

Constraints Measures Program

Murray Darling Association

Connecting catchments and communities: Moira to Mildura

30 July 2019

As at 31 July 2019



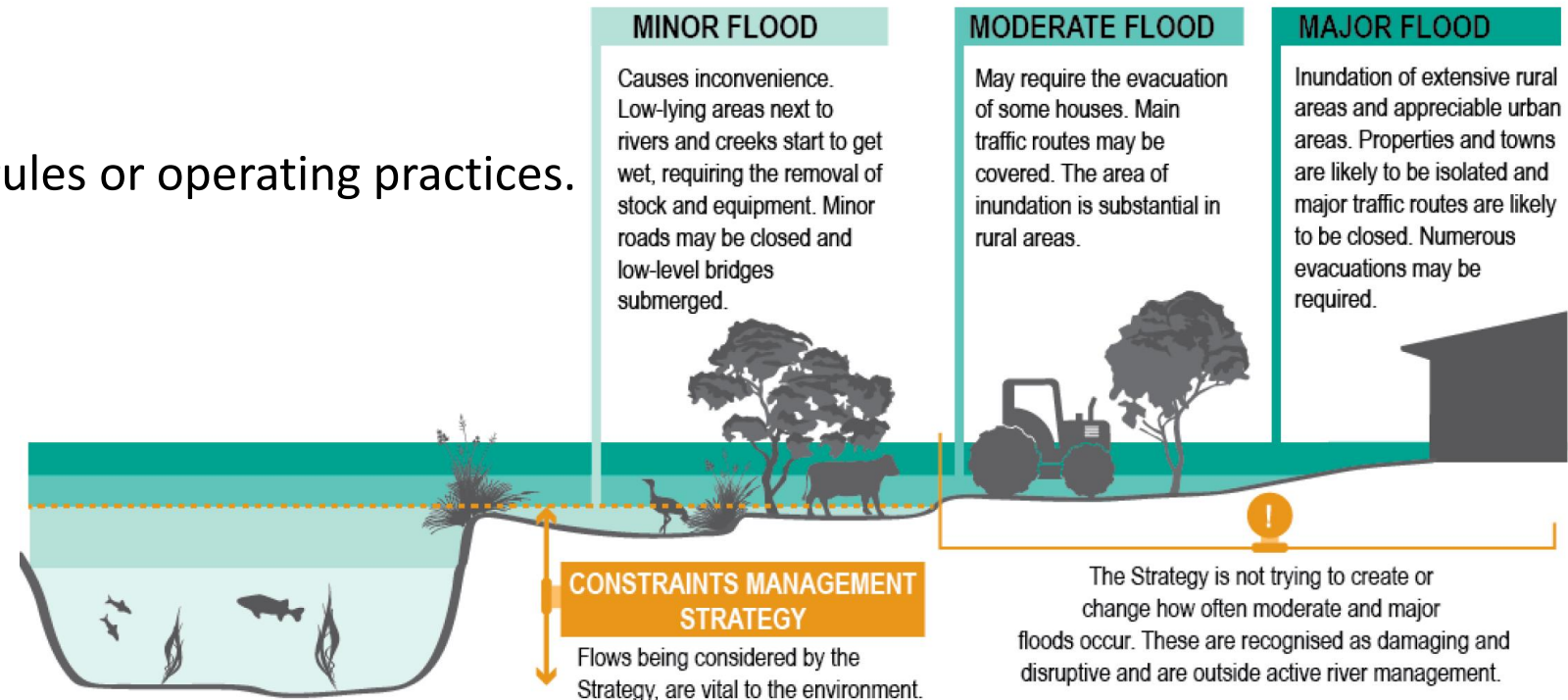
Australian Government



Constraints restrict the ability to deliver water for the environment

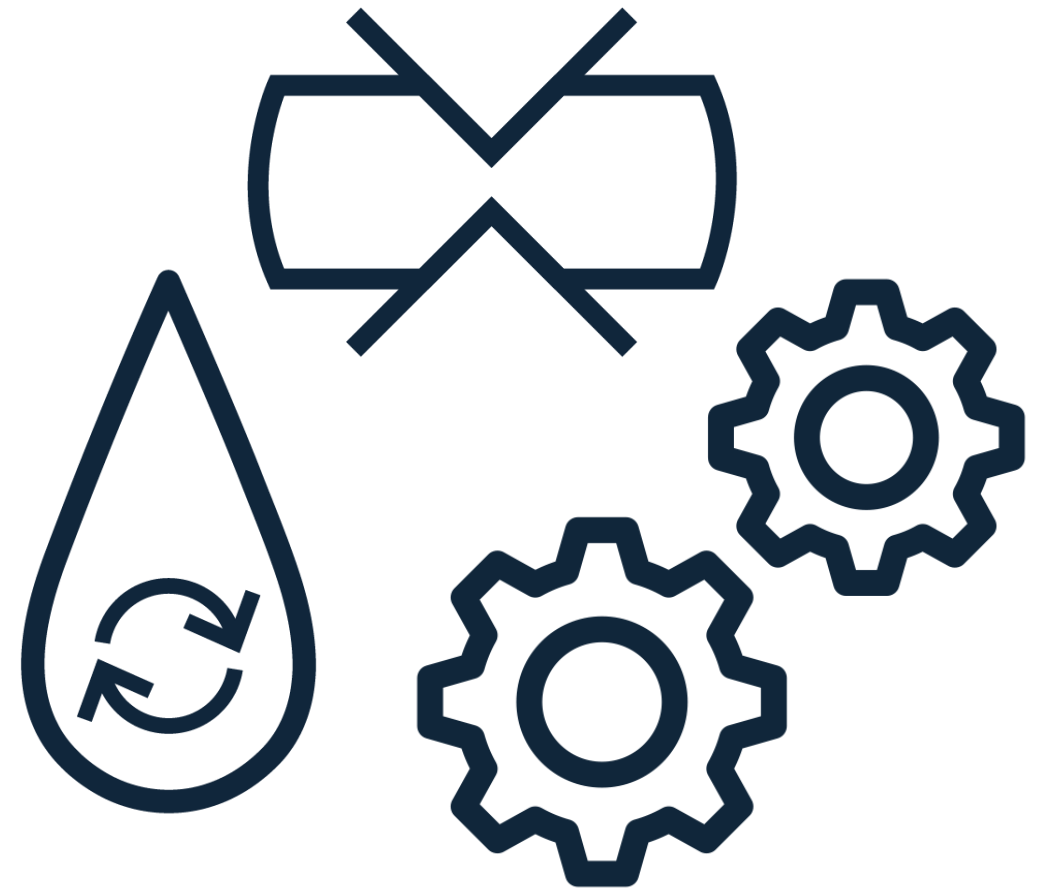
Constraints can be:

- **Physical:** restrictions such as low lying bridges, crossings or private land.
- **Operational:** aspects such as river rules or operating practices.



Adjusting sustainable diversion limits

- Supply (including constraints) and efficiency projects
- Each will be designed and implemented in customised ways
- Projects at different stages of development

