Climate Change Preparedness

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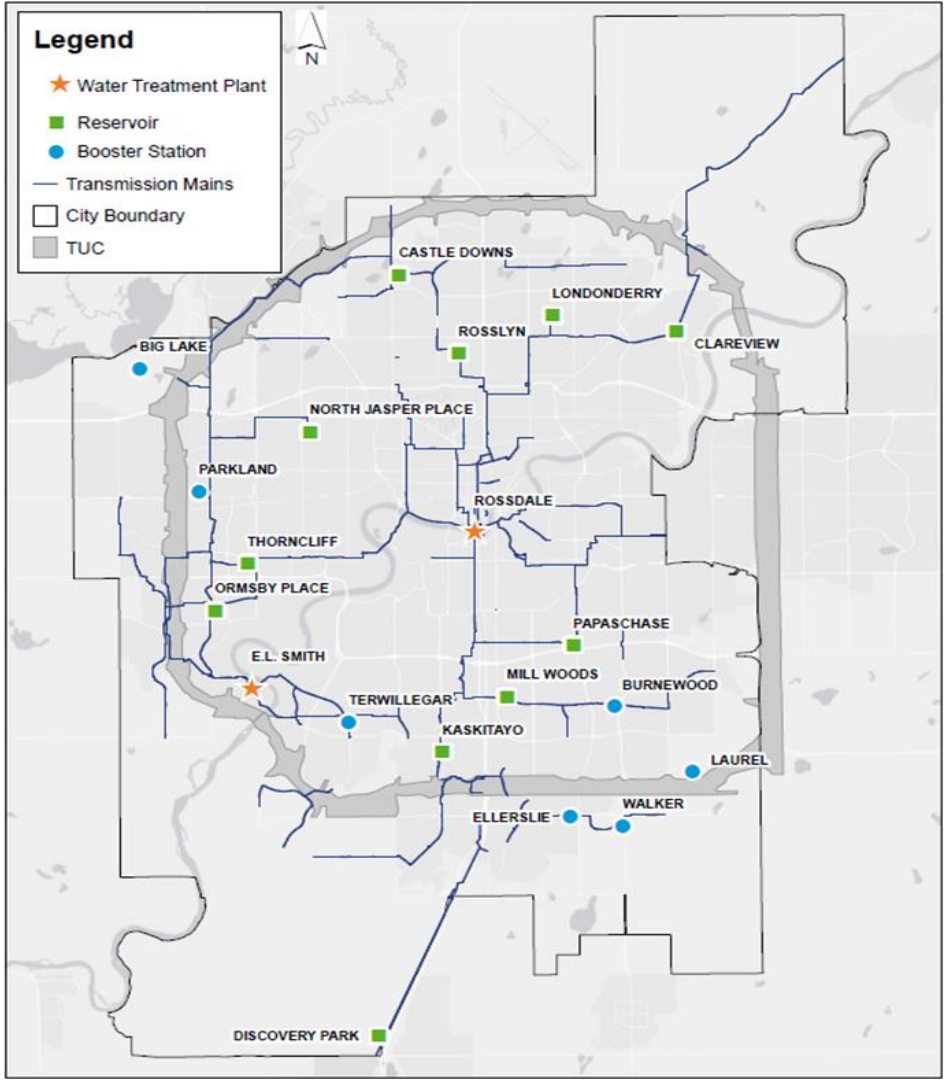
Edmonton Water System Overview

