

Key findings from the Interim Report of the Living Murray Scientific Reference Panel, October 2003

- 1. Brief summary of SRP Process**
- 2. SRP Interim Report – key findings**
- 3. International peer review**
- 4. Where to next**

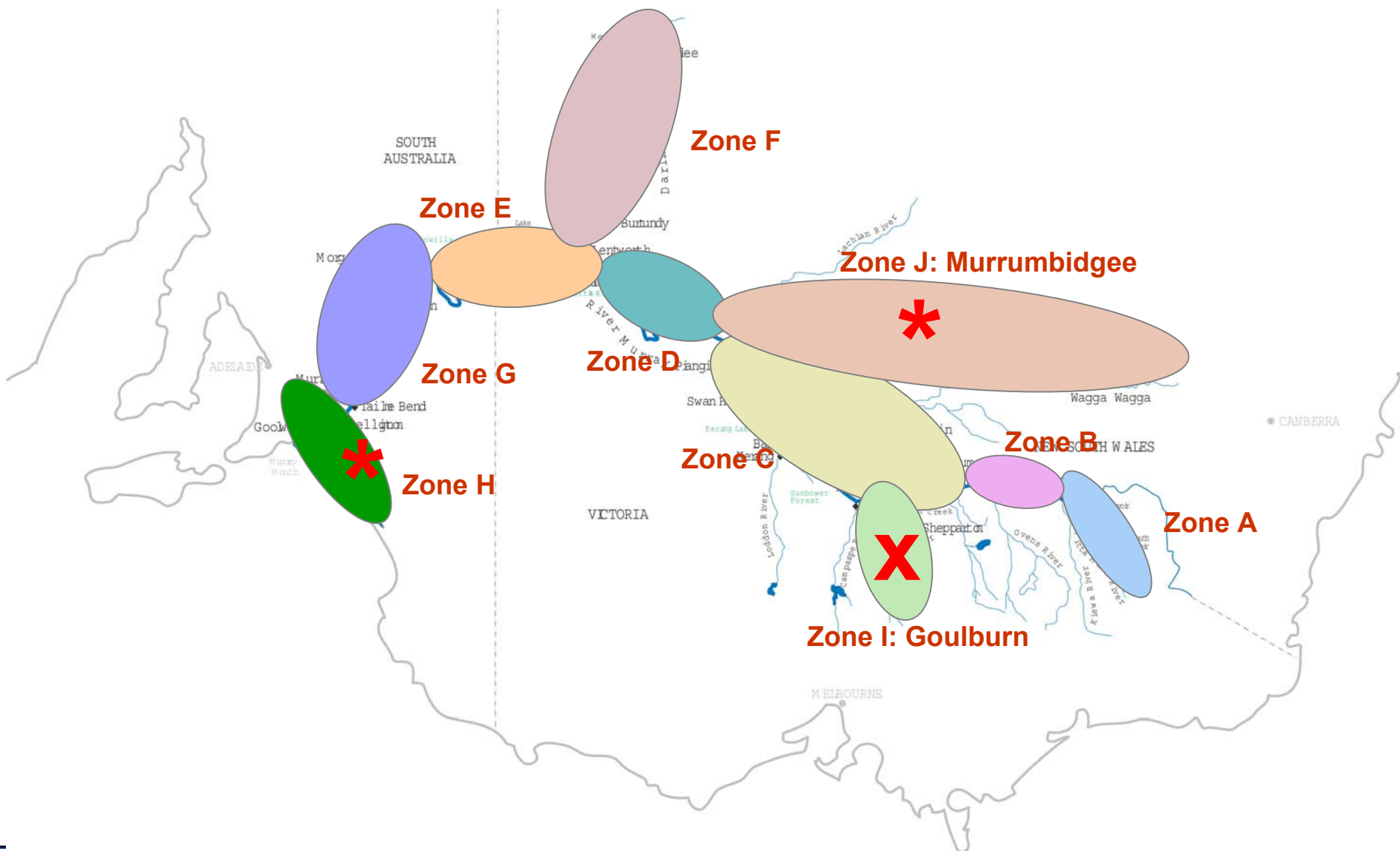


The Process

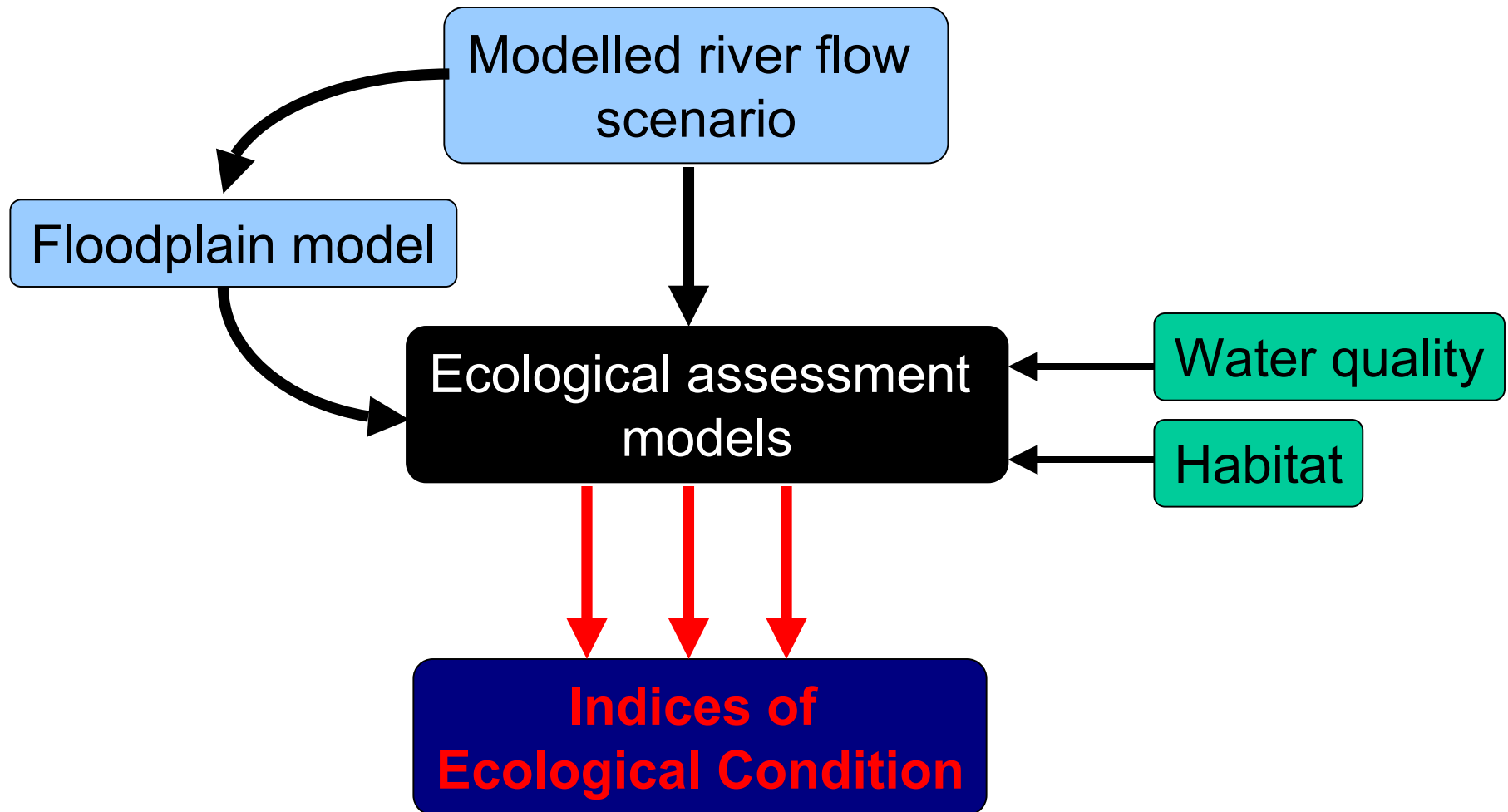
- 1. SRP, REGs and River zones**
- 2. MFAT decision support system**
- 3. What was assessed**