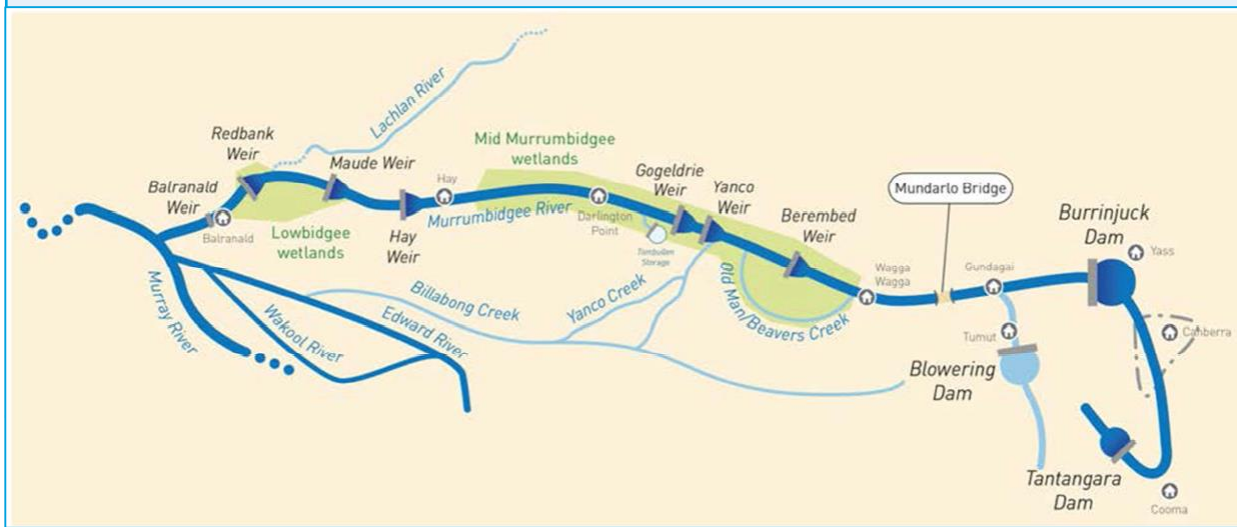


Constraints projects: locations



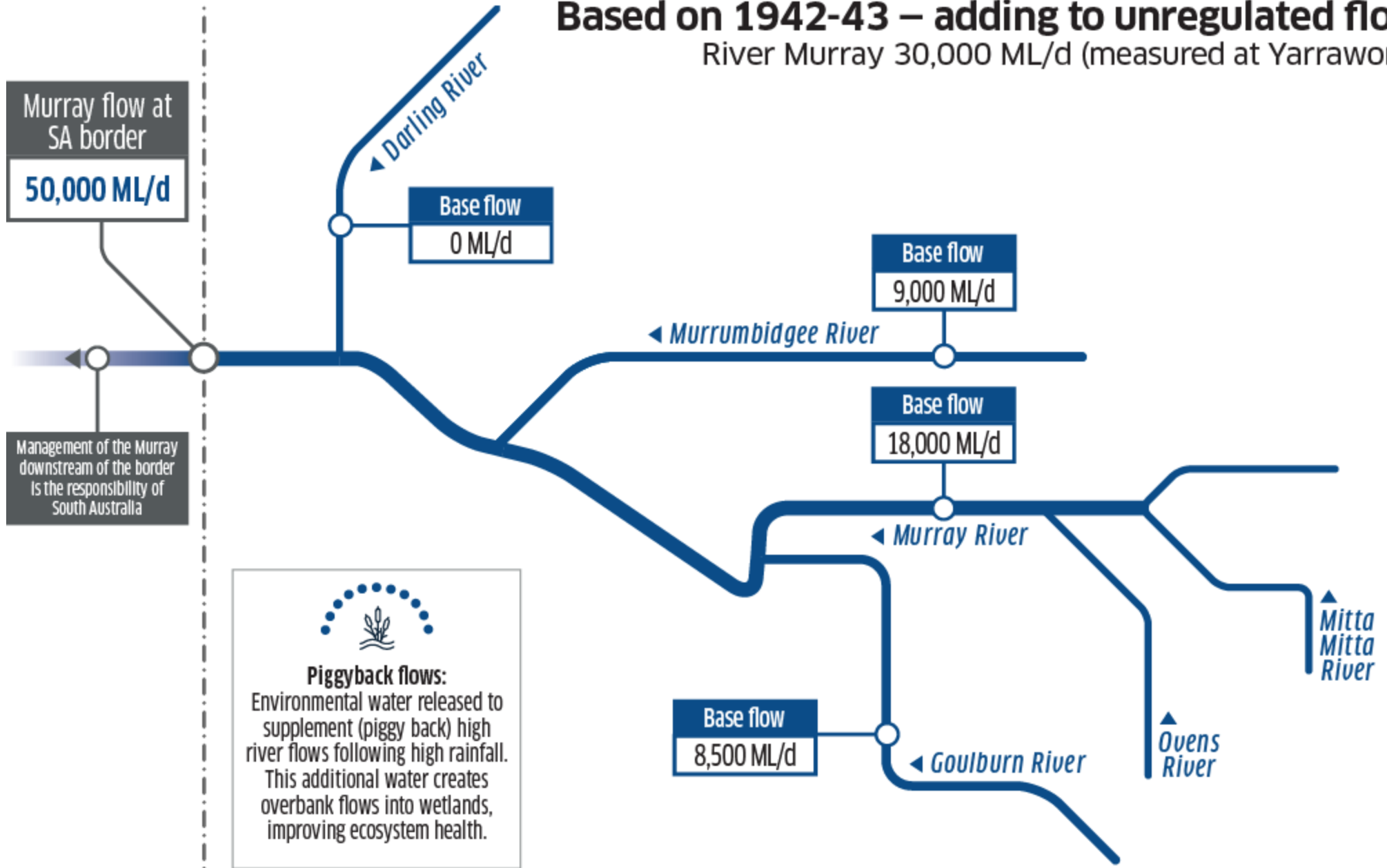
Local benefits matter: Murrumbidgee

Basin state	Current operational flow rate ML/day	Relaxed constraint flow rate ML/day	Minor flood level	Location	Environmental benefits
NSW	30,000	40,000	50,100	Wagga Wagga	<p>Allowing for watering of the Lowbidgee, and inundation of:</p> <ul style="list-style-type: none"> • 10,00ha wetland • 44,000ha floodplain vegetation <p>Improved health of Murrumbidgee and Murray Junction wetlands</p>



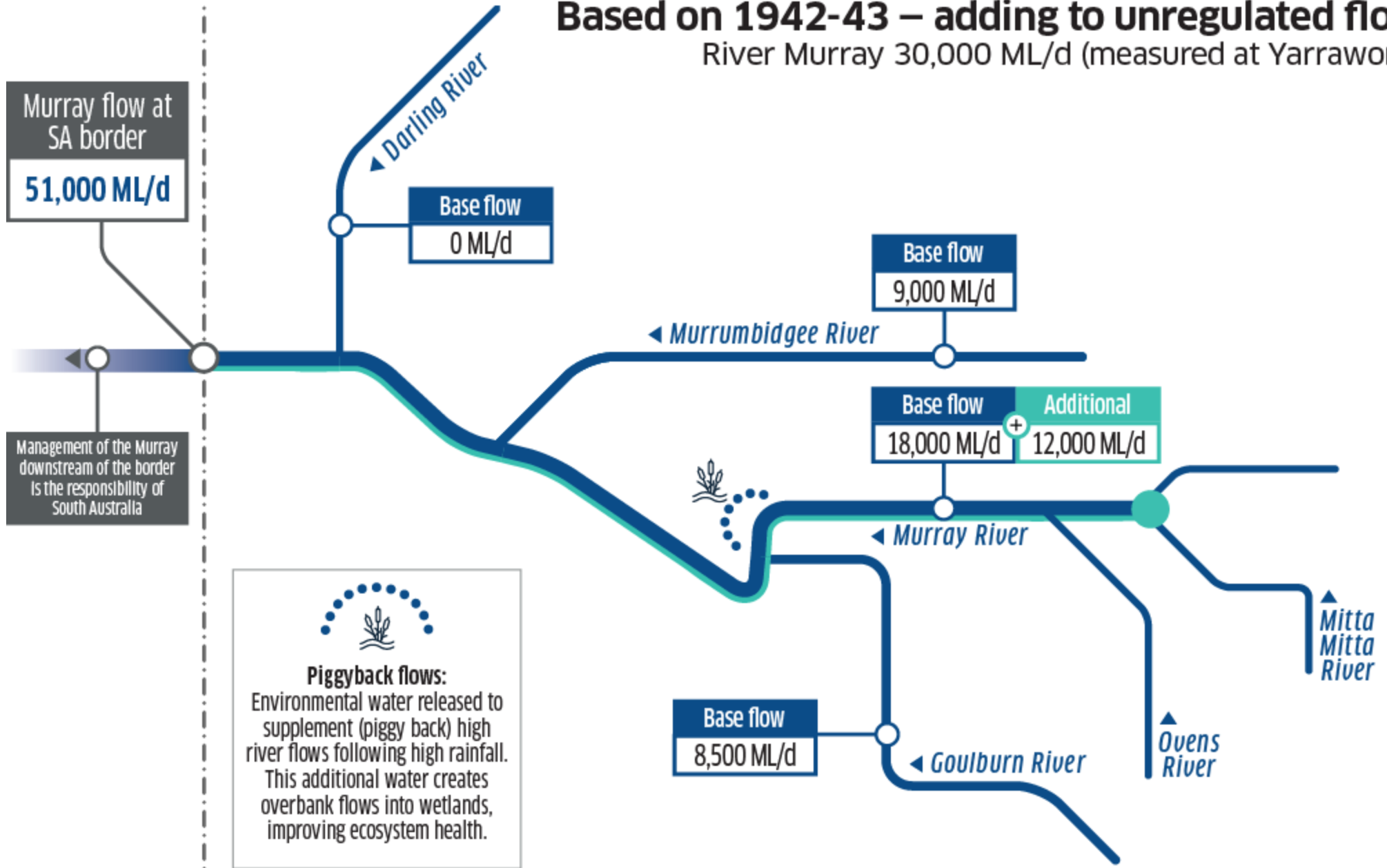
Based on 1942-43 – adding to unregulated flows

River Murray 30,000 ML/d (measured at Yarrawonga)



