

The Shoalhaven Transfer Scheme

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The Shoalhaven Transfer Scheme



- Conceived 1966
- Sydney's next major water source
- Works Completed 1977
- Stage 1 – Phase 1 only
- Stage 1 – Phase 2
 - Doubling capacity to transfer 4,800 MLD
- Stage 2 – Welcome Reef Dam
- Indefinitely postponed in 2000

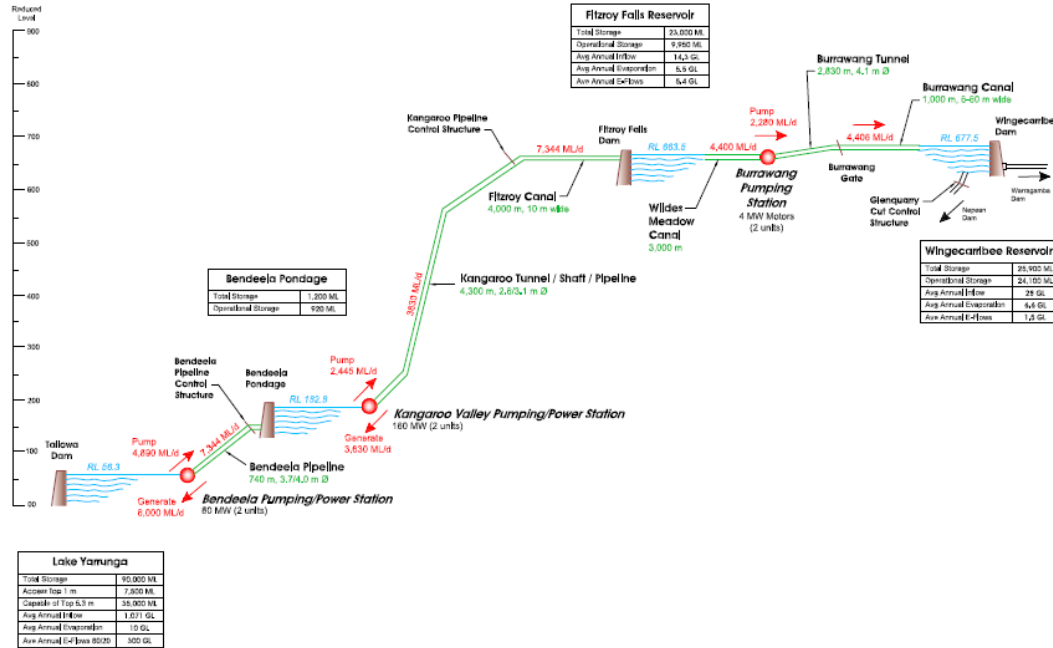
The Shoalhaven Transfer Scheme



- Tallowa Dam / Fitzroy Falls Reservoir
- Wingecarribee Reservoir
- Pumping / Power stations (2)
 - Owned and Operated by Origin Energy
 - 80 MW / 4,800 MLD and 160 MW/ 2,4000 MLD
- Tunnel and Pipelines (2)
 - Owned and Operated by Water NSW
 - 4,720m long and 2.6 to 3.9m diameter
- Burrawang Pumping Station

The Shoalhaven Transfer Scheme

- Moving Water
- Up : Pumping
- Down : Generating



Criticality – Millennium Drought



- Wingecarribee Reservoir Releases
 - Glenquarry Cut to Nepean Dam
 - Wingecarribee River to Warragamba
- Transferred 27% of Sydney's needs
- Transferred an average of 400 MLD
- Total system reached 33.4%
- Without the Shoalhaven Scheme, it would have been 13%

Previous Operating Rules



- Start transferring water :
 - When total system storage is 60%
 - Ability to pump Tallowa down to -5.2m
 - Access to the top 35,300 ML
- Constraints :
 - Pump capacities
 - Limited Wingecarribee Dam operating window (-1.3 to -1.8m)
 - Ramping up rates and release rates down Glenquarry Cut and Wingecarribee River