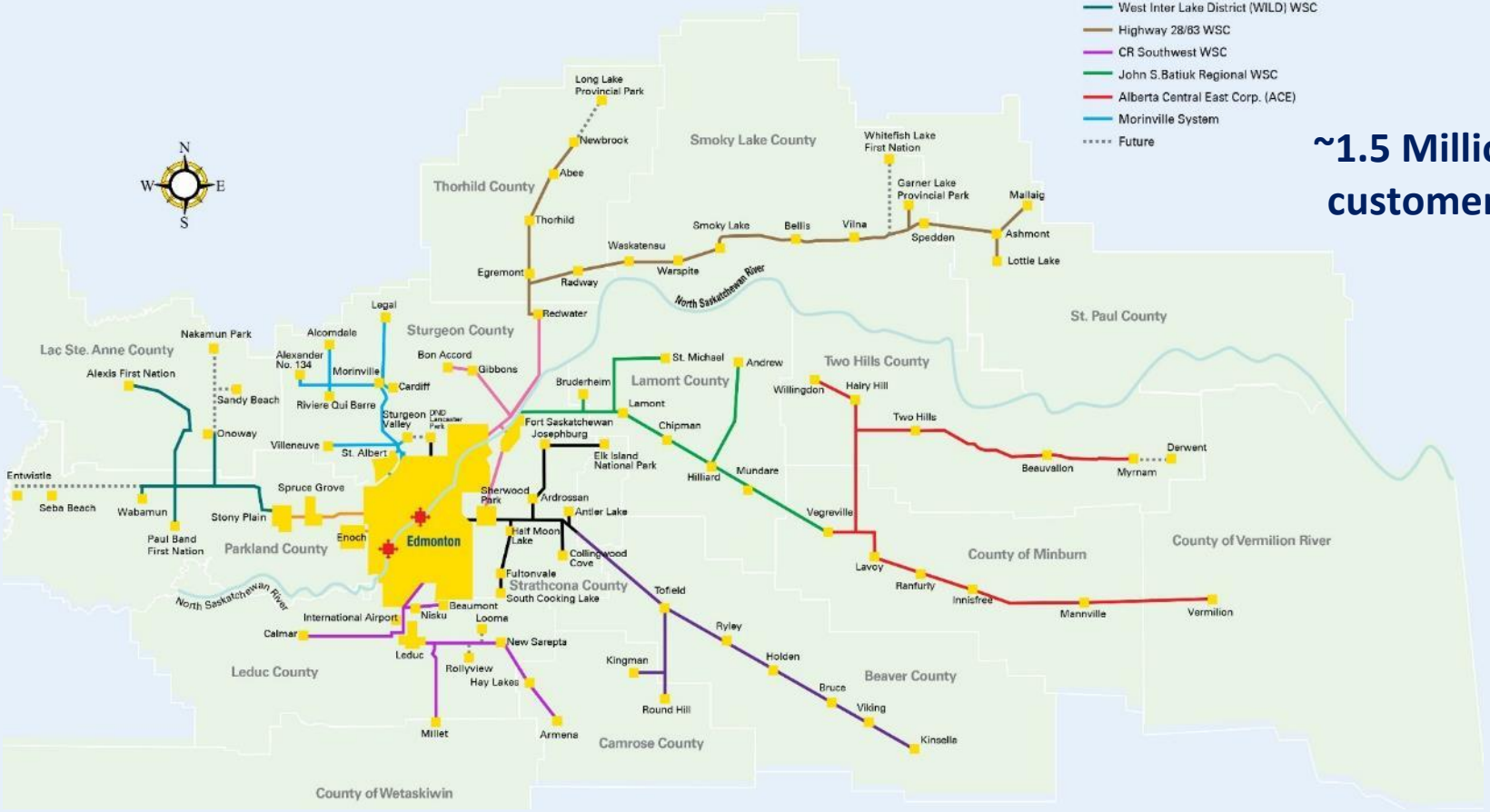
Water Treatment Plants

- 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%



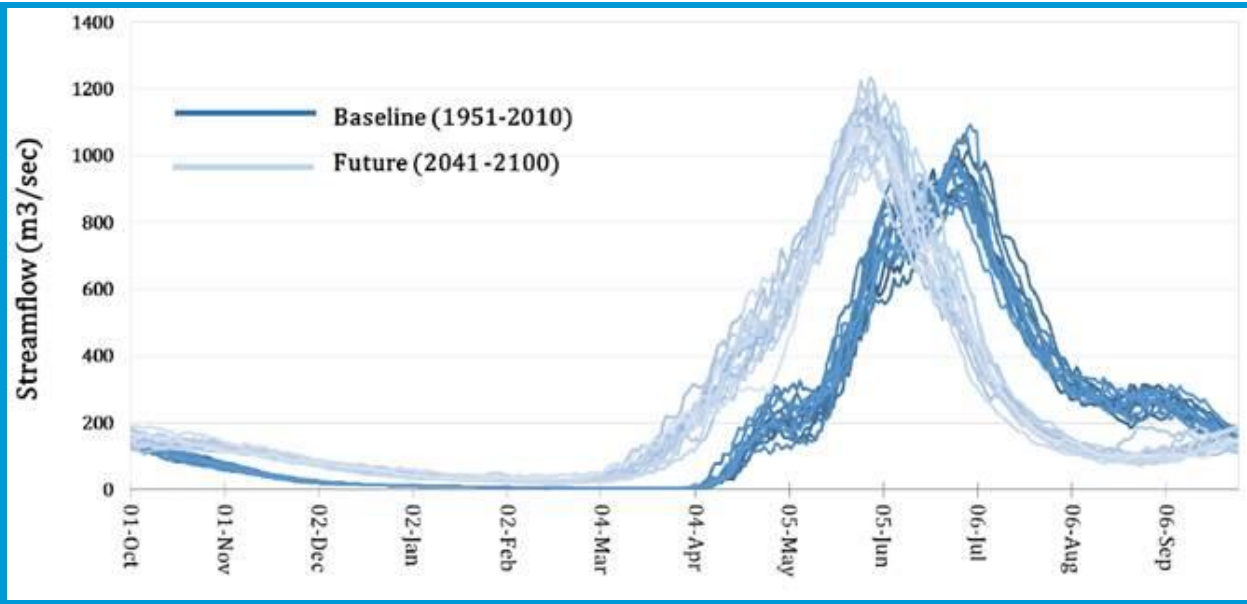
EDMONTON REGION WATER SERVICE AREA



Edmonton Region Climate Impacts

Long-term Climate Predictions