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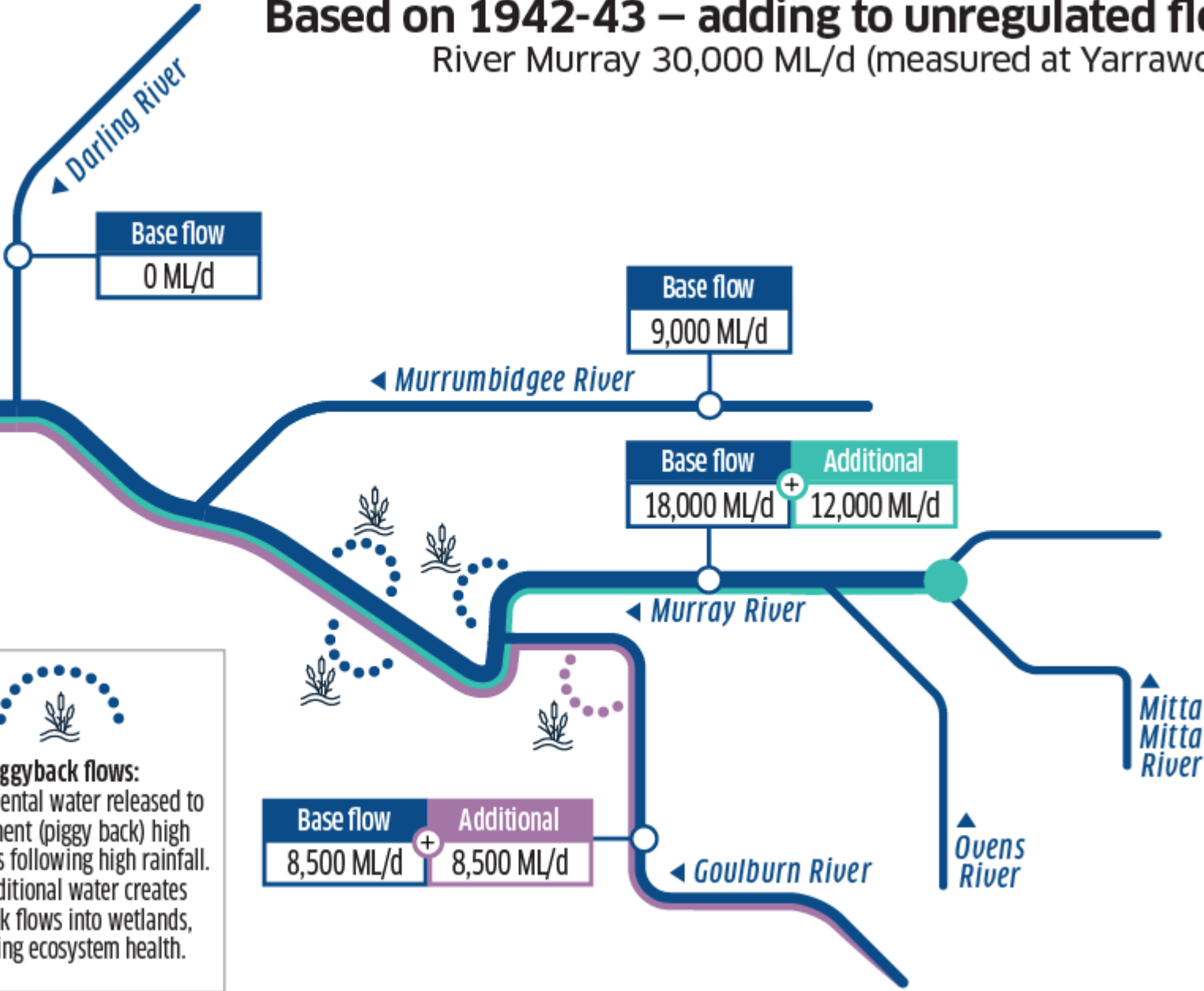
Based on 1942-43 – adding to unregulated flows

River Murray 30,000 ML/d (measured at Yarrawonga)

Murray flow at SA border
52,000 ML/d

Management of the Murray downstream of the border is the responsibility of South Australia


Piggyback flows:
Environmental water released to supplement (piggy back) high river flows following high rainfall. This additional water creates overbank flows into wetlands, improving ecosystem health.



