



What is the Purpose of the Joint Water Master Plan

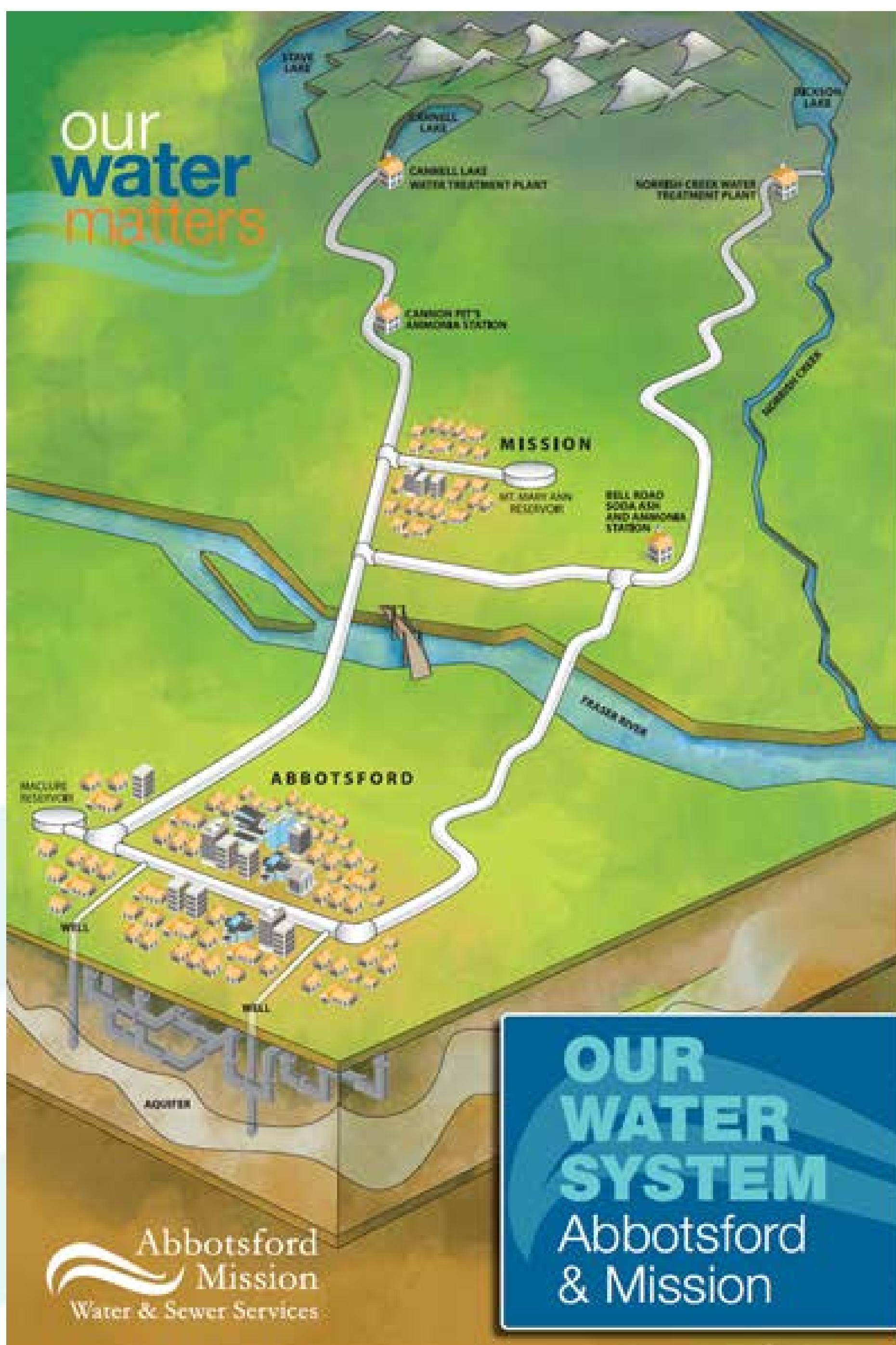
Identify impact due to population and ICI growth in both City of Abbotsford and District of Mission