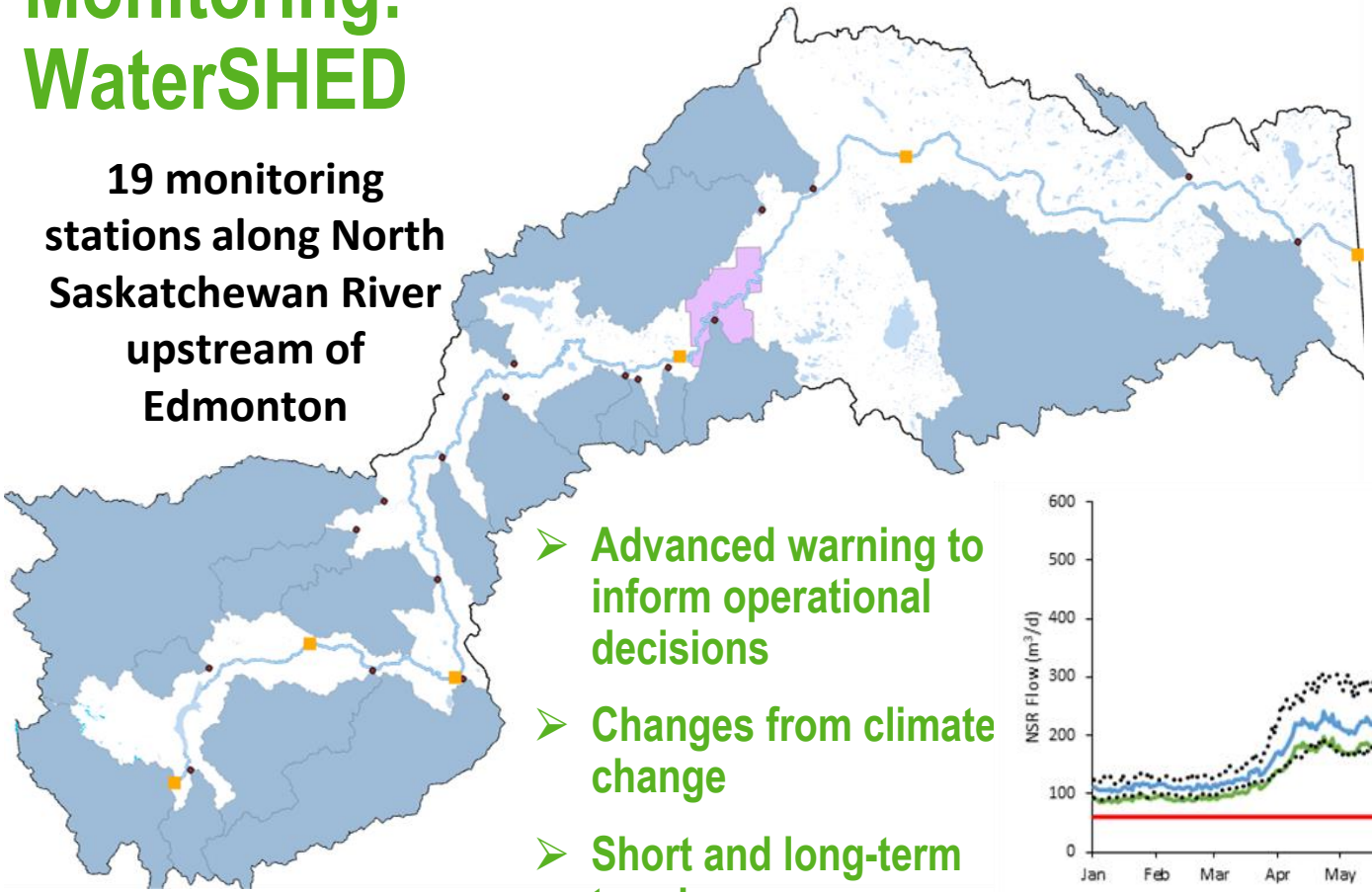
- Edmonton will see hotter temperatures (+3.5 ^{0}C) and more precipitation than average.
- More frequent heat waves lead to earlier spring and higher water demand
- Heavy rainfall events lead to more localized flooding.



