Sea level rise and the lower lakes

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FIGURE 3.1

Inset: 2001 projections compared with observed rate from tide gauge data and satellite altimeter data.

- Tide gauges
- Satellite altimeters

Additional contributions from potential ice-sheet dynamic processes

Model projections

Measured net SLR at Port Stanvac (June 1992 to Jan 2009) is a total of 86 ± 20mm (uncorrected for post glacial rebound).

Measured SLR 1992 – 2011 (BoM)

Units: mm/yr
Sea level rise projections (USACE 2011)
US curves for coastal design

![Graph showing sea-level rise projections for different scenarios, including Modified NRC-I, Modified NRC-II, and Modified NRC-III. The graph includes markers for CPB policy 2050 and CPB 2100, with a highlighted area for the ice sheet contribution (IPCC 2007).]
Adaptation scenarios (1.5m SLR)

**STRATEGY 1**

New S.L.  
Existing S.L.  
Existing Lake level

**STRATEGY 2**

New S.L.  
Existing S.L.  
Existing & future Lake level

**STRATEGY 3**

New Sea Level  
Barrage at Wellington  
New River level  
Existing S.L.  
Existing Lake level
## Costs (1988)

**Table 4.5.3**

Preliminary costs of strategies for coping with 1.5 m sea level rise at River Murray terminal lakes

<table>
<thead>
<tr>
<th>ITEM</th>
<th>STRATEGY</th>
<th>STRATEGY</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>BARRAGE</td>
<td>$28M</td>
<td>$27M</td>
</tr>
<tr>
<td>PUMPS</td>
<td>-</td>
<td>-</td>
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<tr>
<td>PUMP OPERATION (discounted present value)</td>
<td>-</td>
<td>$51M</td>
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<td>DYKES TO PROTECT LAKE &amp; RIVER TOWNS</td>
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<td>ROAD RECONSTRUCTION</td>
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<tr>
<td>WATER SUPPLY DOMESTIC &amp; IRRIGATION</td>
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<td>-</td>
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<td>LEVEES TO PROTECT DAIRY SWAMPS</td>
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<tr>
<td><strong>TOTALS</strong></td>
<td>$74M</td>
<td>$155M</td>
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References


McInnes KL, Suppiah R, Whetton PH, Hennessy KJ and Jones RN (2003). Climate change in South Australia, Report on: Assessment of climate change, impacts and possible adaptation strategies relevant to South Australia, CSIRO.


Webster IT (2009). A preliminary assessment of the impacts of sea level rise on water levels in the Coorong, CSIRO, ISSN: 1835-095X.

Questions