Base flow
0 ML/d

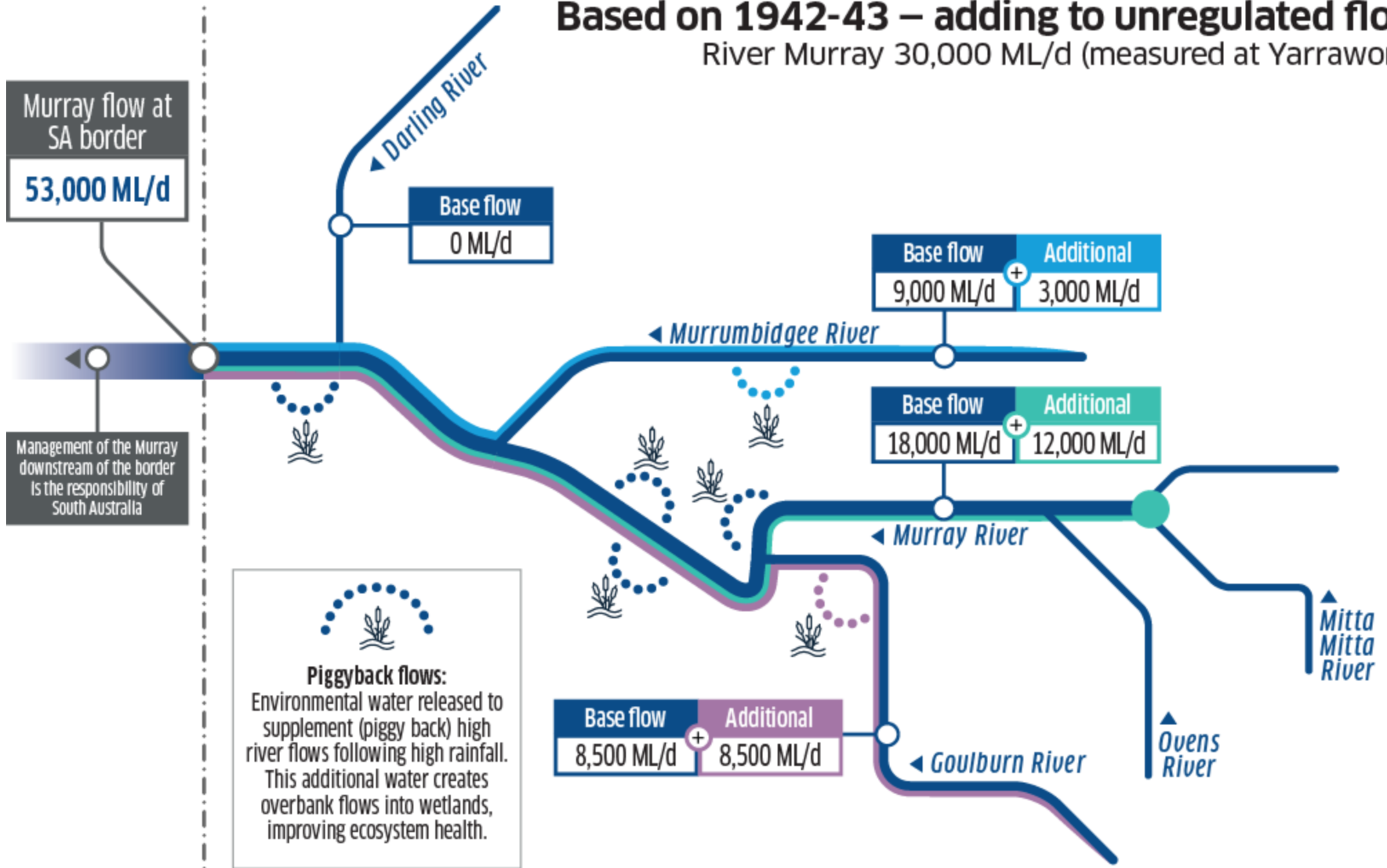
Base flow
9,000 ML/d

Base flow
18,000 ML/d + Additional
12,000 ML/d

Base flow
8,500 ML/d + Additional
8,500 ML/d

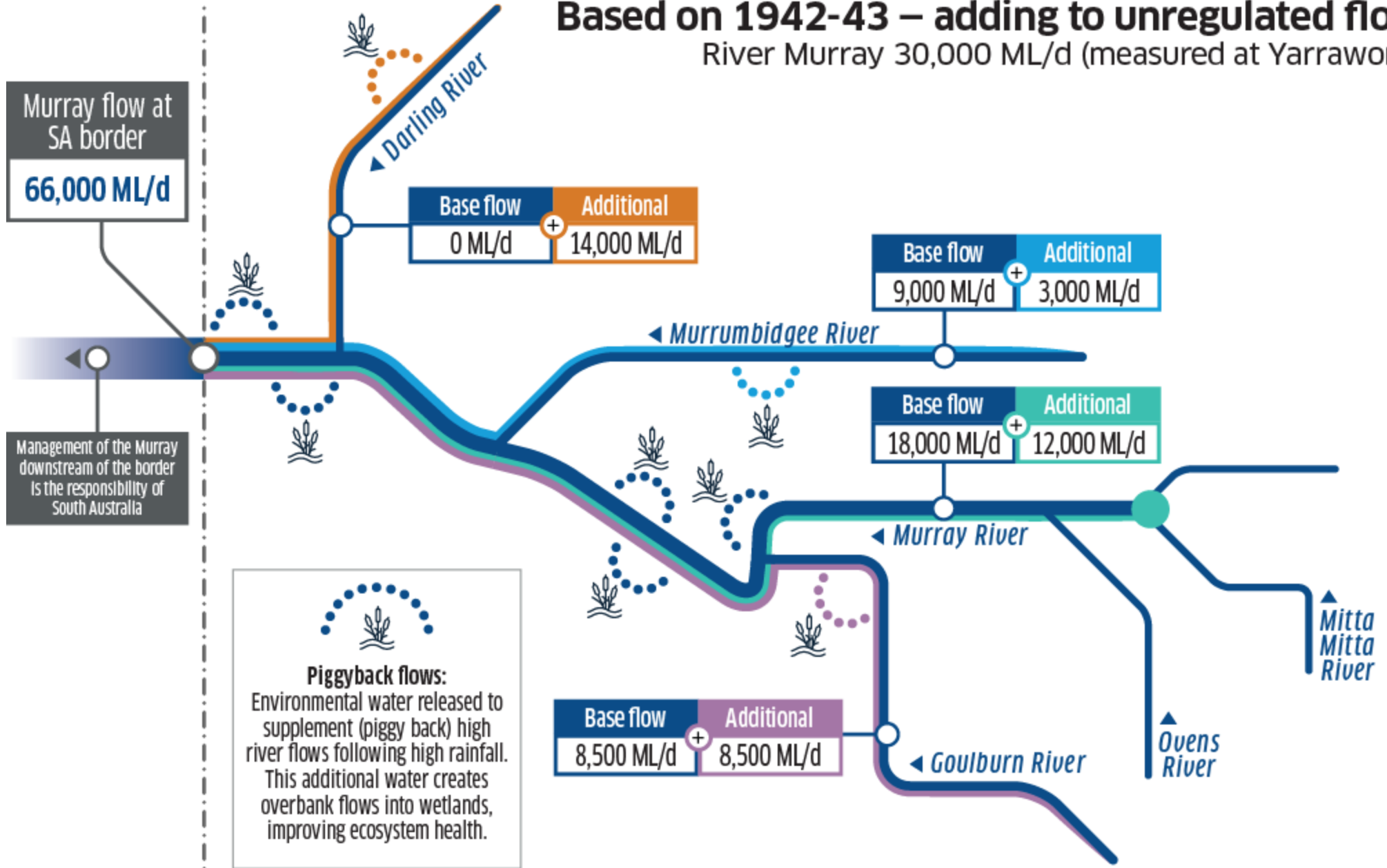
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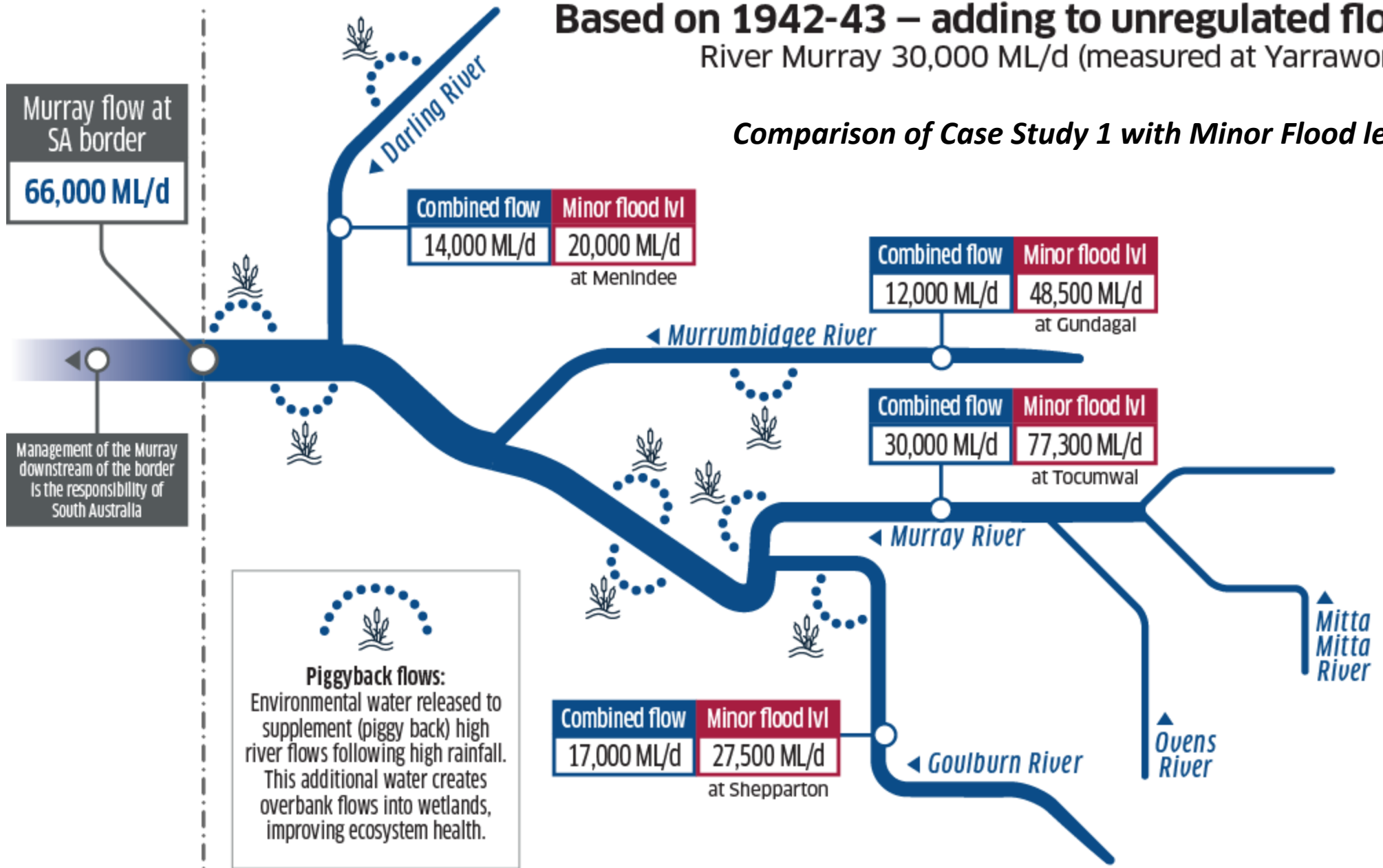
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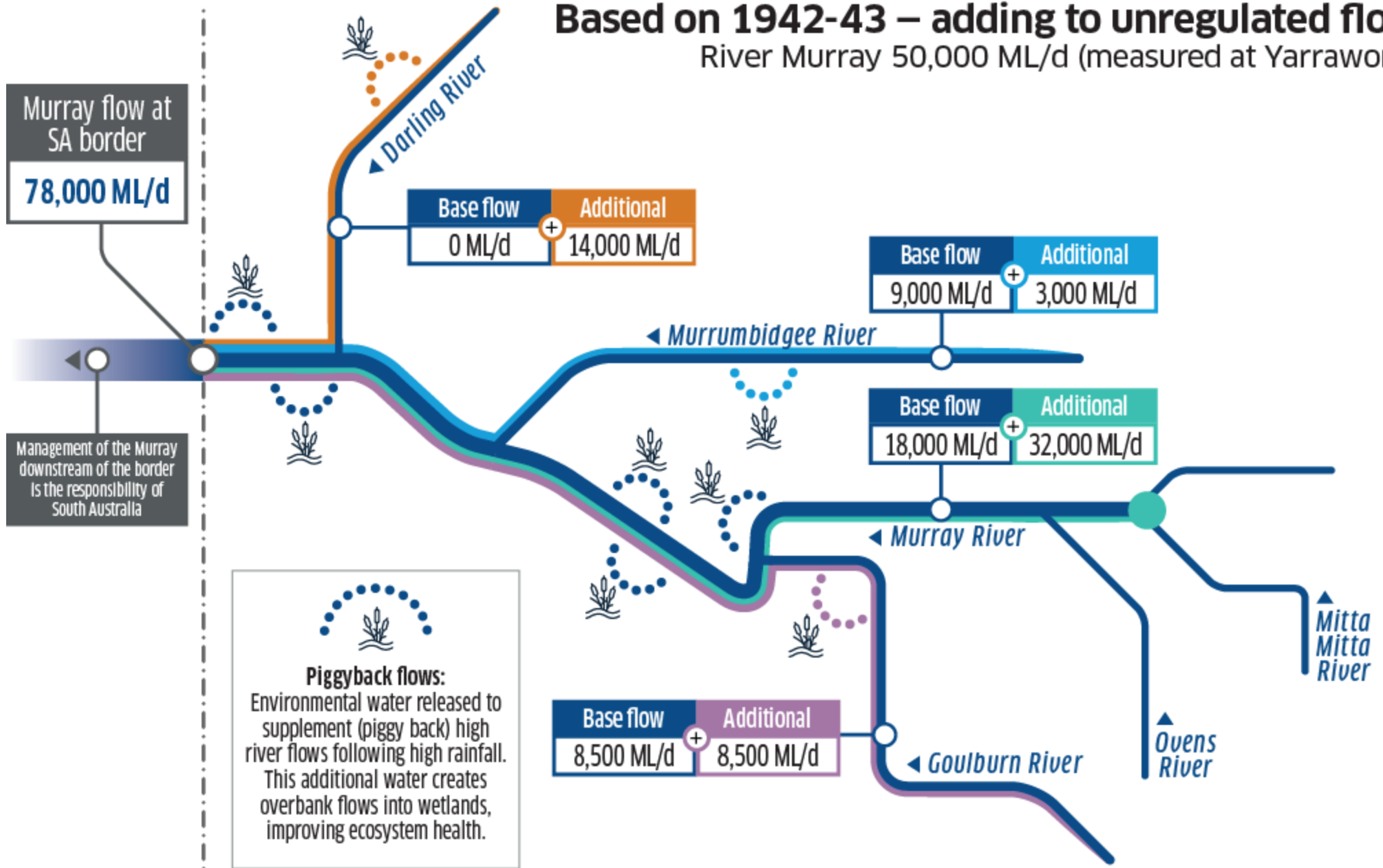
Based on 1942-43 – adding to unregulated flows
 River Murray 30,000 ML/d (measured at Yarrawonga)

