# Hervey Bay Chamber of Commerce

Securing Our Water Future

### Who are we?







Water Treatment & Distribution



Laboratory Services (NATA)











### Where does our water come from?

# Lake Lenthall

Welcome to Lake Lenthall Public access is from 6am to 8pm daily Campers, please report to Ranger's office on arrival

> You are entering at your own risk Please direct all enquiries to **1300 808 888**

www.widebaywater.qld.gov.au



#### Attention fishers

WIDE BAY water



# The Statutory Framework and Water Security



Water Act 2000

Current as at 1 March 2023



Water Act 2000

Water Plan (Mary Basin) 2006

Current as at 3 July 2017







# So how much water are we using?



At its current size, the Fraser Coast uses less than half (46%) of its combined available water allocation.

There's capacity for growth.



### Securing Our Water Future

Water security planning is an ongoing process.

Recent projects:

- Regional Water Supply Security Assessments (2015) – Department of Energy and Water Supply/Council
- Fraser Coast Water Supply Security Strategy (2022) – Stantec/Council

Both documents look at future demand to inform the 30-year water security strategy.



#### Objectives:

- Update the previous models with actual growth data and latest growth forecasts.
- Work with the community to define water security service levels in terms of frequency and duration of water restrictions.
- Investigate infrastructure options and timing to continue to meet that level of service into the future.



With current growth, how long do you think the Fraser Coasts current water allocations will last?



### Future demand – what is the modelling telling us?

- Current water allocations can accommodate growth to beyond 2051 (medium and high scenario).
- As demand increases, so does the frequency of water restrictions.

Stantec, 2022





### Water Security Level of Service Objectives – what did the community feedback say?

- Water Security Level of Service objectives objectives that provide long-term water security by establishing agreed targets for the recurrence and duration of restrictions.
- Extensive community consultation to establish targets for Level 2-4 water restrictions.
- Level of Service community feedback:
  - More regular low impact Level 2 restrictions.
  - Less frequent Level 4 restrictions only 1 in every 40 years.
- When that LoS was applied to the model:
  - Hervey Bay did not not meet the LoS in 2026 for L4 Restrictions.
  - Maryborough continued to meet the LoS beyond 2051.

#### Proposed Fraser Coast Level of Service

Restriction Level	Severity	Frequency
Level 1	N/A	Permanent
Level 2	5% use reduction	1 year ARI
Level 3	20% use reduction	5 year ARI
Level 4	40% use reduction	40 year ARI
Emergency Supply	100 L/person/day	100 year ARI
Supply Shortfall (Dead Storage Level)	Supply Shortfall	>1000 year ARI





How can we improve water security?

- Non-infrastructure options
- Infrastructure options







# Non-infrastructure options

Demand Management Strategy:

- Supply Side (Council) pressure management, leak detection.
- Demand Side (Customers):
  - Water use efficiency >40% water used outdoors.
  - Water Education/Conservation
    - Fraser Coast 220 l/p/d
    - SEQ 156 l/p/d
    - Gympie 184 l/p/d
    - Melbourne 150 l/p/d
  - Water education programs.
  - Tariff reform.
  - Smart Meter customer portal.

# Infrastructure Options

- Water Grid
  - HB/MB Interconnection
  - Paradise dam pipeline
- Dams
  - Raising Lenthalls
  - Teddington Off-stream storage
- Manufactured water
  - Desalination
  - Purified Recycled Water
- Ground water K'gari



Interconnecting Pipeline (Hervey Bay to Maryborough)

- Advantages:
  - Efficient utilisation of water allocation, bulk assets, and treatment plants.
  - Improves resilience in the water system.
  - Supports other supply options.
- Disadvantages:
  - Does not provide additional capacity.



• Cost \$31M

### Paradise Dam Pipeline

- Advantages:
  - Significant State/Commonwealth investment.
  - Additional HP Allocation.
  - Potential to supply agriculture.
- Disadvantages:
  - Highest CAPEX option
  - Does not diversify supply.

#### • Cost \$146M\*

 $^{*}2018$  estimate indexed to 2022-market escalation likely to be well above the index applied.



### Off-stream storage Teddington

Advantages:

- Meets LoS.
- Strategic Reserve available.

#### Disadvantages:

- Large footprint and difficult construction.
- Land availability

#### Cost \$90M

### Raising Lenthalls dam

- Raised by 2m in 2007.
- Culturally sensitive sites Wongi
- Dam reconstruction/saddle dams.
- Option not investigated further due to constraints.



### Desalination

- Advantage:
  - Diversifies water source.
  - Increases water treatment capacity just building a treatment plant.
  - Resilient to climate variability.
- Disadvantage:
  - Expensive CAPEX/OPEX
  - Management of brine
- Cost \$45M



### Purified Recycled Water

- Advantage:
  - Does not rely on surface water.
  - Can be used year-round.
- Disadvantage:
  - Public acceptance
  - Supplemental source only cannot provide volume required to meet LoS.
- Cost \$45M (10ML/d) & \$85M (20ML/d)



### Infrastructure Options Assessment





Fraser Coast Water Supply Security Strategy Recommendations

Project recommendations:

- Resolve water restriction Level of Service Objectives.
- Develop a demand management strategy to reduce per capita consumption and network loss.
- Infrastructure Upgrades:
  - Water Grid (HB/MB Interconnection) by 2026.
  - Desalination by 2036\*
- Final report resolved by Council March 2022



## Where to from here?

- Preliminary Evaluation and Business Case Water Grid HB/MB (underway).
- Demand Management Strategy development (underway).
- Desalination Plant feasibility assessment (to be scheduled).

- Finalise Mary Basin Plan Review
  - Burrum System additional 3,000ML allocation
  - Mary River System additional 6,000ML Strategic reserve





Fraser Coast Water Security -Summary

- Water security planning is continuous process.
- Our current water supply system can support growth to beyond 2050.
- Planning on a HB/MB interconnection pipeline has commenced.
- By reducing household consumption, we can all contribute to securing our water future.



A Business Unit of Frager Coast