Integrate a new source option into the Masterplan

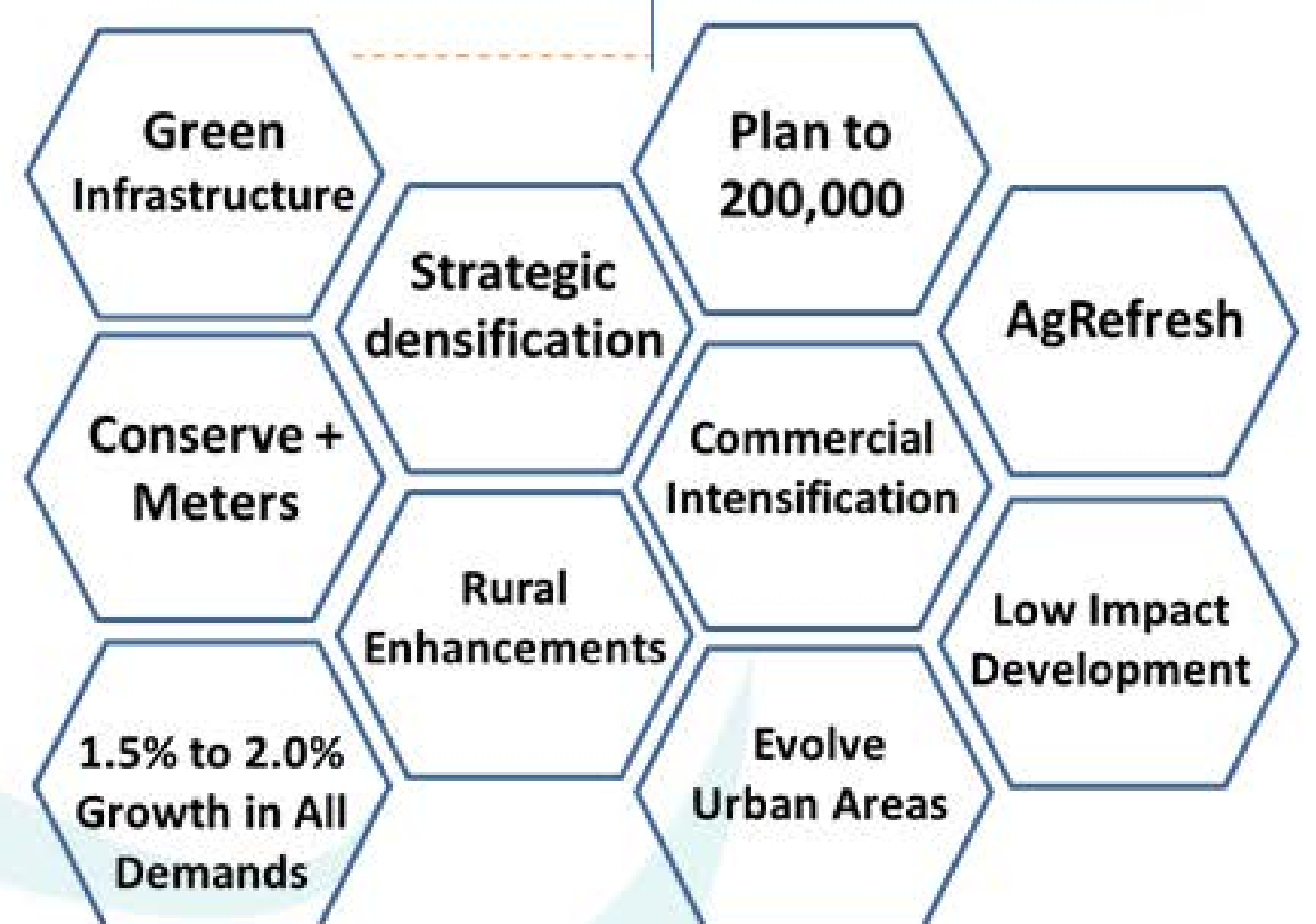


Long-term capital program with costs, timing and upgrade priority



Regional Water Supply Links with Each OCP

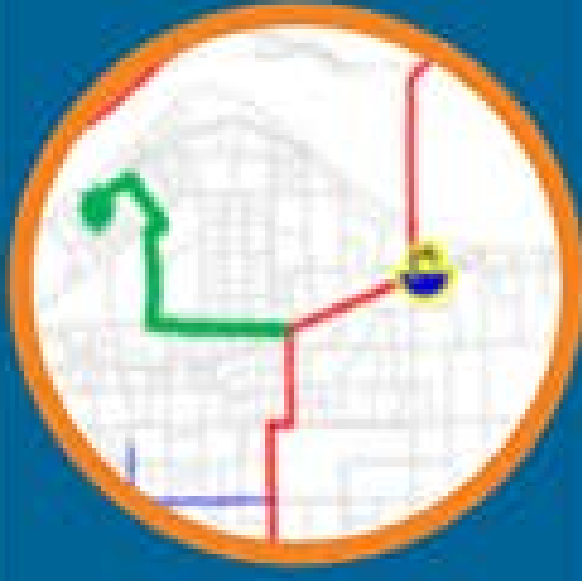
MAKE IT YOUR MISSION



- 2** reservoirs
- 1** soda ash facility
- 19** wells (+ 2 mitigation wells)
- 1** Cannell Lake UV system
- 1** water treatment plant
- 95 km** of water main
- 5** bulk water meters