Current Operating Rules



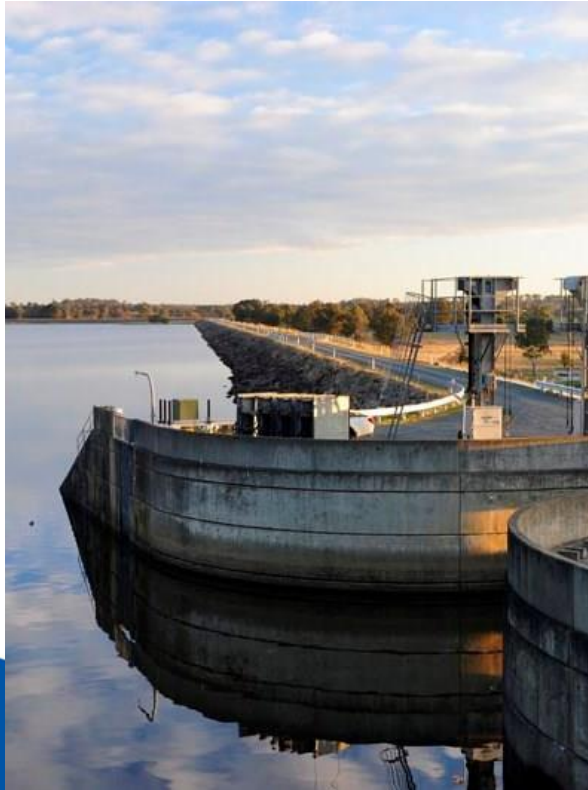
Start transferring water :

- When total system storage is 75%
- Limited to pumping Tallowa down to -1.0m
- Access to the top 7,500 ML

Constraints :

- Pump capacities
- Available airspace to put water
- Ramping up rates and release rates down Glenquarry Cut and Wingecarribee River

Water Supply and E-Flow Releases

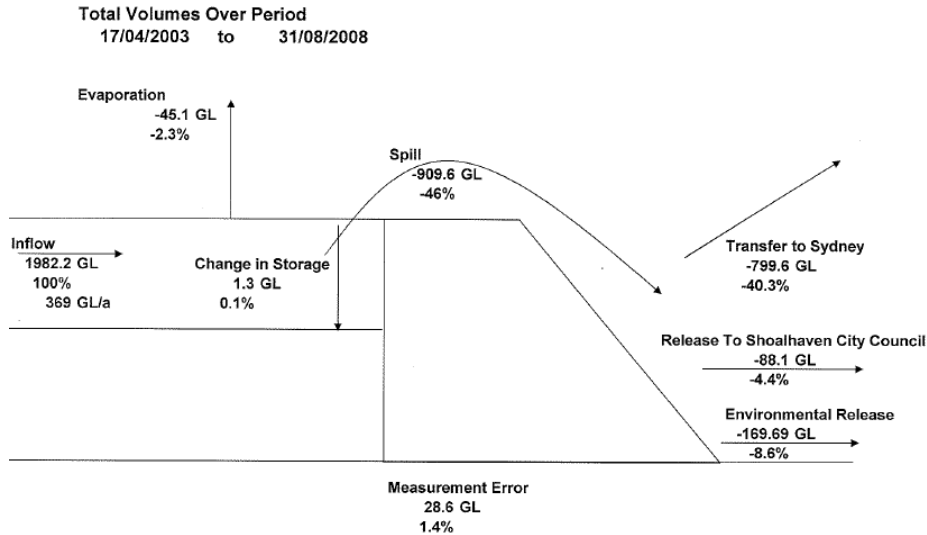


- Shoalhaven Water
 - Tallowa Dam and Bendeela Pondage
- Wingecarribee Shire Council
 - Wingecarribee Reservoir
- Goulburn Mulwaree Shire Council
 - Wingecarribee Reservoir
- Environmental releases
 - Tallowa
 - Wingecarribee

Challenges

- Recreational users
- Community expectations
 - Supplying water to Sydney during drought
 - Reservoir levels during a drought
- Technical Planning
 - Responding quickly to rain events (modelling)
 - Setting operating rules
- Water Quality
 - Algae
- Planning Maintenance
 - Planning for maintenance outages

Tallowa Dam Water Balance



- During Millennium Drought

- Inflows 1982 GL
- Spills 910 GL
- E-flows 170 GL
- Shoalhaven Water 88 GL
- Pumped to Sydney 800 GL

Thank You