Comparison of Case Study 1 with Minor Flood levels



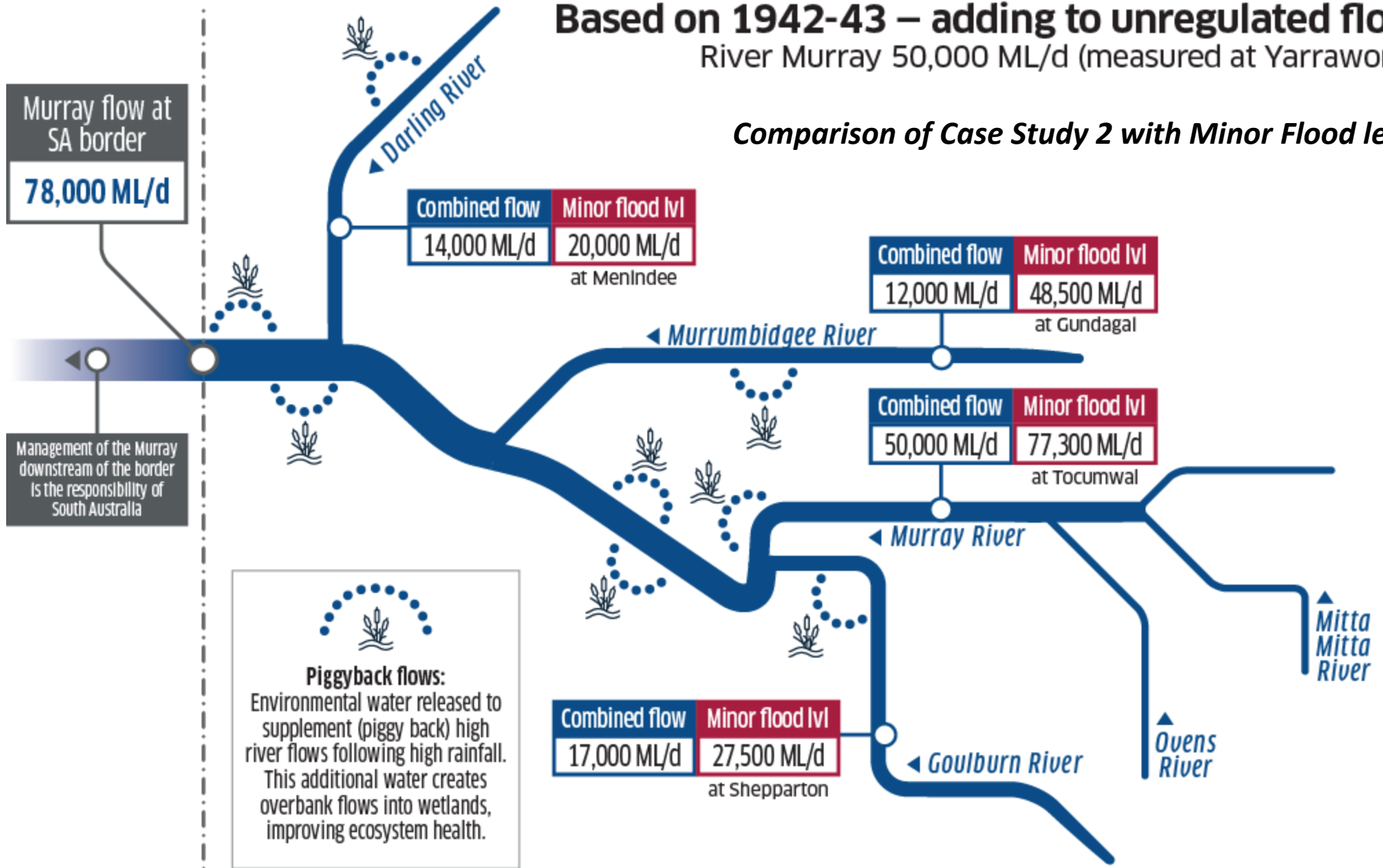
Based on 1942-43 – adding to unregulated flows

River Murray 50,000 ML/d (measured at Yarrawonga)



Based on 1942-43 – adding to unregulated flows
 River Murray 50,000 ML/d (measured at Yarrawonga)

Comparison of Case Study 2 with Minor Flood levels



Key Insights

- **Unregulated flows are needed** in the major tributaries along the Murray to achieve connect the rivers to their floodplains
- Relaxing constraints provides **multiple benefits** as flows move through the connected system
- Constraints flows are **below minor flood level**

Thank you.

Office locations

Adelaide

Albury-Wodonga

Canberra

Goondiwindi

Toowoomba

 mdba.gov.au  1800 630 114

 engagement@mdba.gov.au

31 July 2019



Australian Government



Roles and responsibilities in the SDLAM program

- Basin state governments are responsible for developing, implementing and delivering the constraint (and supply) projects (with Commonwealth funds)
- Department of Agriculture and Water Resources manages efficiency projects
- The MDBA regularly assesses and reports on progress of the SDLAM program.
- The MBDA will undertake a final reconciliation of the SDLAM program in 2024 to assess whether the 605 GL adjustment has been achieved.



