

Climate Change Preparedness

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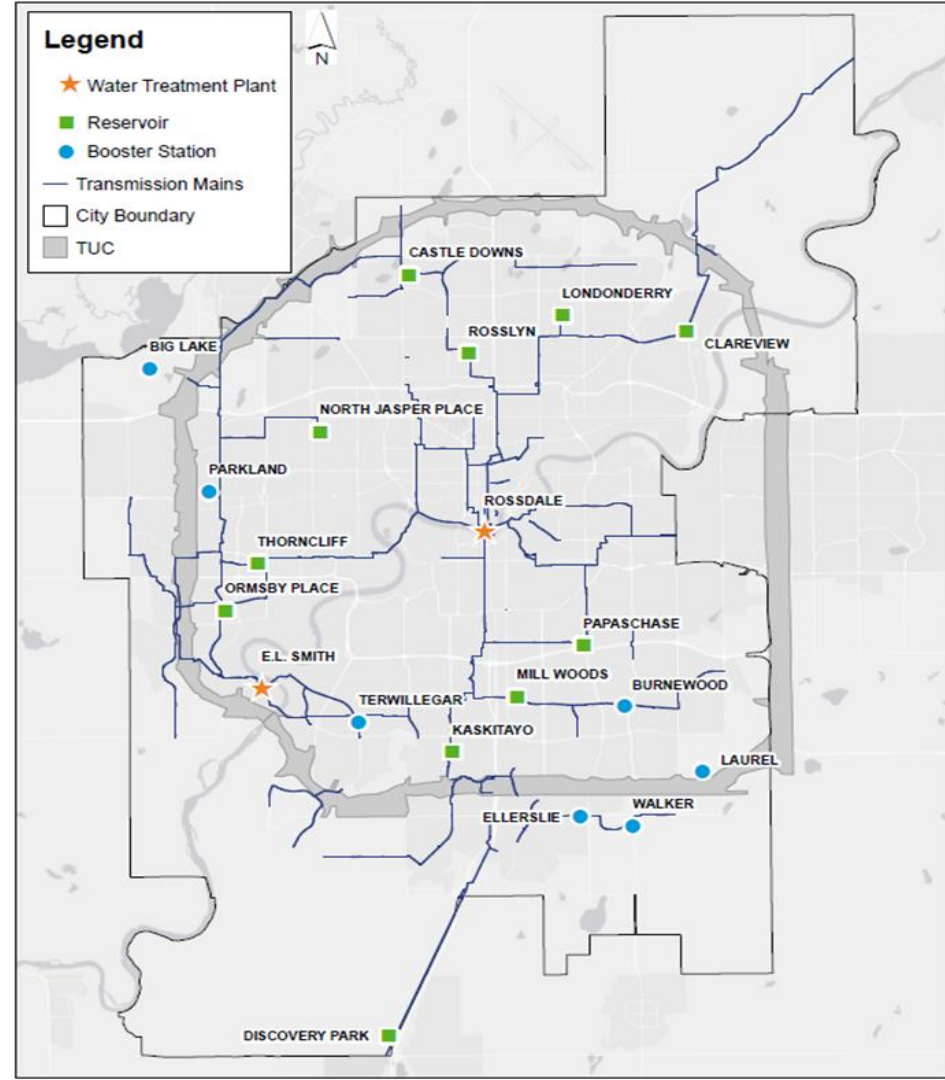


Edmonton Water System Overview

Water Treatment Plants

- Two water treatment plants draw from North Saskatchewan River
 - Rossdale 280 ML/day max
 - E.L. Smith 400 ML/day max
- Average Day Demand 375 ML / day
- In-City storage of ~2.5 days
- Water Consumption:

Residential	37%
Multi-residential	14%
Commercial	21%
Regional	28%



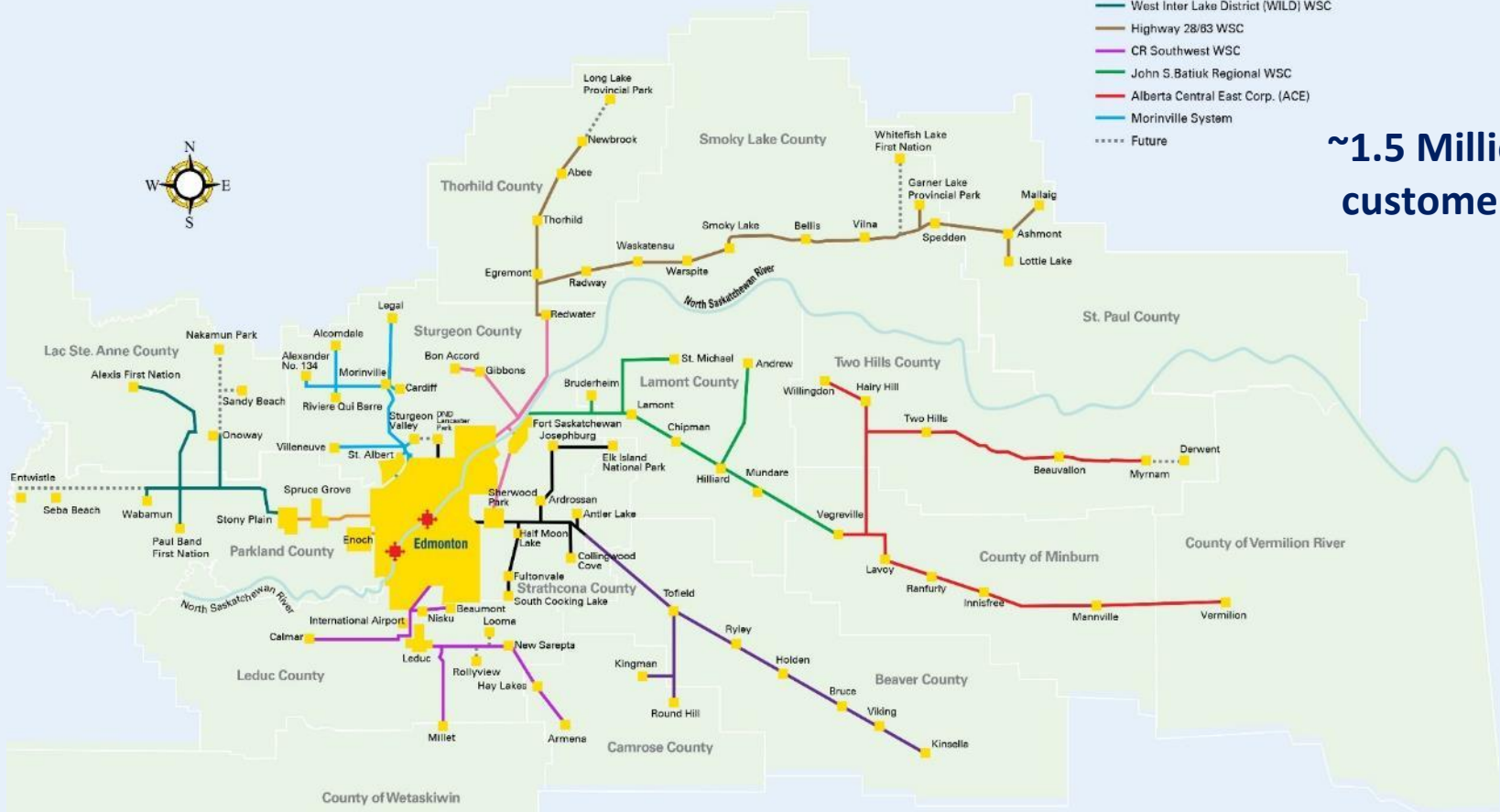


EDMONTON REGION WATER SERVICE AREA

Regional Water Service Ownership

- Strathcona County
- CR Northeast WSC
- Highway 14 WSC
- CR Parkland WSC
- West Inter Lake District (WILD) WSC
- Highway 28/83 WSC
- CR Southwest WSC
- John S. Batiuk Regional WSC
- Alberta Central East Corp. (ACE)
- Morinville System
- - - - Future

