River Murray: Targeting Research to Water Benefits and Levers

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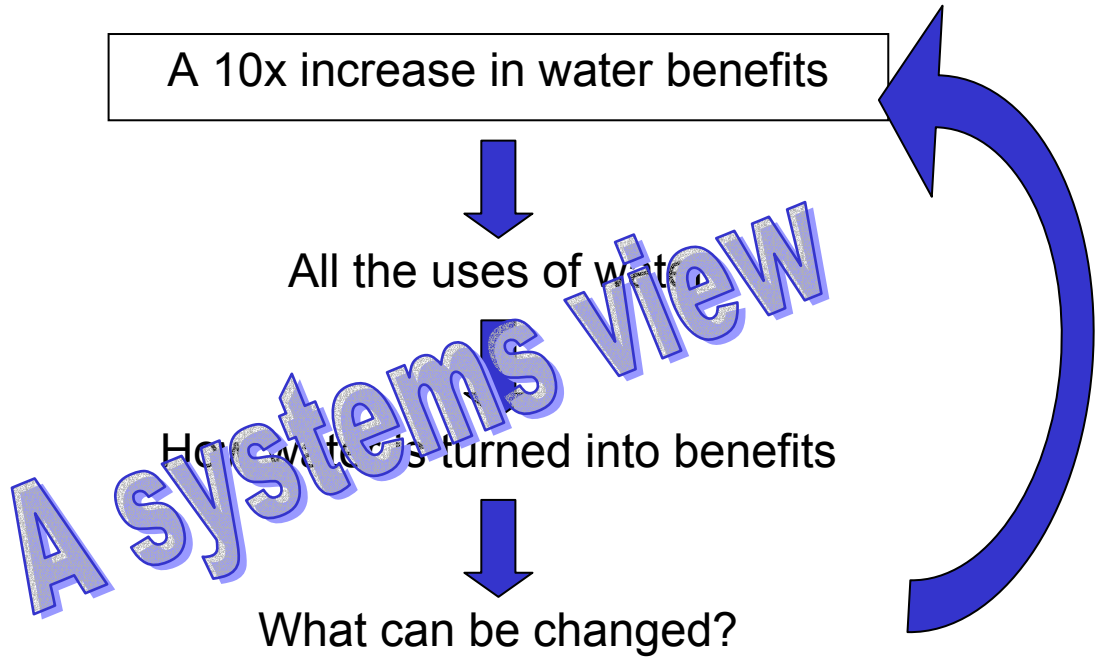
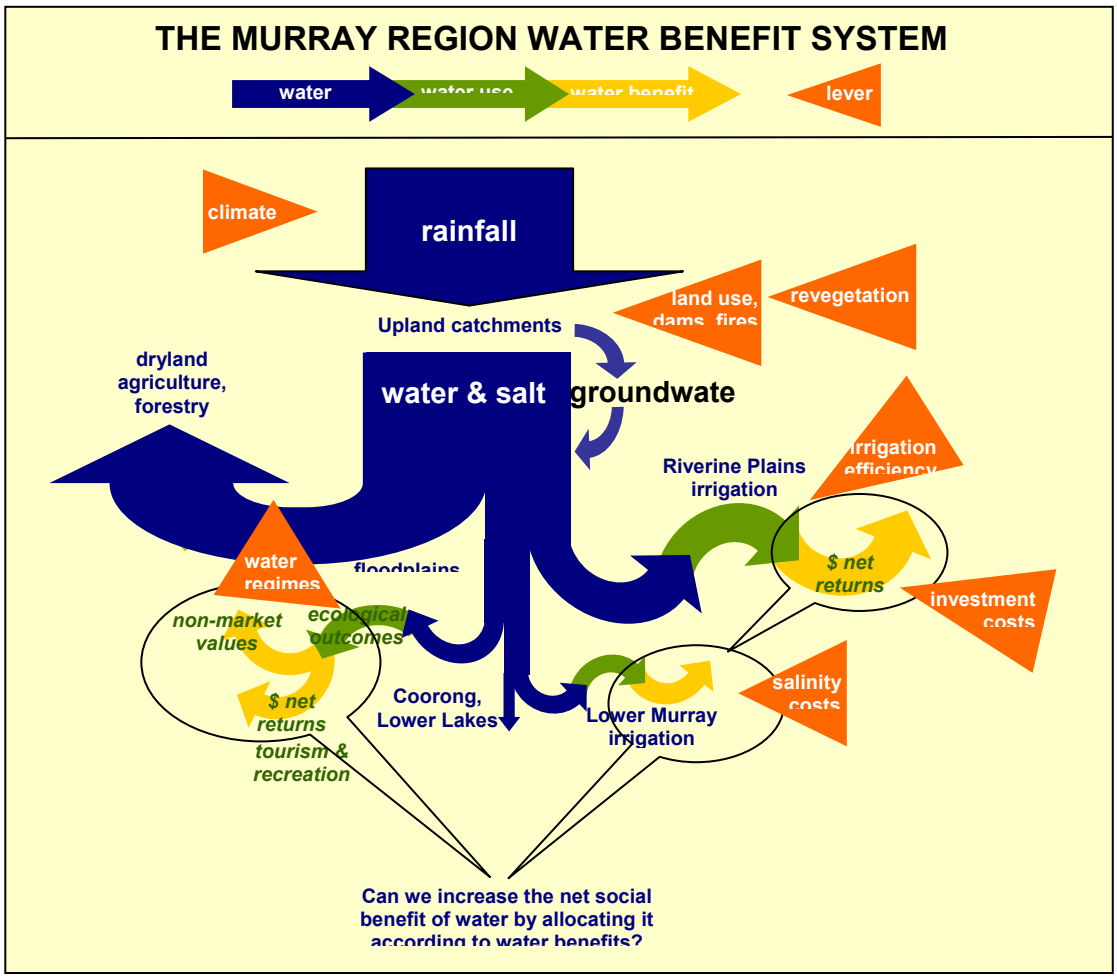
Murray Region:

- high abstractions for irrigation
- altered flood regimes
- exacerbated by drought
- declining health of floodplains
- decision to find 500 GL of water for the environment
- declining water for irrigation
- risks to future supplies

Research Goal:

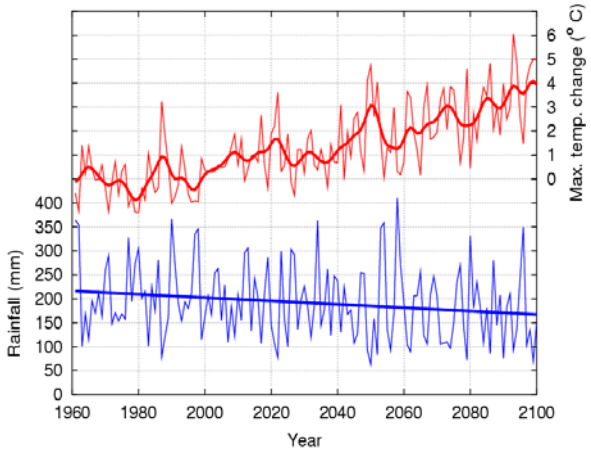


Murray Water Benefit System:



- Plans to treble plantation area in Australia by 2020
- In an 800 mm rainfall zone, conversion from pasture to trees results in an average water yield reduction of 150 mm
- In 2020, decrease in flows might be 500-1000 GL, depending on planting extent and location

Projected temperature and rainfall change in Murray-Darling Basin:



Irrigation:

Annually

- Water used 8,000 GL
- Irrigation efficiency 70%
- Possible water savings through efficiency improvements 1,500 GL
- Farm gate revenue $3b
- Additional farm gate revenue if all used for irrigation $550m

Investments:

Irrigation infrastructure

- On-farm $4b
- Off-farm $2b
- Major dams and weirs $2b

Salinity costs:

Lost production and salt disposal basins $50m pa

Non-consumptive river activities:

eg Recreational fishing	$200m NPV
eg Camping and caravan parks	$530m NPV
Total	$1,620m NPV

Key messages:

- There is no new water in this “closing” basin
- Every change in the way water is used will impact on someone else’s water benefits

- We are building an analytical capacity to assess those impacts at basin scale – and explore alternatives for increasing water benefits
- Research is targetted on major benefits and levers