

## 15. Paddle steamer left above the waterline – 2009



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Trigger level (mAHD)	<b>16. TRIAGE ACTIONS</b>
+ 0.3	Augment water level & water quality monitoring and modelling
↓	Early pumping to Mount Lofty Ranges storages
	Implementation of urban water restrictions to minimise draw on River Murray
	Start modification to SA Water major urban supply intakes to cope with lower water levels
	Facilitate emergency dredging to provide continued access for private S&D and irrigation supplies
	Seal barrages to prevent seawater ingress with reverse head
0.0	Initiate program to provide alternative urban supply for Clayton
↓	Commence modelling project to investigate acidification potential – identification of acidification trigger levels for each lake
	Commence investigations into acidification risk for wetlands between Wellington and Lock 1 - engaged CSIRO to undertake remediation trials
- 0.4	Implement Lake Albert Water Level Management Project to prevent acidification
-0.5	Commence installation of Taillem Bend to Meningie S&D pipeline
- 0.6	Commence small-scale ASS bioremediation trials in Lake Albert
- 1.0	<b>CURRENT WATER LEVEL</b>
↓	Commence Goolwa Channel water level management project to prevent acidification of key wetlands and the Goolwa Channel
	Commence construction of Pomanda Island weir
	Commence construction of Jervois to Currency Creek irrigation pipeline
	Commence broad-scale bioremediation in key areas around lakes
- 1.5	<b>Introduce seawater to prevent acidification of Lake Alexandrina if freshwater not available</b>

**Lower  
Murray  
Drought  
Contingency  
Plan**

# 17. SA WATER MAJOR PUMPING STATION MODS

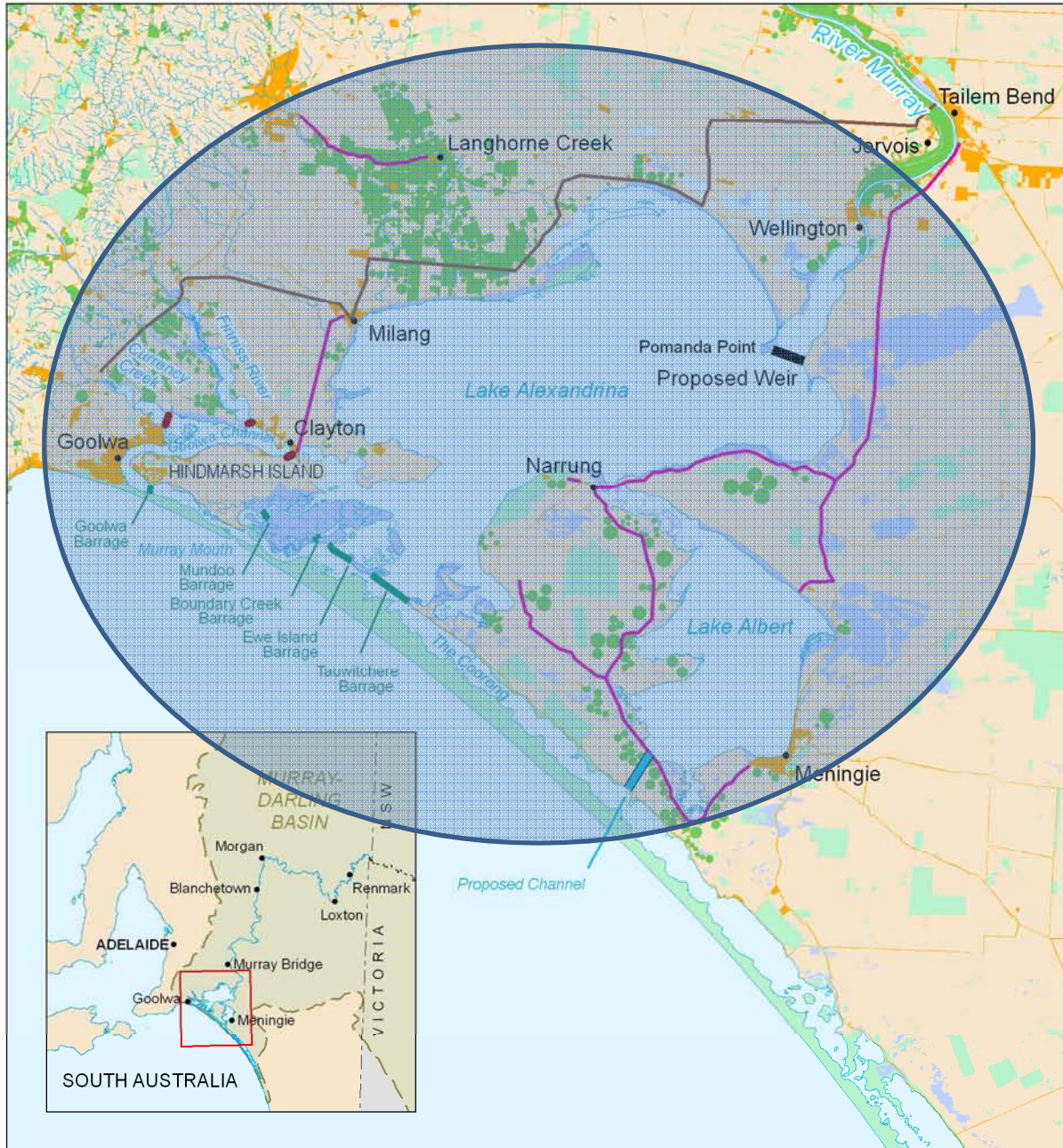
(TO EXTRACT TO AT LEAST MINUS 2.2 M AHD)