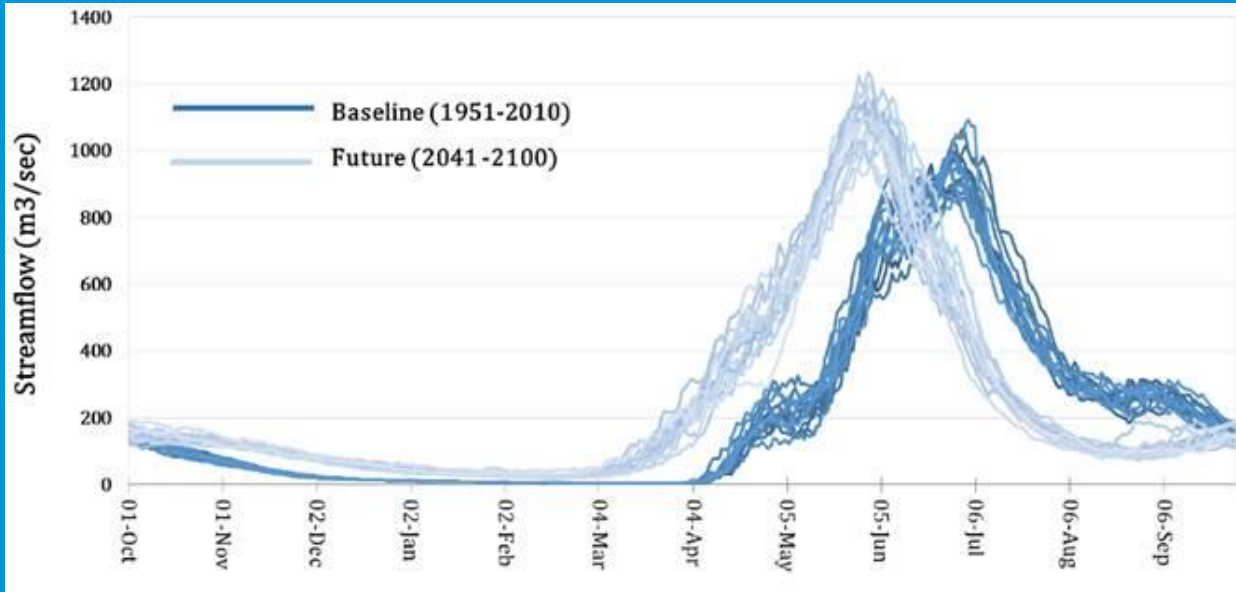
~1.5 Million customers



Edmonton Region Climate Impacts

Long-term Climate Predictions

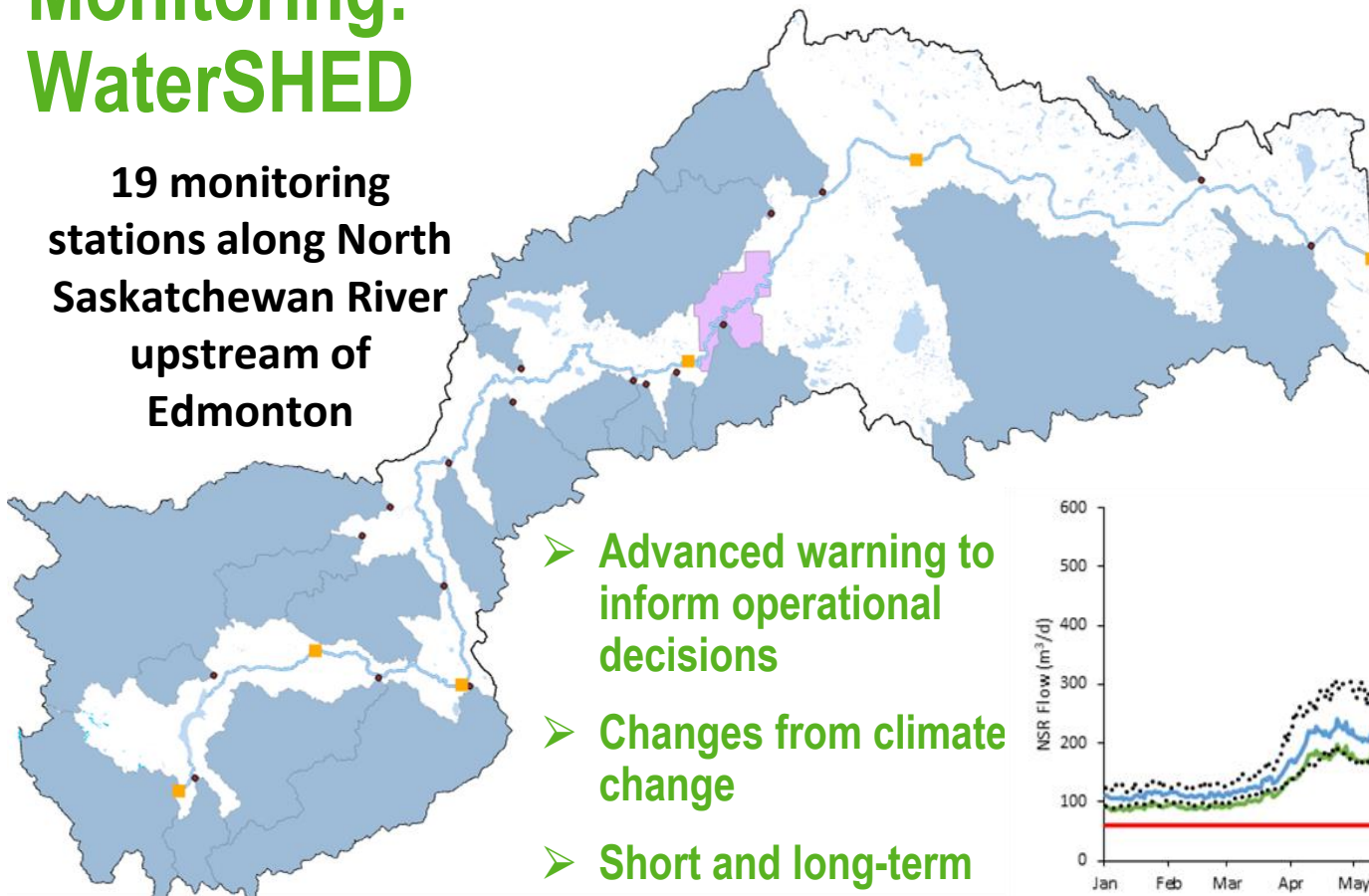
- Edmonton will see hotter temperatures (+3.5 °C) and more precipitation than average.
- More frequent heat waves lead to earlier spring and higher water demand