Key Issues and Opportunities



New Source
for Supply
Resiliency



Enhance
Security at
Major Assets



Prepare for
Evolving
Regulations
(ie: WSA)



Optimize
Water
Supply,
Demands
and Water
Quality



Prepare for
Major
Vulnerabilities



Enhance
Maintenance
for Better
Life Cycle
Results

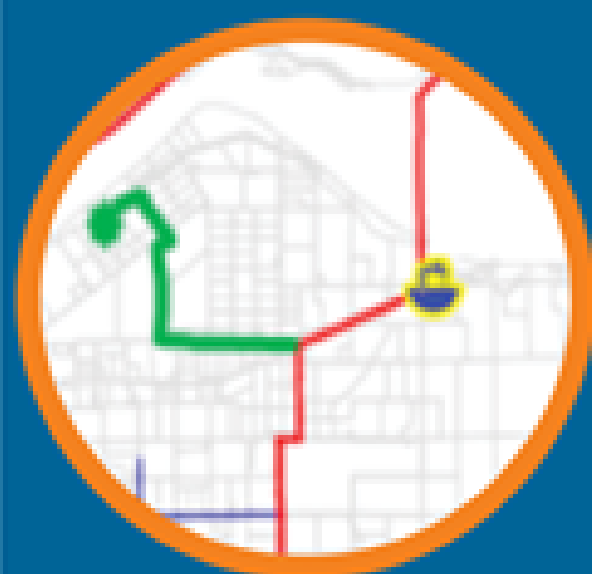


New Source for Growth and Supply Resiliency:

- Collector Well from the Water Source/Supply Study
- Phased/Incrementable, Affordable/Sustainable, Resilient, Flexible, Grantable Approach

RECOMMENDATION:

- Proceed with investigations for new source development.
- Budget:
 - \$59M (2020-2023)
 - \$17M (2041)



New Source
for Supply
Resiliency



Enhance
Security at
Major Assets

Enhance Security at Major Assets

- **Watersheds:** enhance governance e.g. shared use, access control
- **Aquifer:** enhance governance e.g. land use and activities
- **Structures:** prevent unauthorized access

RECOMMENDATION:

- Establish joint-use agreements, protection plans, control access points and consider acquisition in select areas
- Budget:
 - Studies: \$250K
 - Security Systems Upgrades: \$200K (TBD)



Prepare for
Evolving
Regulations
(ie: WSA)

Prepare for Evolving Regulations

- **Water Sustainability Act**
- **BC Drinking Water Protection Act and Regulation**
- **Guidelines for Canadian Drinking Water Quality**

RECOMMENDATIONS:

- **Filtration of Cannell Lake:** Plan to preserve “avoidance” classification
- **Groundwater Licensing:** *note: applications underway*
- **Groundwater at Risk of Containing Pathogens:** monitor and complete GARP screening
- **Manganese:** prepare for new guidelines and adapt as needed
- **pH:** continue to monitor for water quality and corrosion risks;
- Budget:
 - Studies: \$500K
 - pH Upgrade: \$15M (if deemed necessary)