Appendix 50ML

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Adelaide

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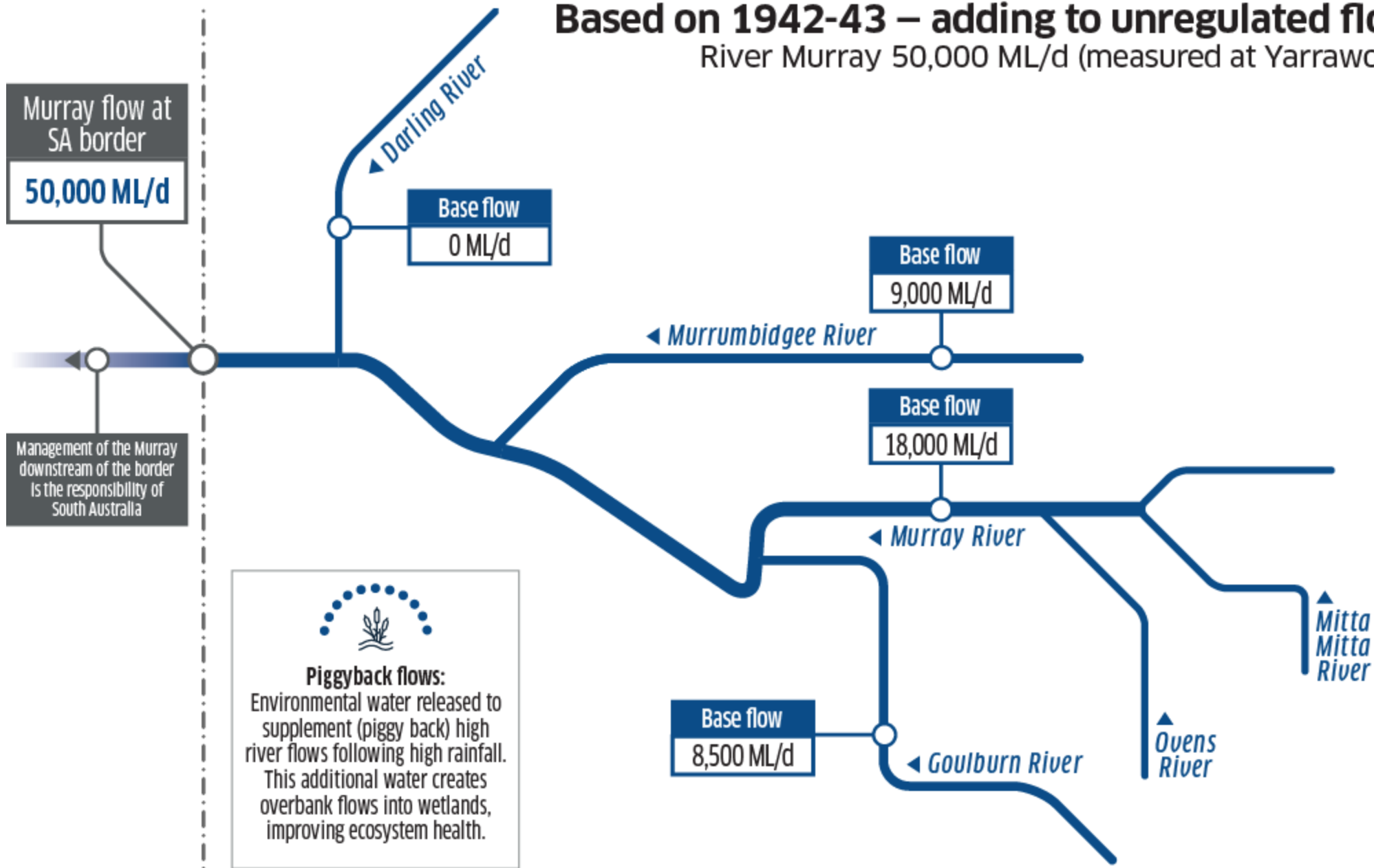


Australian Government



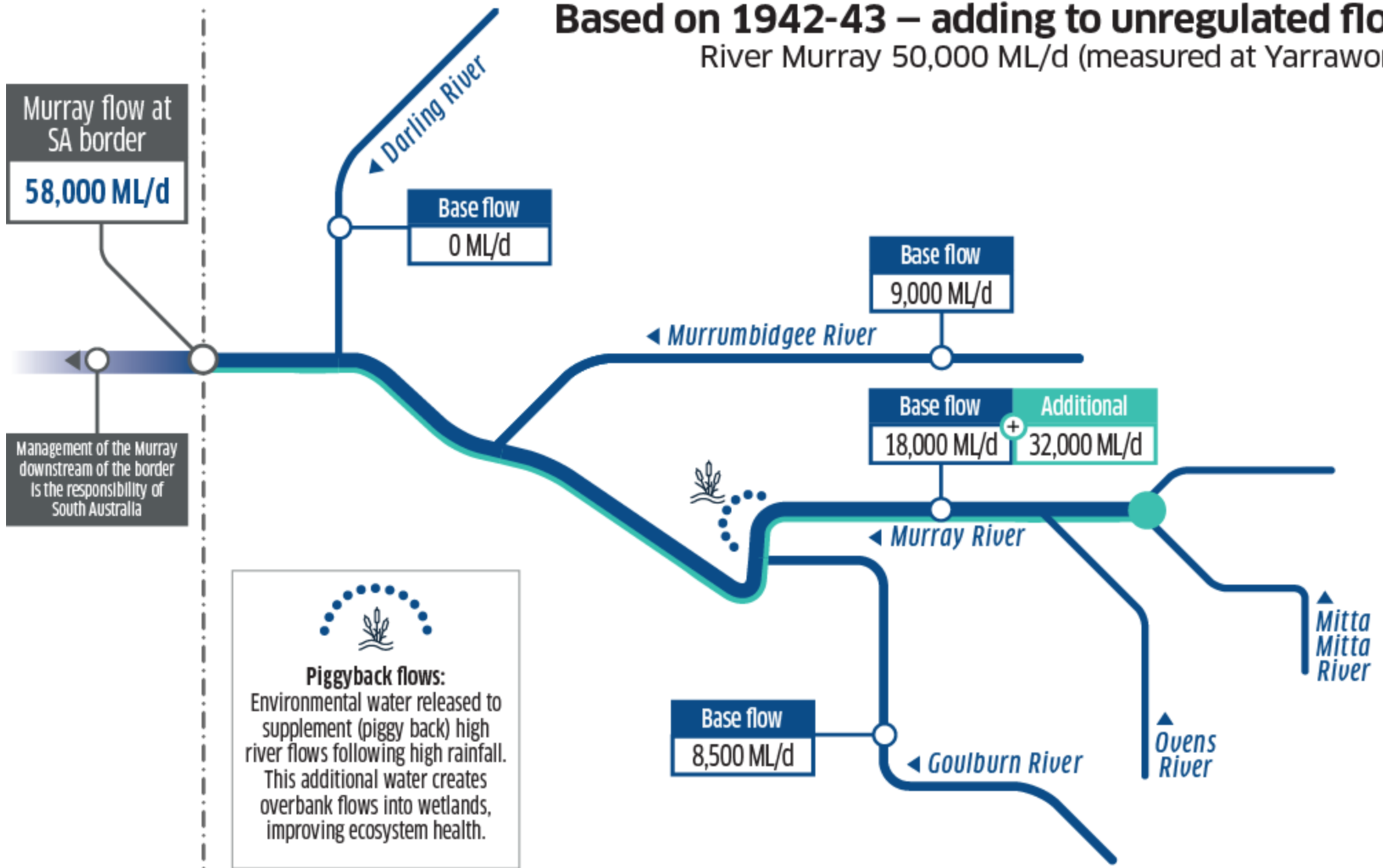
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River Murray 50,000 ML/d (measured at Yarrawonga)