- Heavy rainfall events lead to more localized flooding.



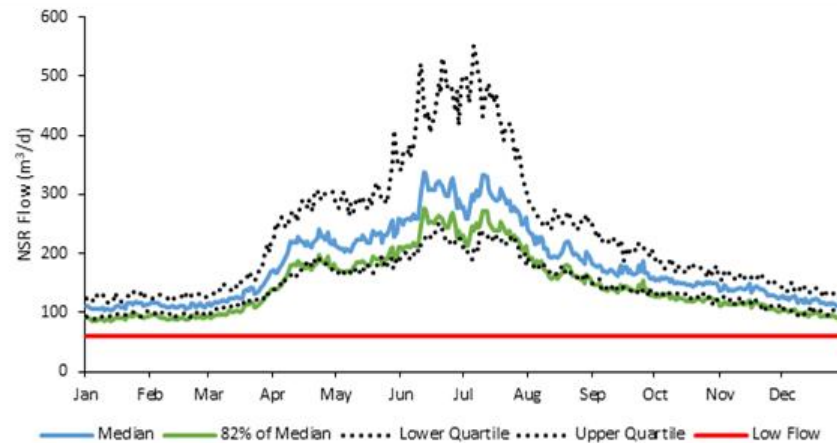
From D. Sauchyn 2020

Monitoring: WaterSHED

19 monitoring
stations along North
Saskatchewan River
upstream of
Edmonton



- Advanced warning to inform operational decisions
- Changes from climate change
- Short and long-term trends