Regional Evaluation Groups (REGs)



MFAT framework



Key features of MFAT

- 1. It is a decision support system, not a process-based ecological predictive model**
- 2. Provides indices of potential ecological habitat – assumptions must be made to assess overall ecological condition**
- 3. Aggregates from small to large scales in a comparatively simple way**
- 4. Aggregation leads to some loss of small-scale information but a more robust large-scale analysis**



What was assessed

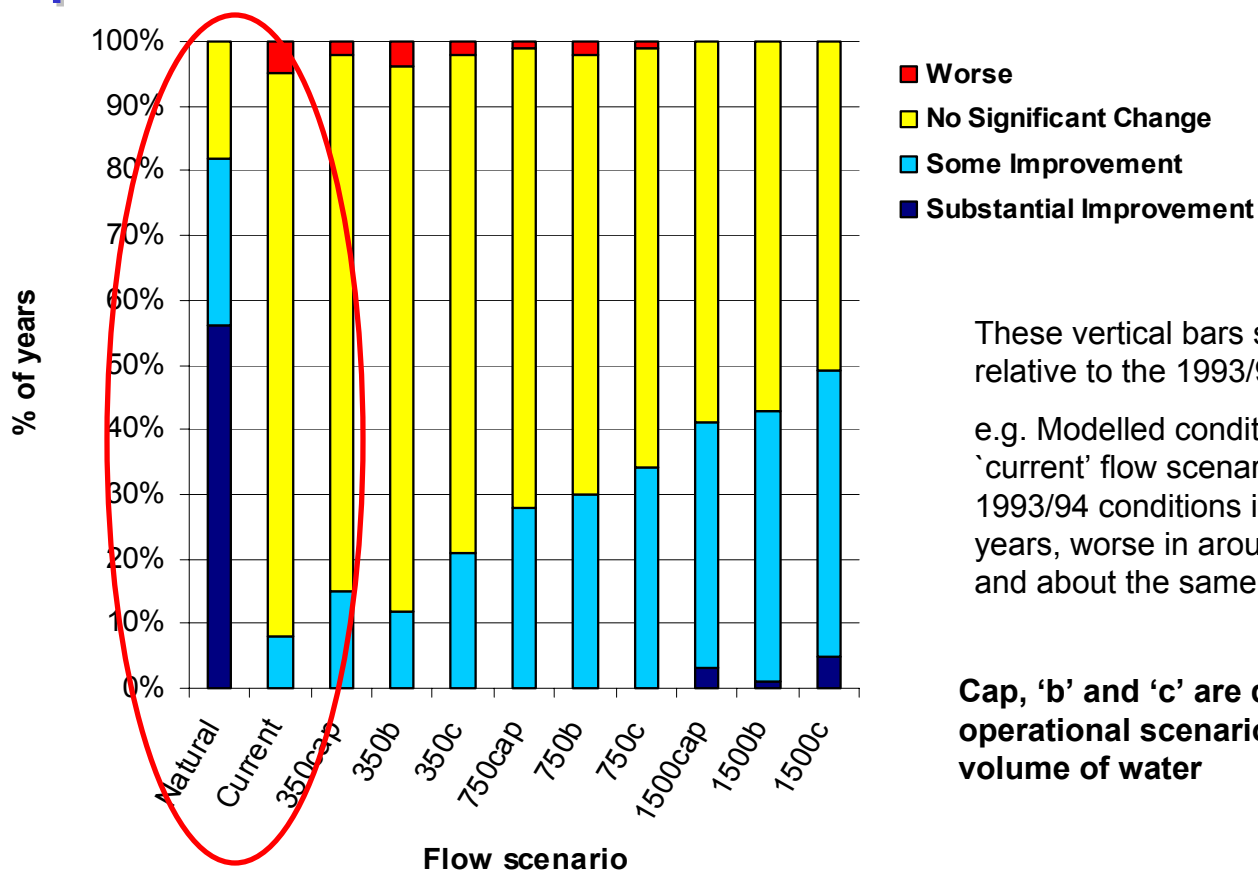
	Key species or functional group	Community*	All
Locality - channel - floodplain	✓	✓	✓
Floodplain complex	✓	✓	✓
Zone	✓	✓	✓
Whole of River	✓	✓	X

