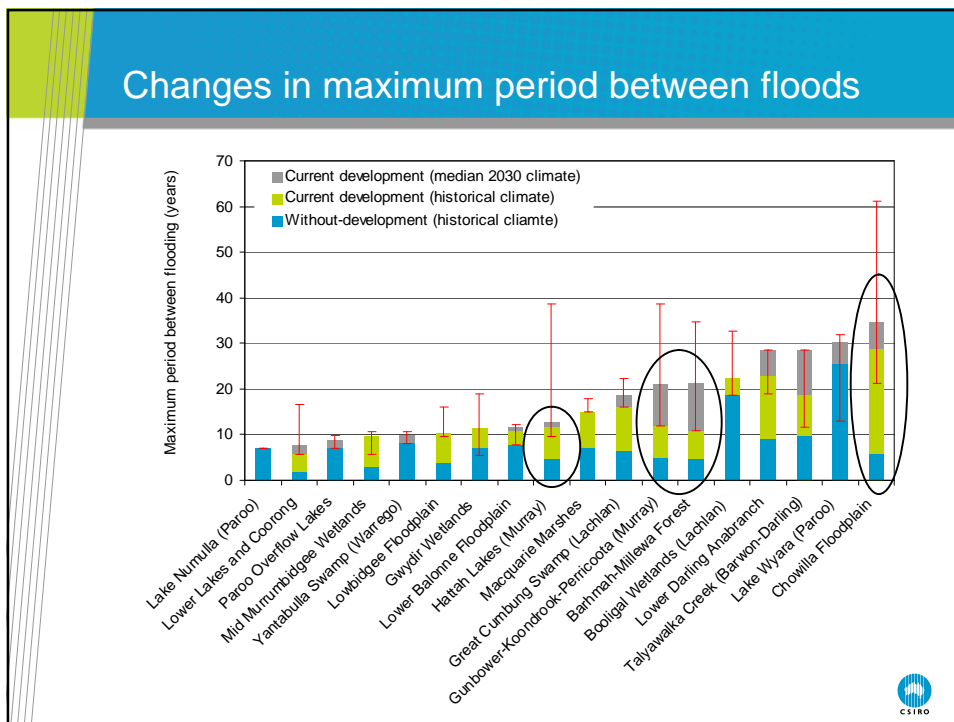






- ### Surface water use summary – median climate
- Diversions: down by ~450 GL/yr
  - Additional use up by ~370 GL/yr
  - Net result: little change in SW use
  - But, availability down by 2500 GL/yr
  - Thus, relative level of use up from 48% to 53%





The logo features a blue header bar at the top. Below it, the text 'Murray-Darling Basin Sustainable Yields Project' is centered in blue. To the right, 'funded under the' is in italics, followed by 'Raising National Water Standards Program' in blue. Below that, 'of the' is in italics, followed by 'National Water Commission' in blue. A blue bar at the bottom contains the website 'www.csiro.au/mdbsy' in white. On the left side, a vertical green bar contains 'www.csiro.au' in white. At the bottom left is the Australian Government coat of arms, and at the bottom right is the CSIRO logo.

Murray-Darling Basin Sustainable Yields Project

*funded under the*  
Raising National Water Standards Program

*of the*  
National Water Commission

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National Water Commission  
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