Water Treatment Plant Supply vs Demand

- Summer heat waves have required demand management and will continue to be required to address climate impacts
- Three tiers of Demand Management are designed to achieve escalating levels of water conservation



Water Demand Management Protocol

Demand Measure C Mandatory

- All Measure A and B actions, plus mandatory restrictions on *non-essential* water use, with compliance measures
- Goal: Up to a 10% reduction in demand

Demand Measure B Voluntary

- All Measure A actions, plus voluntary restrictions on lawn watering and *non-essential* water use. No compliance measures
- Goal: Up to a 5% reduction in demand

Demand Measure A Operational

- EPCOR operational activities are adjusted to reduce water demand
- Goal: Up to a 2% reduction in demand

Building Climate Change Resiliency

How EPCOR is Building Climate Resiliency

- Flood Protection projects at both Water Treatment Plants are in progress to protect from river flood
- Stormwater projects underway to reduce City's urban flood risk
- Home flood protection inspection program and rebate program
- Ongoing planning projects to protect infrastructure against wildfire
- Supporting Province's drought resiliency planning and developing a Drought Resiliency Plan
- Reviewing demand management protocol to address specific climate impacts and scenarios
- Climate Change Adaptation Strategy

Collaborations and Partnerships

- Alberta Water Council – Board Member
 - Drought Mutual Support Committee
- City of Edmonton
- North Saskatchewan Watershed Alliance – Board Chair
- Edmonton Metropolitan Region Board
- Alberta Low Impact Development Partnership
- Regional Water Customer Group



Edmonton



Edmonton Metropolitan
Region Board

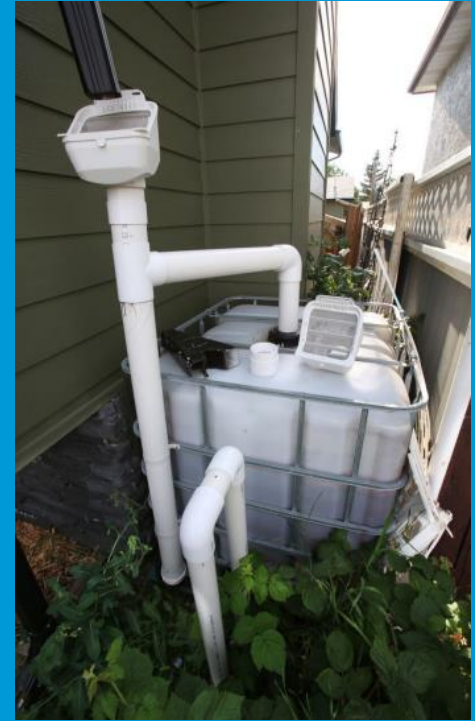
Simple things you can do...

In your yard:

- Divert rain water from your roof to:
 - gardens, base of trees, rain barrels
- Water lawn in early morning or evening
- Add mulch to your garden, use drought tolerant plants
- Mow less often and keep grass tall

In your home:

- Fully loaded laundry and dishwashers
- Turn off water during teeth brushing and shaving
- Install low flow faucets / shower heads and use low efficiency appliances



Other things you can do...

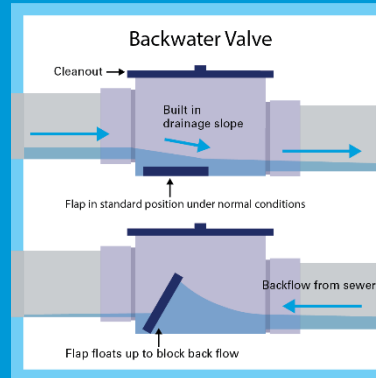
In your yard

- Build a rain garden in a low lying area
- Replace impermeable surface (like cement pads) with permeable pavement



In your home

- Install a backwater valve
- Check basement sump pump and add sensors



Questions?