* Birds, Fish, Wetland & Floodplain vegetation, Algae



Summary findings

1. That the river is very significantly degraded compared with natural



These vertical bars show changes relative to the 1993/94 cap conditions.

e.g. Modelled conditions in the 'current' flow scenario are better than 1993/94 conditions in around 8% of years, worse in around 4% of years, and about the same in 88% of years.

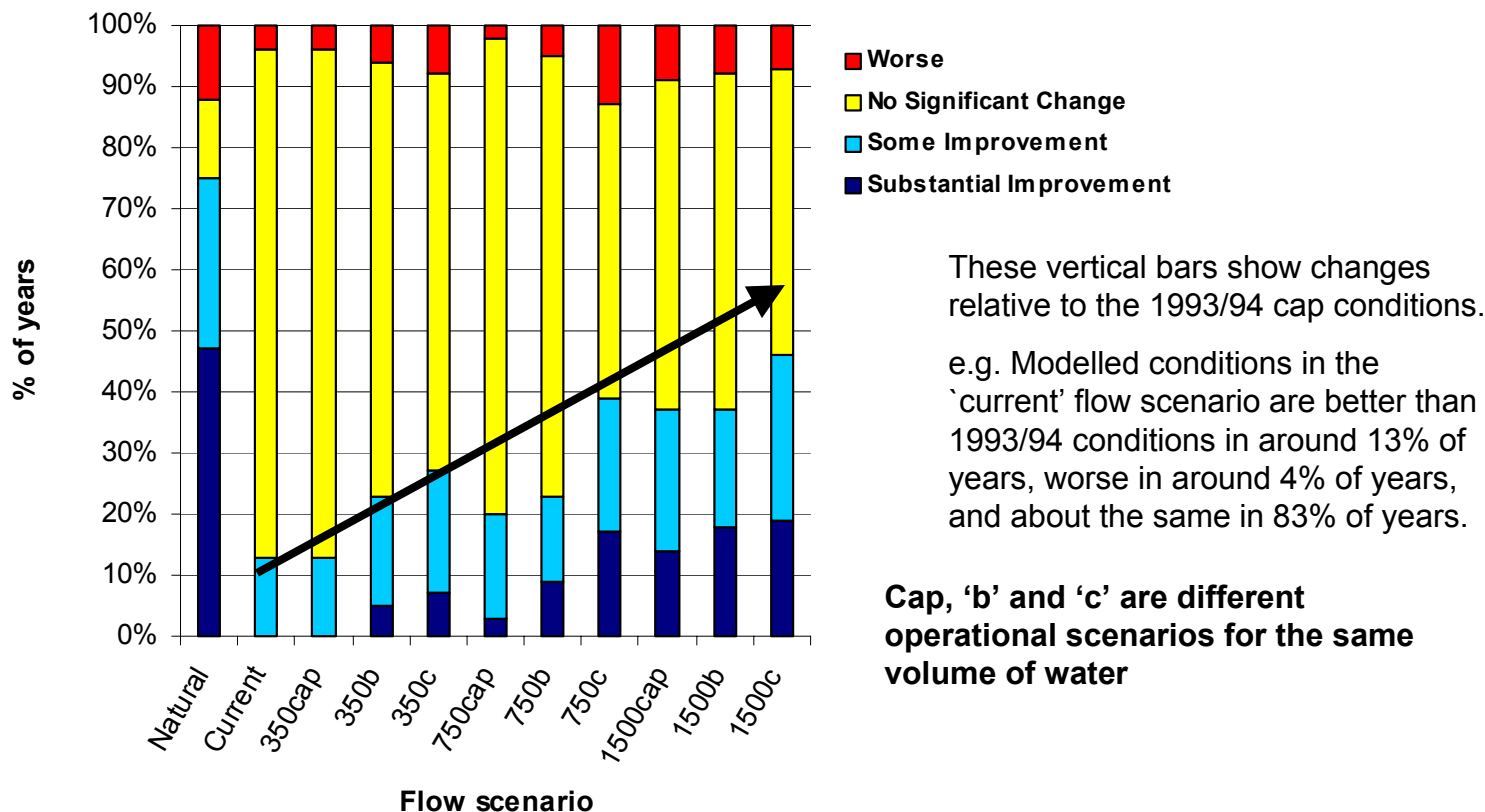
Cap, 'b' and 'c' are different operational scenarios for the same volume of water

