Presentation
Water at a Glance

• Water take from Heretaunga Plains aquifer
• Water is provided for:
  • Domestic needs
  • Commercial/business/industrial needs
  • Fire fighting needs
• Current city population approximately 61,000
• Napier is a medium growth area
• Two distinct supply areas
  • Napier supply area (universally metered)
  • Bay View supply area (high water users are metered)
• Water permit expires in 2027
Asset Types

- Bores – 10 (9 in operation)
- Pipes – 481 km
- Reservoirs – 11 (on 8 sites, approximate storage 29,000,000 litres, average 24 hour usage)
- Booster pump stations – 8
- Total Water Connections – 25,550
Consented Volumes vs Actuals and Projections

<table>
<thead>
<tr>
<th>Condition</th>
<th>Allowed limits of take</th>
<th>Current maximum take from all bores</th>
<th>Estimated 2048 maximum take, no change in per capita consumption, 440 l/pers./day (excluding wet industries)</th>
<th>Estimated 2048 maximum take, targeted future per capita consumption 300 l/pers./day (excluding wet industries)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cumulative rate of take of water from all bores</td>
<td>784 litres/sec</td>
<td>606 litres/sec</td>
<td>790 litres/sec</td>
<td>&lt;600 litres/sec</td>
</tr>
<tr>
<td>Cumulative 7 day maximum take from all bores</td>
<td>387,744 cubic meters</td>
<td>283,000</td>
<td>327,550</td>
<td>223,325</td>
</tr>
</tbody>
</table>
Population Growth: HPUDS and NPS - UDC

- Local authorities shall ensure that there is sufficient housing and business land development capacity in the short (3 years), medium (3-10 years) and long term (10 – 30 years)

- Development capacity means the provision of adequate infrastructure (water supply, wastewater and stormwater)

- Degree of conflict between NPS - FWM and NPS - UDC
Water Conservation Strategy

- Public education
- Pressure management
- District zoning and monitoring
- Targeted leak detection
- Dedicated water taking points
- Asset renewals
- Water restrictions
- Benchmarking with Water NZ
- Annual water balance report
- Universal water metering
  (long term option – decision of Council)
## Targeted per Capita Consumption (gross)

<table>
<thead>
<tr>
<th>Year</th>
<th>Current consumption litres/capita/day</th>
<th>Aspirational Targeted consumption litres/capita/day</th>
<th>How we are achieving the target</th>
</tr>
</thead>
<tbody>
<tr>
<td>2018</td>
<td>440</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>2023</td>
<td>N/A</td>
<td>425</td>
<td>Water conservation strategy, no universal metering</td>
</tr>
<tr>
<td>2028</td>
<td>N/A</td>
<td>400</td>
<td>Water conservation strategy, no universal metering</td>
</tr>
<tr>
<td>2033</td>
<td>N/A</td>
<td>300</td>
<td>Water conservation strategy, universal metering</td>
</tr>
<tr>
<td>2038</td>
<td>N/A</td>
<td>300</td>
<td>Water conservation strategy, universal metering</td>
</tr>
<tr>
<td>2043</td>
<td>N/A</td>
<td>300</td>
<td>Water conservation strategy, universal metering</td>
</tr>
<tr>
<td>2048</td>
<td>N/A</td>
<td>300</td>
<td>Water conservation strategy, universal metering</td>
</tr>
</tbody>
</table>
Projections

Future Water Demand
Daily Production Projections (m³ per day)

Year 2013  Year 2028  Year 2023  Year 2028  Year 2033  Year 2038  Year 2043  Year 2048

- No Programme  - Aspirational  - Moderate
Water Quality

• Major focus
• Sources of contamination
  • Catchment – land use, existing bores, decommissioned/unused bores, spillages
  • Bores – bore structure, headworks, proximity of sewer system
  • Reservoirs – vermin/contaminants entry points
  • Reticulation – backflow, pipe breaks
Priorities

• Catchment protection – working together with other stakeholders

• Water conservation – sustainable water source

• Enable growth – minimise usage and waste to cater future demand

• Water treatment
Capital Investments next 30 years

• Water quality improvements - $9.6 million

• Future demand - $20.6 million

• Improve level of service (flow, pressure) - $2 million

• Renewals - $45.2 million
Future urban water focus

• Support sustainable use of the aquifer
• Support fair and equitable approach…
• Support future population growth
• Support economic development
• Recognise cultural values
STORMWATER
Stormwater at a Glance

• Majority of catchment flat and low lying
• 13 sub-catchments (total of 6,055 ha)
• Drainage is extensively reliant upon an open drain system
• Approximately 68% of stormwater discharged into Estuary
• Approximately 75% of stormwater pumped into Estuary or sea
Stormwater catchment
Desired Standards for Network capacity

- Provide flood protection from rain event of 50 year return period
- Primary stormwater system designed to convey stormwater from a rain event of 10 year return period
- Secondary stormwater system designed to convey stormwater from a rain event of 50 year return period
- No adverse effect on receiving environment
Stormwater Issues

• Currently can not meet the desired standards in many areas

• Uncertainties over ownership of some stormwater assets

• Stormwater quality issues

• Growth pressure

• Climate change
What is Planned?

• Construction of a 2D hydraulic model
• Develop a master plan for the next 30 years to meet the desired standards
• Improve water quality
  • Ahuriri Master Plan
  • Catchment Management Plans
• Promote low impact design concepts
  • Updated District Plan
  • Review of Engineering Code of Practice
30 Year Capital Investment Programme

- Improve level of service
  - Discharge quality improvements - $11.7 million
  - Capacity improvements - $24.3 million

- Growth - $24.9 million

- Renewals - $25.9 million
Opportunities
Stormwater Cycle

- Storm Sewer Pipe System
- Concrete Low Flow Channel
- Storm Water Detention Basin
- Natural Stream Channel
- Vegetated/Rock Conveyance Channel
- Rock Outlet Protection
- Concrete End Wall
- Storm Water Basin Outlet Pipe
- Impervious Surfaces
- Roof/Gutter & Downspouts
- Curb & Gutter System
- Curb Inlet

City Council
Te Kaunihera o Ahuriri
Opportunities
Opportunities
Opportunities