**Low-lift pumps being installed at Mannum**



# 18. Murray Futures Pipelines, \$150 million

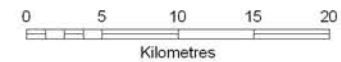


## LOWER LAKES, COORONG AND MURRAY MOUTH

- Regulator
- Barrage
- Irrigation Water Supply
- Stock and Domestic Water Supply

### 2008 LAND USE

- Conservation and natural environments
- Production from dryland agriculture and plantations
- Production from irrigated agriculture and plantations
- Intensive uses
- Marsh / Wetland
- Water



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Map Production: DVLBC Resource Information Group  
 Map Projection: MGA Zone 54 Map Datum: GDA94  
 Date: August 2009

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**Direct extraction halo**





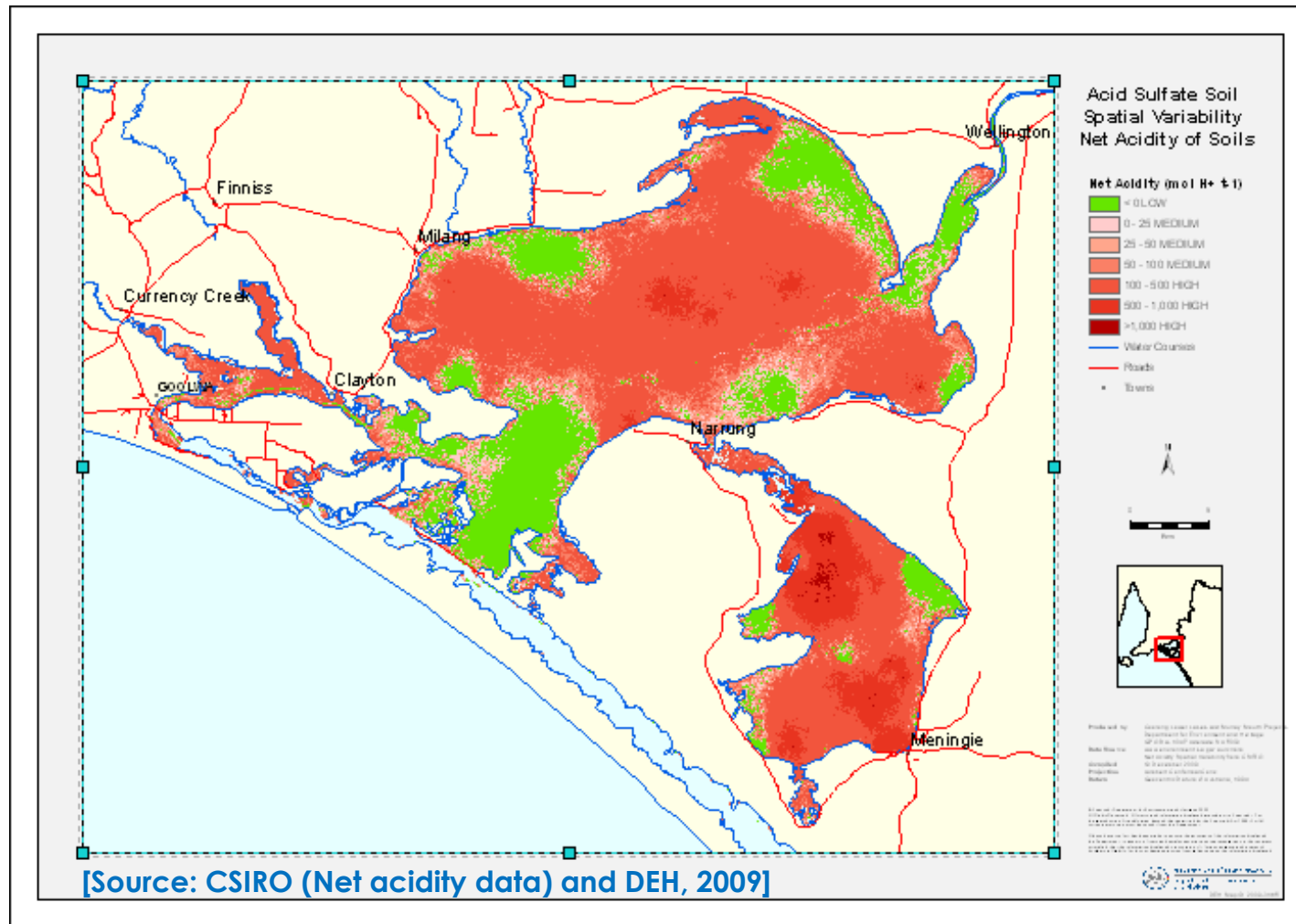
**20. Bottle Bend  
New South Wales**

21. Barrage Islands, 3 April 2009, approx. minus 1m AHD



> 1,000HA

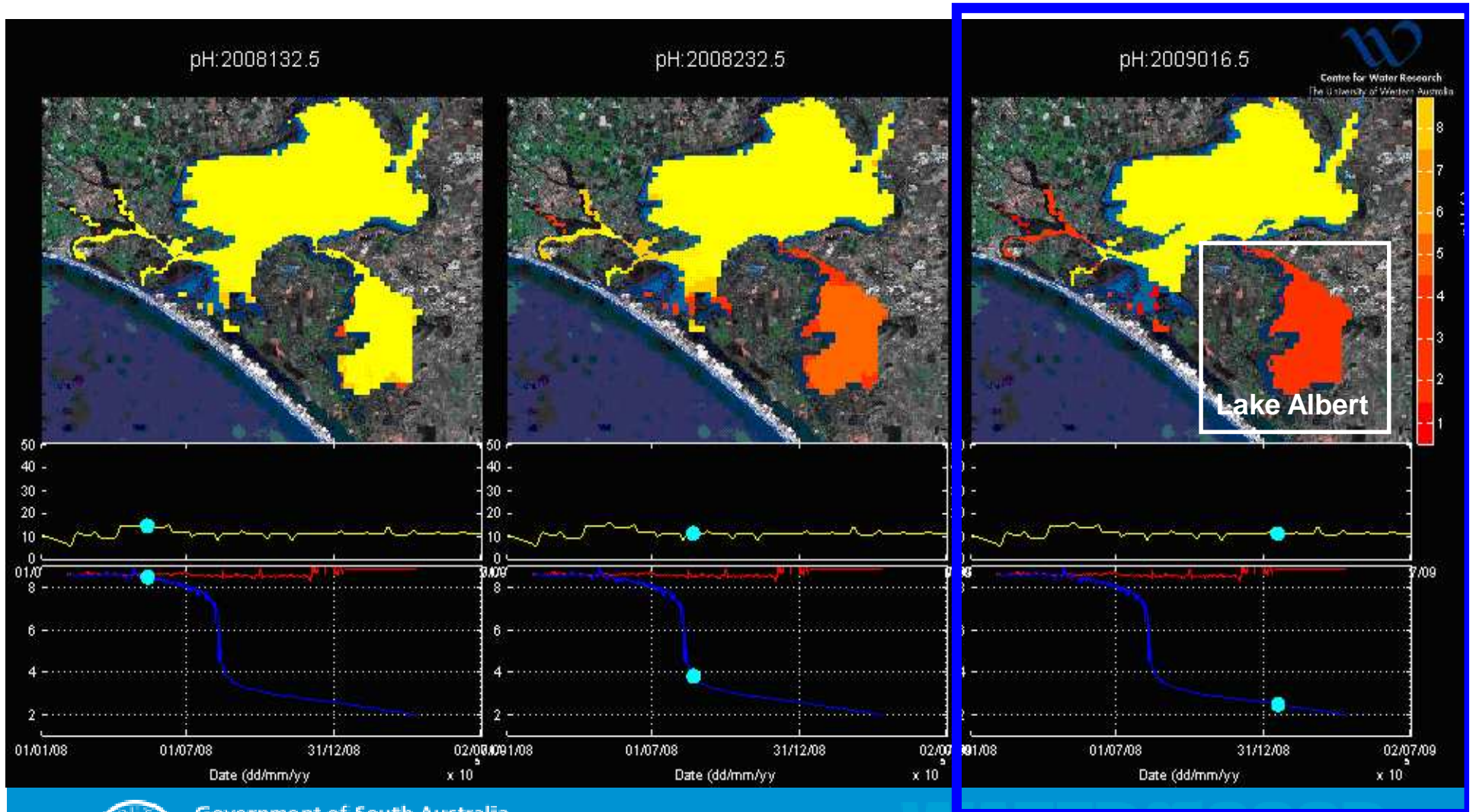
# 22. ASS in the Lower Lakes – Net Acidity Map





# 23. Acidification Predictions

## Uni of WA Bio-geochemical Modelling



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Lake Albert acidification trigger projected to be minus 0.5 m AHD

## 24. Lake Albert Water Level Management Project

- Preferred option – “Keep sediments submerged / saturated”
- Pumped from 02 May 2008 to 30 June 2009 (\$14.1 million MDBA)
- Up to 1 GL per day (500 x 50 m swimming pools / 24 hrs)
- To buy time until drought breaks
- Recommenced pumping Jan 2010 (90 GL), to Nov 2010 (Murray Futures)



## 25. Lake Albert Pumping



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Lake Alexandrina

Clayton

Finniss River

Goolwa Channel

Currency Creek

- EPBC + conditions
- Ngarrindjerri
- Community Consultation
- Currency Creek Acidified
- 1,000 tonnes Limestone

Minus 0.9 m AHD  
03 March 2009

## 27. Acidification of Exposed Lake Beds Currency Creek Estuary – May 2009



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## 28. Goolwa Channel Water Level Management Project



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29.



**Restore water level in Goolwa Channel and tributaries**

**Manage acid sulfate soils risk**

**Provide an ecological refuge**



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