Zone G – Lock 3 to Wellington



Summary findings

2. Improving e-flows provides potential ecological benefits across the full range



Barmah-Millewa – Floodplain vegetation



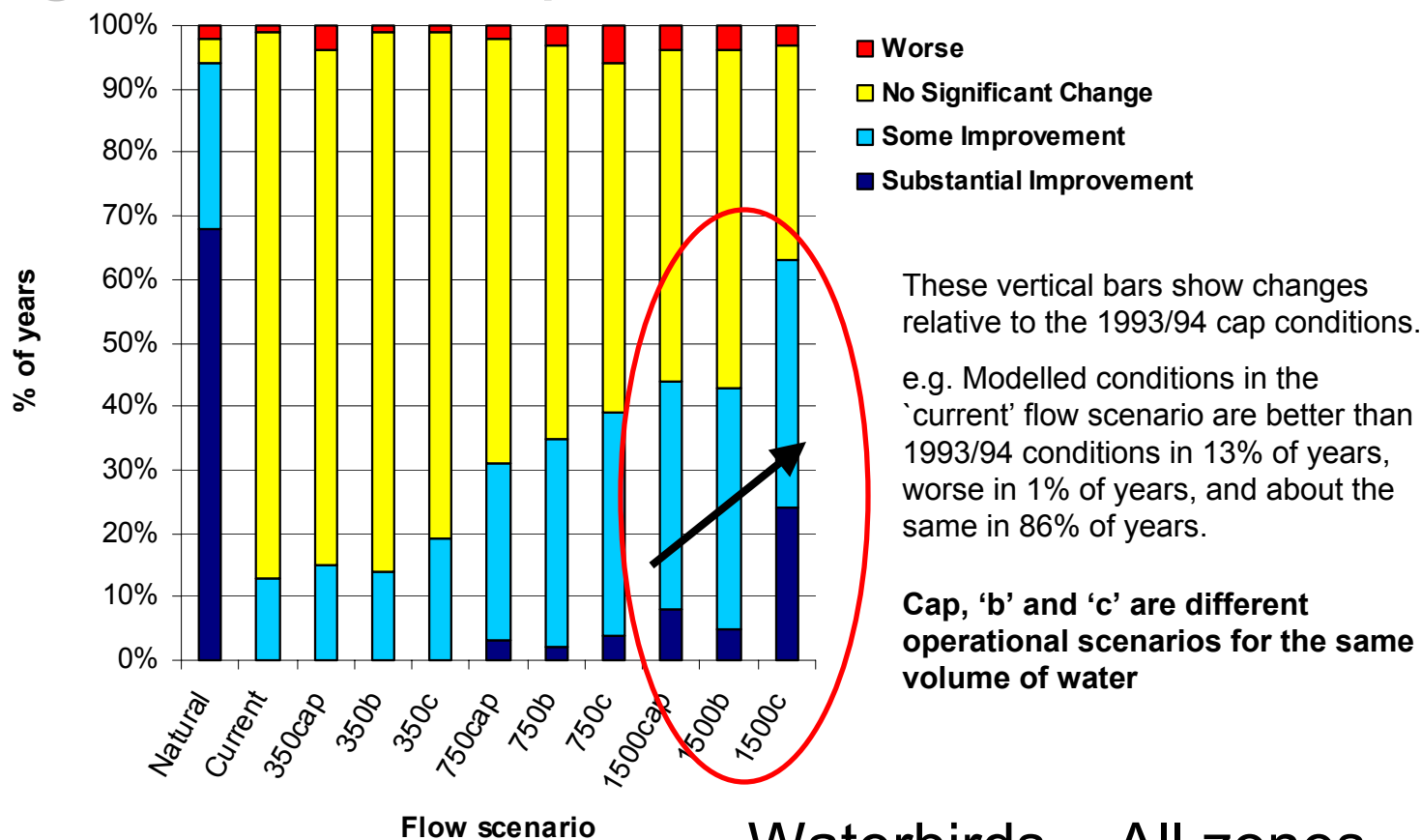
Summary findings

3. Expert judgement, based largely on MFAT outputs, is that at least 750 GL and probably 1500 GL is needed to secure a healthy working River Murray, plus improved operations and structures
4. Distribution of potential ecological benefits from e-flows is not uniform along the river, and is dependent on how water is sourced



Summary findings