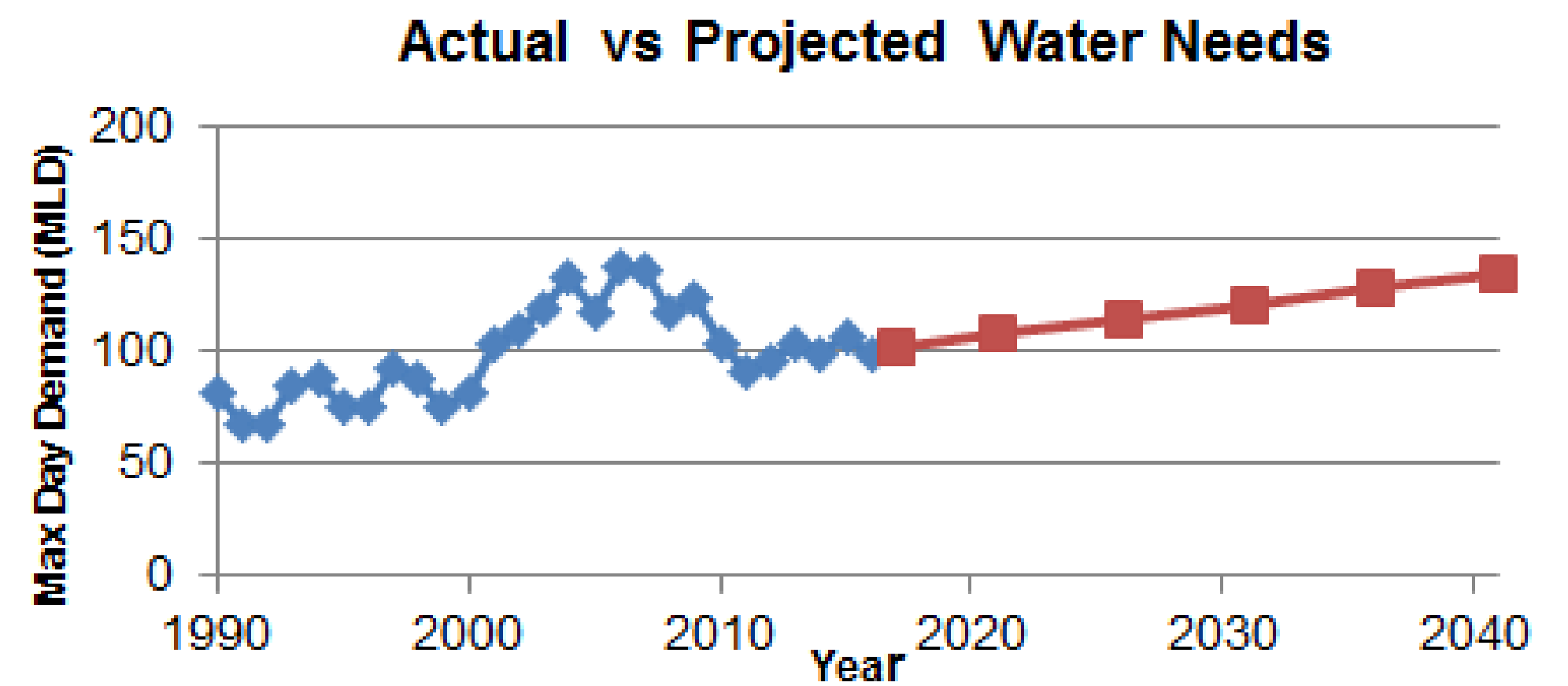
Optimization

- Update water conservation program [blueprint](#)
- Adding Zone 4 Reservoir for reliable supply conditions to Mission
- Review operations of Best Ave. Pump Station
- Optimize Dickson Lake storage e.g. fish and climate



Optimize
Water
Supply,
Demands
and Water
Quality

Conservation Target **0.35%**
annual reduction



RECOMMENDATION:

- Proceed with Zone 4 Reservoir, upgrade Dickson Lake Storage and Best Ave. Booster Station.
 - Zone 4 Reservoir: \$15M
 - Dickson Lake Expansion: \$10M
 - Best Ave Booster Station : \$2.0M
- Updated water conservation [blueprint](#) and increase annual conservation budget: \$250K/year

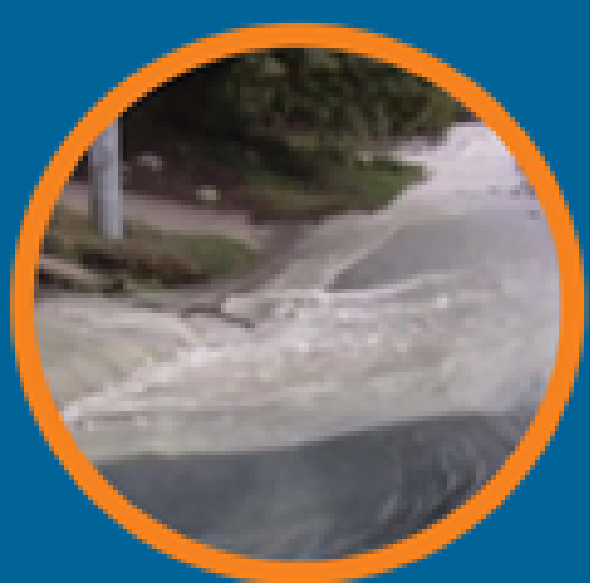


Vulnerability

- System may be compromised when Norrish Creek unavailable (water quality or pipeline)
- Majority of supply is located on opposite side of Fraser River from demand
- Adapt to drought with more supply

RECOMMENDATIONS:

- Add Collector Well on South Side of Fraser River
- Update Seismic Vulnerability Assessment and update design guidelines. – \$250K
- Upgrade costs for seismic \$5.0M (if deemed necessary)
- Review fuel storage requirements
- Update SCADA communications in remote areas – \$250K (TBD)
- Update Emergency Response Plans – \$100K