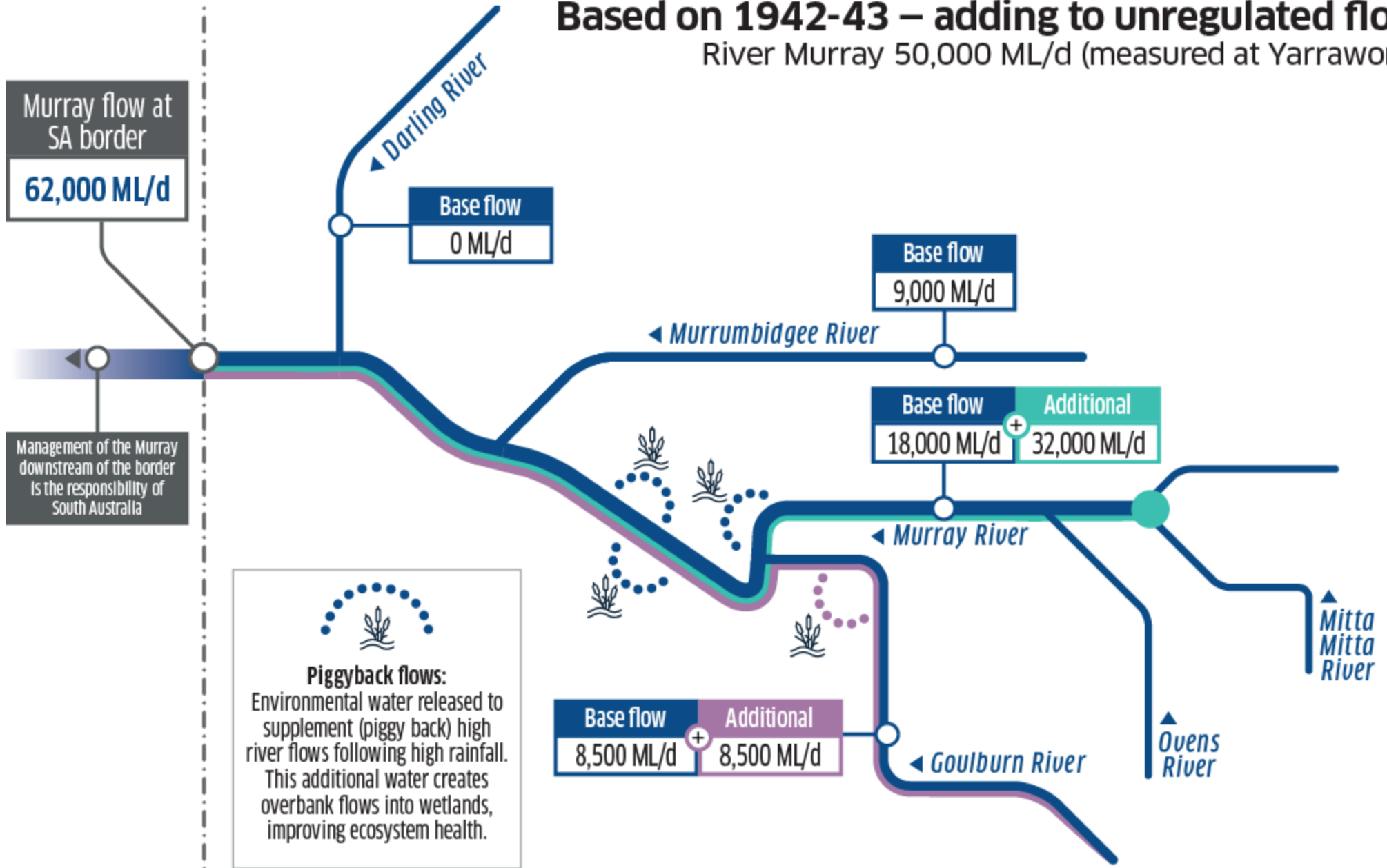


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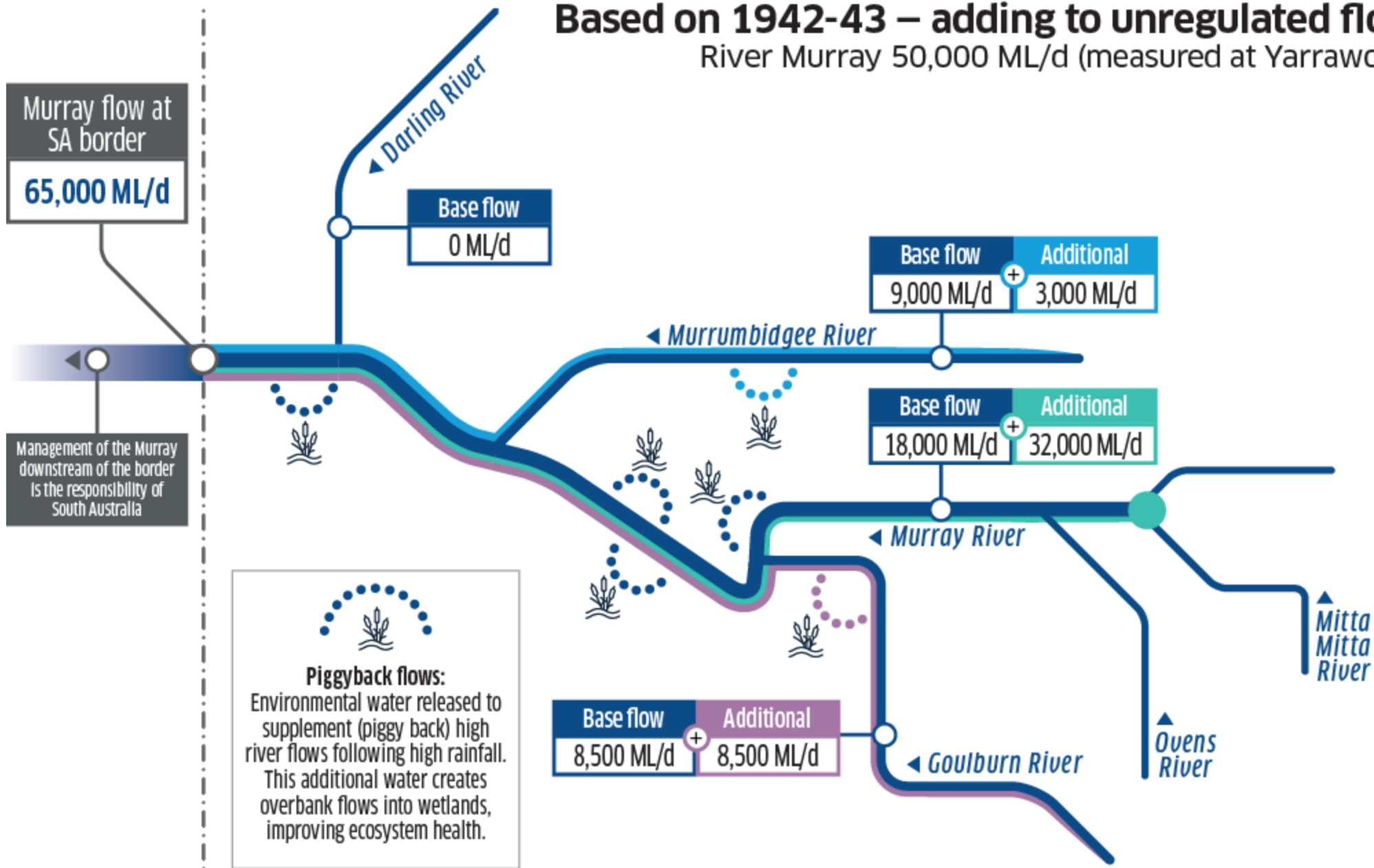
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Appendix Projects

Office locations

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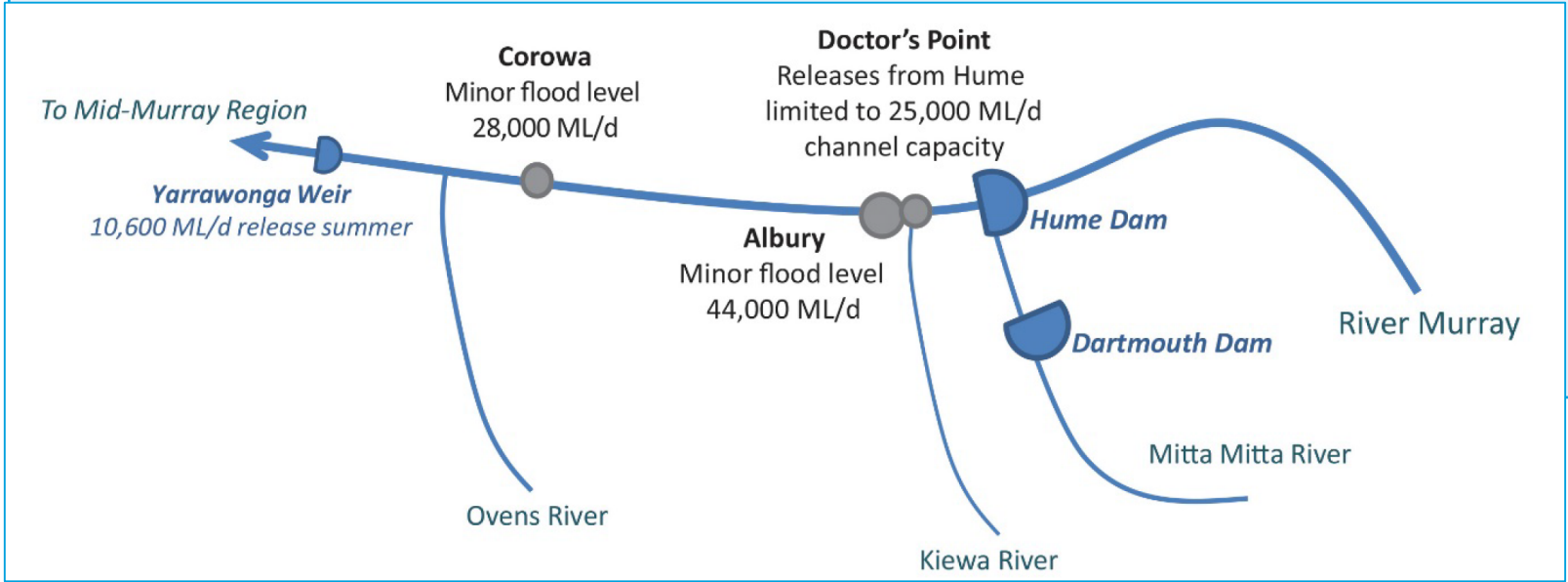