5. Smarter operations can provide greater ecological benefits per GL



Waterbirds – All zones



Summary findings

6. Floodplain regulators can improve ecological benefits per GL

Structural/ Operational Improvements	Overall Wetland Vegetation*	
	WITH OUT	WITH REGULATORS
Natural	0.69	
Reference	0.40	
Current	0.39	0.45
350cap	0.41	0.48
350b	0.41	0.48
350c	0.42	0.48
750cap	0.42	0.48
750b	0.42	0.48
750c	0.42	0.48
1500cap	0.46	0.51
1500b	0.45	0.52
1500c	0.45	0.51

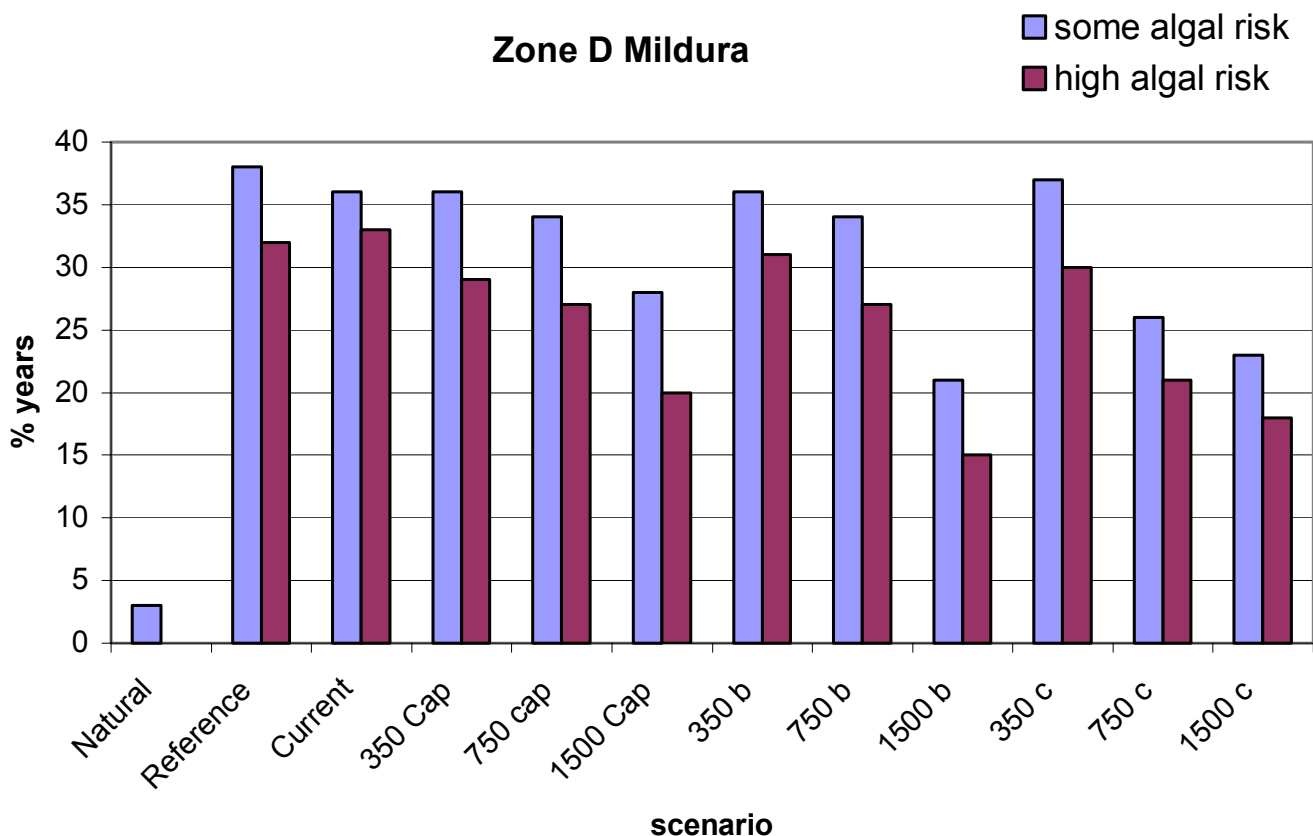
Positive effect of well managed regulators on wetland health