Prepare for
Major
Vulnerabilities



Enhance
Maintenance
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Preventative Maintenance and Asset Management

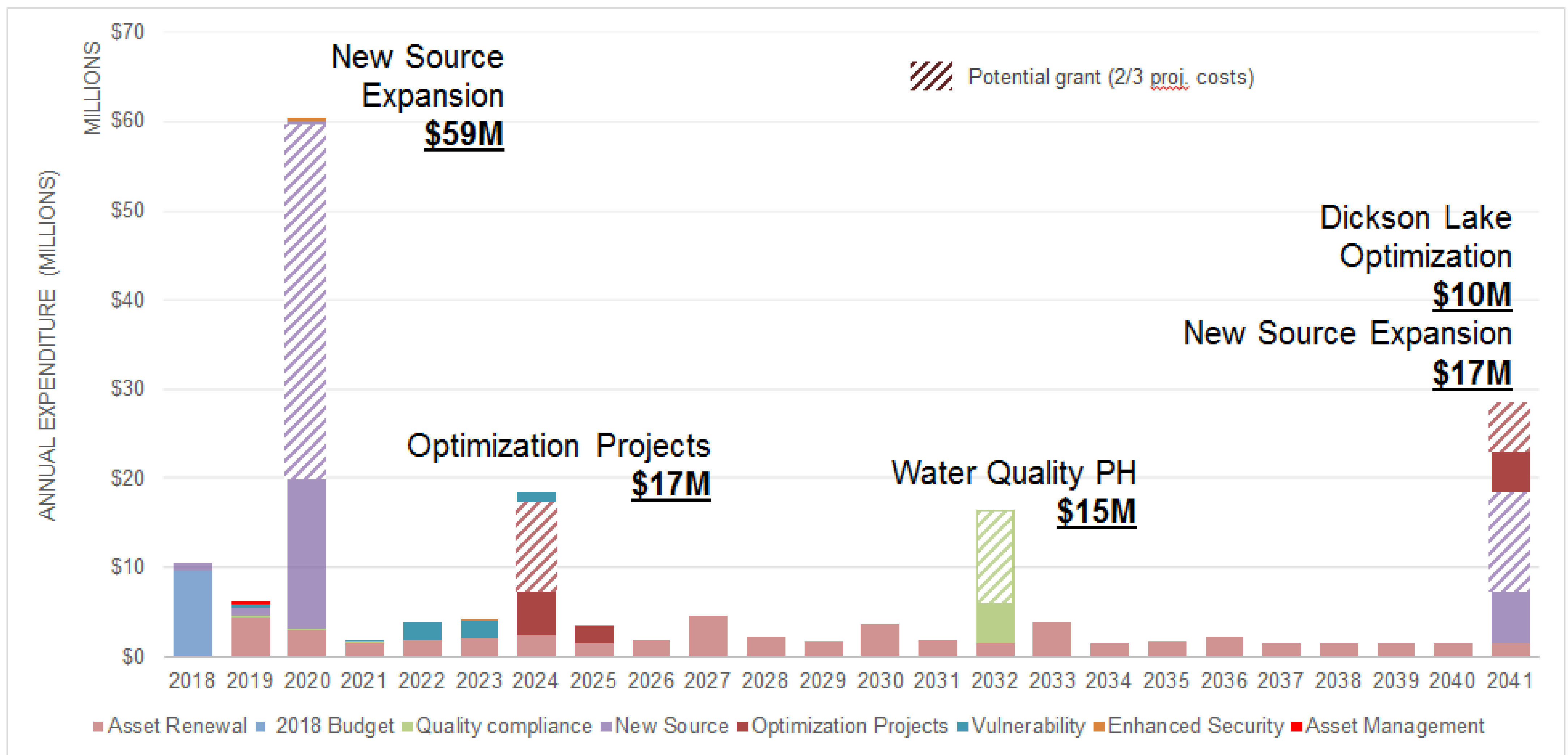
- Maintain financial resources
- Prioritize renewal based on risk, need and knowledge
- Create performance review templates
- Consider long-term investment policy

RECOMMENDATION:

- Adopt new evaluation policy for inspecting and responding to asset deterioration including repairs, renewal and funding – \$250K study.
- Annual average investment level of \$2M- \$2.5M



Proposed Annual Capital Expenditures



Proposed Annual Capital Expenditures - Highlights

- Long term affordable plan
- Similar expenditure levels as previous plan
- AMWSC major projects are expected to be funded 2/3 by grants
- Future master plans (every 5 years) to review and update

Funding Sources



* Only if required