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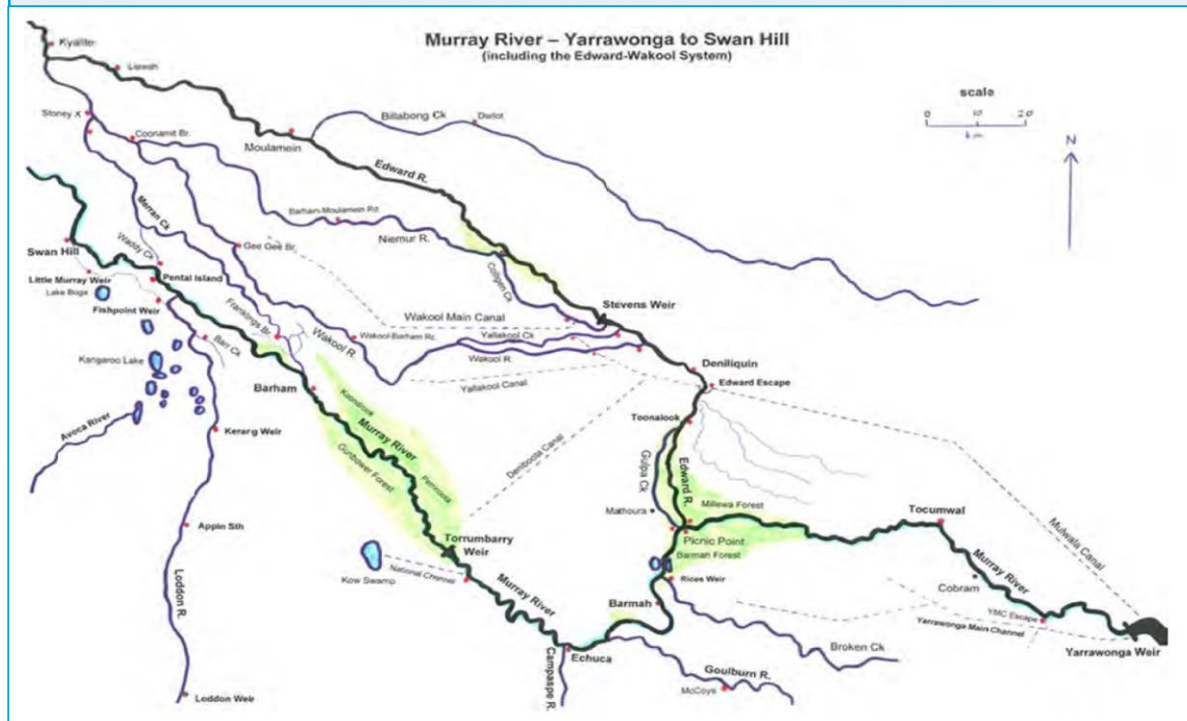
Hume to Yarrawonga

Basin state	Current operational flow rate ML/day	Relaxed constraint flow rate ML/day	Location	Environmental benefits
Vic/NSW	25,000	40,000	Doctor's Point	Inundation of extra <ul style="list-style-type: none"> • 3,200 ha floodplain vegetation • 1,400 ha wetlands Increased flows to: <ul style="list-style-type: none"> • Barmah-Millewa • Werai Forest • Gunbower Koondrook Perricoota • Hattah Lakes • Riverland-Chowilla



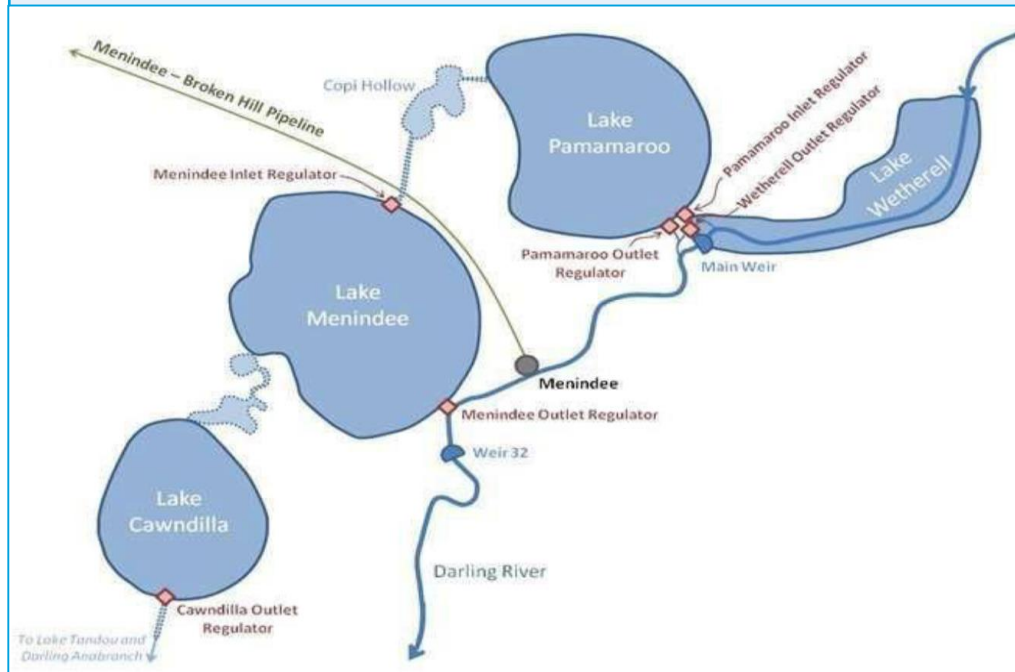
Yarrowonga to Wakool

Basin state	Current operational flow rate ML/day	Relaxed constraint flow rate ML/day	Location	Environmental benefits
NSW/Vic	15,000-18,000 (with notice)	30,000-50,000	Downstream of Yarrowonga Weir	Inundation <ul style="list-style-type: none"> • 14,000-46,000 ha red gum woodlands • 18,000-25,000 ha wetlands Increased flows to: <ul style="list-style-type: none"> • Barmah-Millewa Forest • Werai Forest • Gunbower Koondrook Perricoota • Hattah Lakes • Riverland-Chowilla



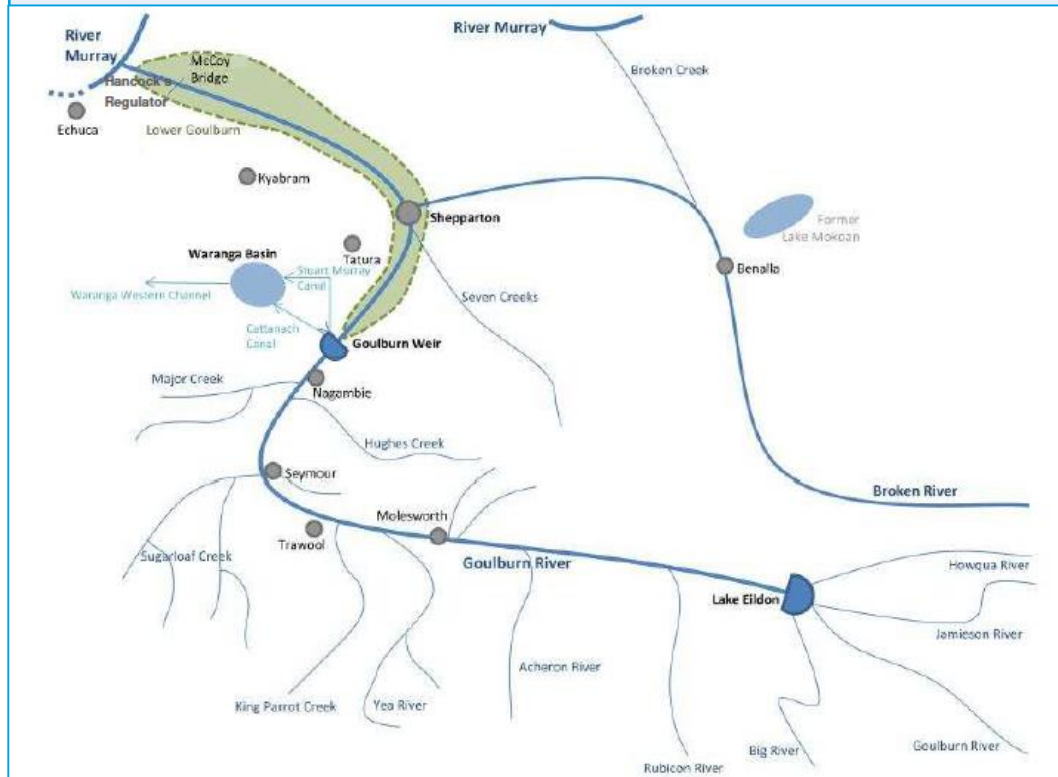
Lower Darling (Menindee)

Basin state	Current operational flow rate ML/day	Relaxed constraint flow rate ML/day	Location	Environmental benefits
NSW	9,000	14,000	Lower Darling	<p>Increased frequency and duration of small overbank flows in the floodplain</p> <p>Increased flows into the Lower Darling (increased flows in the Murray)</p> <p>Fish passage and refuge</p>



New Goulburn (not yet notified)

Basin state	Current operational flow rate ML/day	Relaxed constraint flow rate ML/day	Location	Environmental benefits
NSW	8,500	17,000	Shepparton	In channel benefits - delivering organic material, fish passage and habitat (Murray cod and trout cod) in the Goulburn River.



River Murray in South Australia

Basin state	Current operational flow rate ML/day	Relaxed constraint flow rate ML/day	Location	Environmental benefits
SA	50,000	80,000	South Australian border	System wide benefits, as well as SA reach benefits: <ul style="list-style-type: none"> • river red gum and black box woodlands • Inundated wetlands and vegetation • open Murray Mouth • salinity management in the Coorong, Murray Mouth and lakes Alexandrina and Albert.