* Values are mean MFAT scores



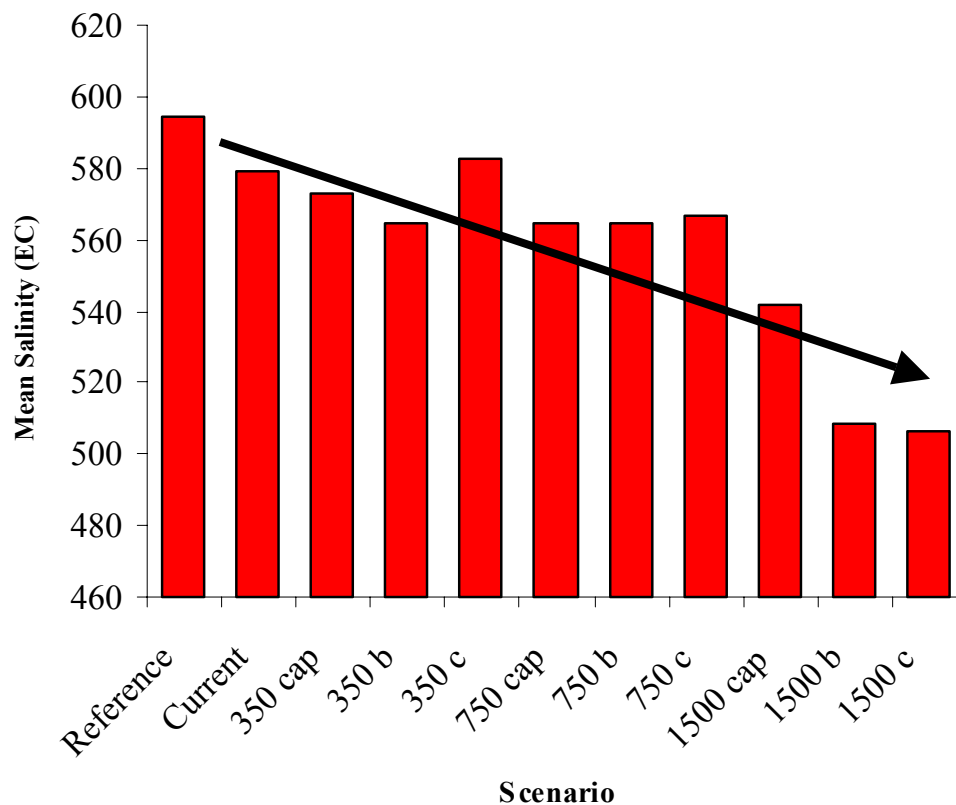
Summary findings

7. 750 c and 1500 GL options can substantially reduce toxic algal bloom risk



Summary findings

8. E-flows reduce predicted in-channel salinity, progressively across flow range



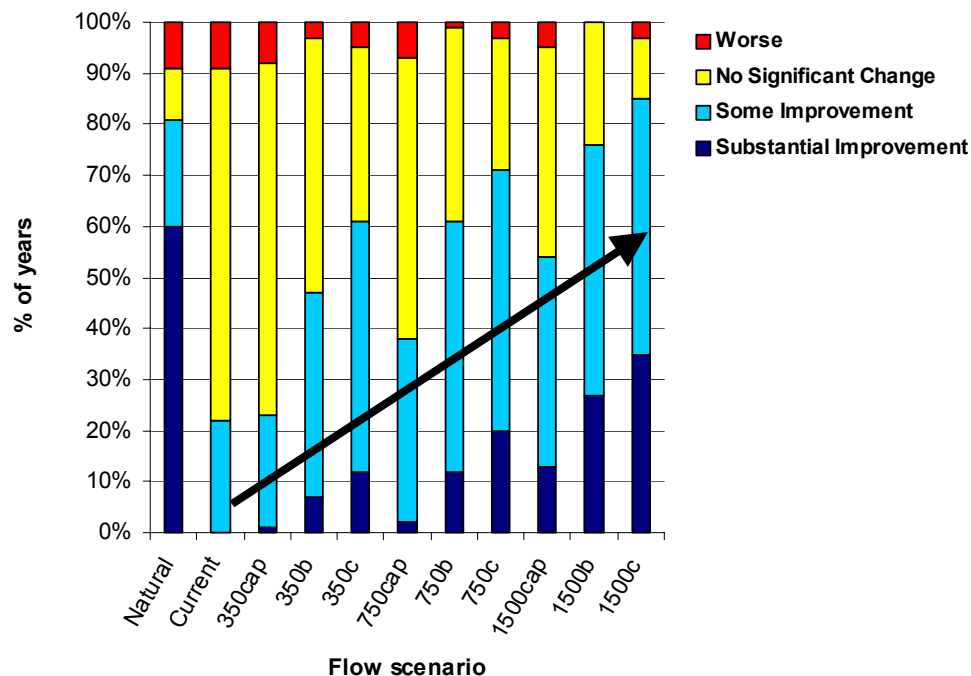
Summary findings

9. E-flows alone, in the reference point range, provide little benefit for Murray Cod, but do benefit Golden Perch and Silver Perch

10. E-flows provide substantial benefits for River Red Gums

These vertical bars show changes relative to the 1993/94 cap conditions.

e.g. Modelled conditions for River Red Gums in the 'current' flow scenario are better than 1993/94 conditions in around 22% of years, worse in about 9% of years, and about the same in 69% of years.



International peer review

- Overall, very positive
- Recognised strengths and weaknesses of SRP process, and acknowledged it was the best that could be done in time available
- Minor changes made to Interim Report draft based on reviewers' comments
- No changes to substantive findings



Some of the peer reviewers' comments

“.....represents a major first achievement in the integration of science within large-scale water resource management in Australia.”

“....providing sound scientific advice to the MDBC and Ministerial Council.”

“...high degree of scientific honesty and integrity ..”

“The Interim SRP report is well written, concise and very clear about the nature of the scientific evidence provided ...”



What next ? (up to Final Report in 2004)

- Further quality assurance and adjustment to MFAT components and data inputs (especially floodplain configurations) building on discussions with local experts and communities
- Possible additional MFAT modules to be considered, e.g. ecological response to in-channel salinity
- Take the opportunity to use MFAT and Interim SRP findings as a basis for broader consultation with the community, government & scientists