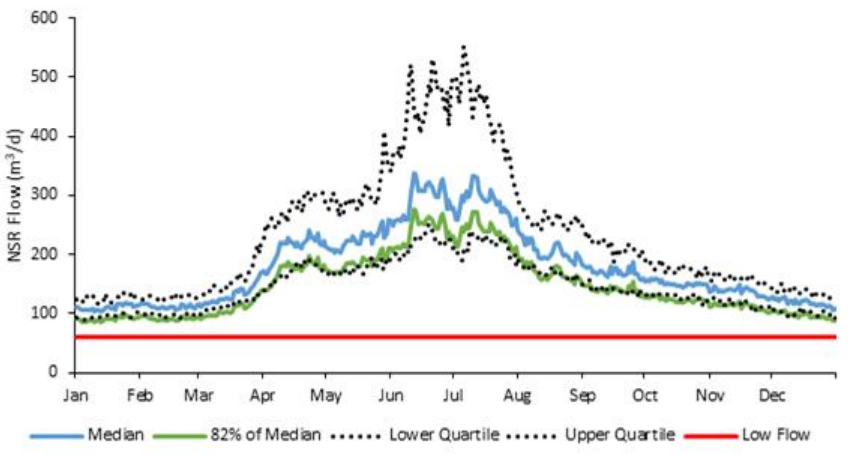
From D. Sauchyn 2020

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

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

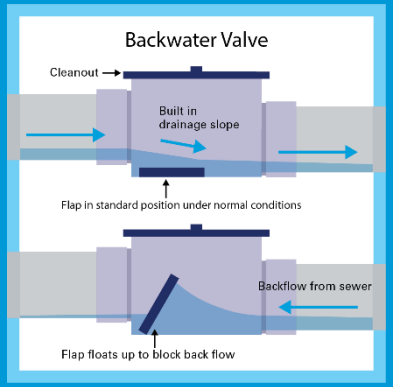
Other things you can do…

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



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Questions?