

Climate Change Adaptation Strategy for LSRCA

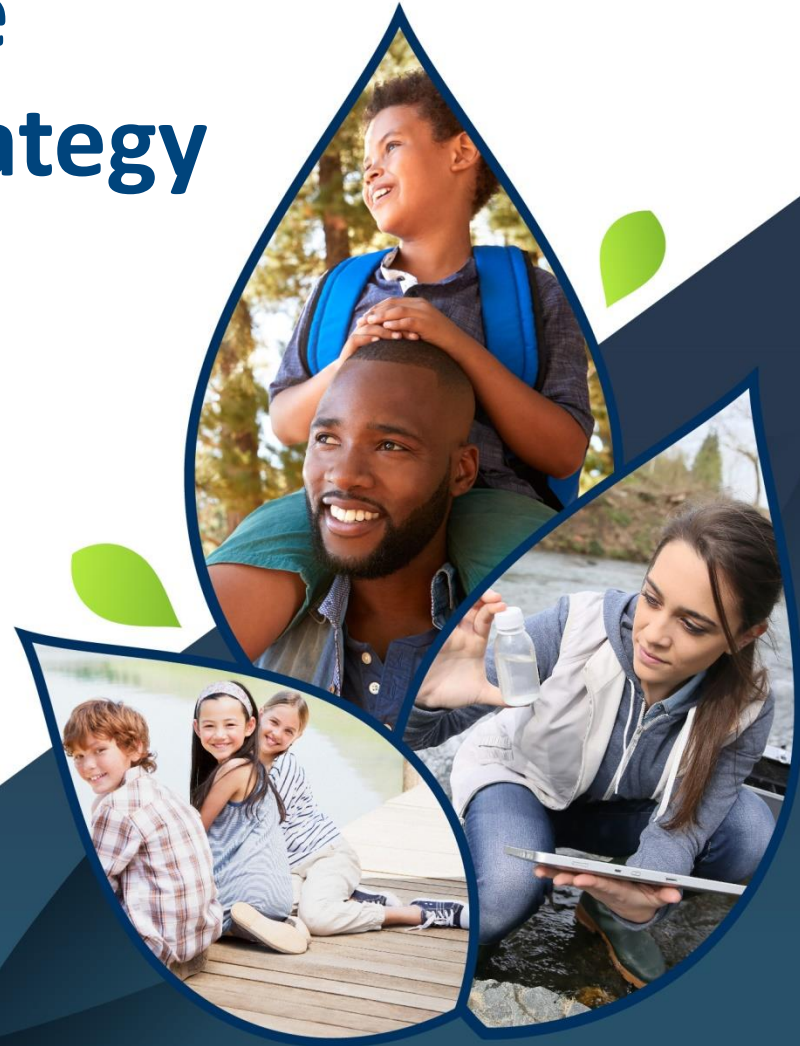
Board of Directors Meeting

February 28, 2020

Kaitlyn Read



Lake Simcoe Region
conservation authority



Member of Conservation Ontario



Proposed AOP Activities for 2020

1

Floodplain Emergency Mapping/
Flood Relief Program

2

Climate Change Adaptation and
Mitigation Strategies

3

Asset Management Plan

4

Enhance service delivery - Plan
Review and Regulation

5

Scanlon Creek Operations Centre

6

Fundraising for Education Centre

2



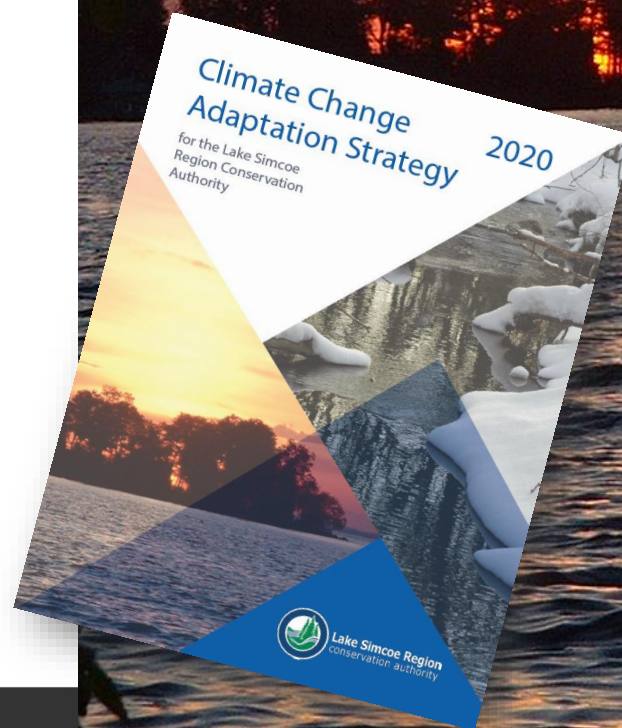
Climate Change Adaptation Strategy

Description:

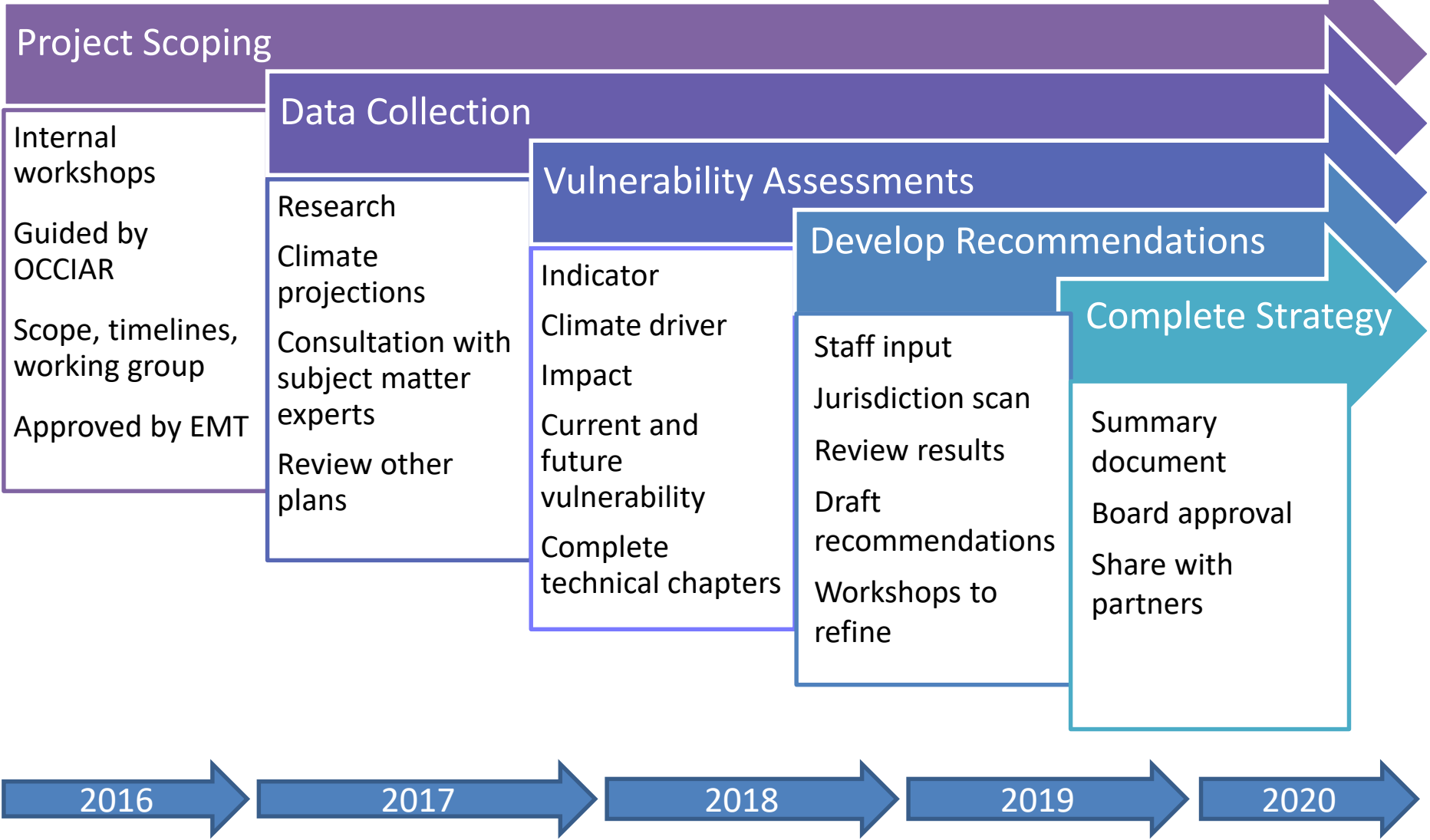
Publish action plans for implementation to adapt to climate change.

Outcome:

Ensure the LSRCA programs and services adapt to a changing climate



Our process and timeline



Climate projections

*RCP 8.5

ANNUAL MEAN TEMPERATURES

12.3°C

2080's

8.2°C

2020's



10.1°C

2050's

6.8°C

Baseline 1981-2010

SEASONAL MEAN TEMPERATURES



6.5°C Increase
by 2080

Baseline -6°C



5°C Increase
by 2080

Baseline 5.5°C



5.5°C Increase
by 2080

Baseline 19°C



5°C Increase
by 2080

Baseline 9°C

TEMPERATURE EXTREMES

More hot days,
fewer cold days.

DAYS ABOVE 30°C

6

Baseline

14

2020's

27

2050's

48

2080's

DAYS BELOW -10°C

38

Baseline

32

2020's

24

2050's

16

2080's



Climate projections

*RCP 8.5

ANNUAL MEAN PRECIPITATION

Annual precipitation is expected to increase. Winter and spring are projected to be significantly wetter.

884mm
Baseline 1976-2005



PRECIPITATION EVENTS



Intensity

Precipitation will fall at a faster rate.



Duration

The duration of heavy storms will increase.



Frequency

Heavy storms will occur more frequently.

GROWING SEASON

Last frost days will be earlier, and first frost dates will be later.



Overall, we expect to see..

- Warmer winters with more rain falling than snow
- More freeze-thaw cycles in the winter
- Longer, drier, hotter summers
- More extreme precipitation events
- A longer growing season

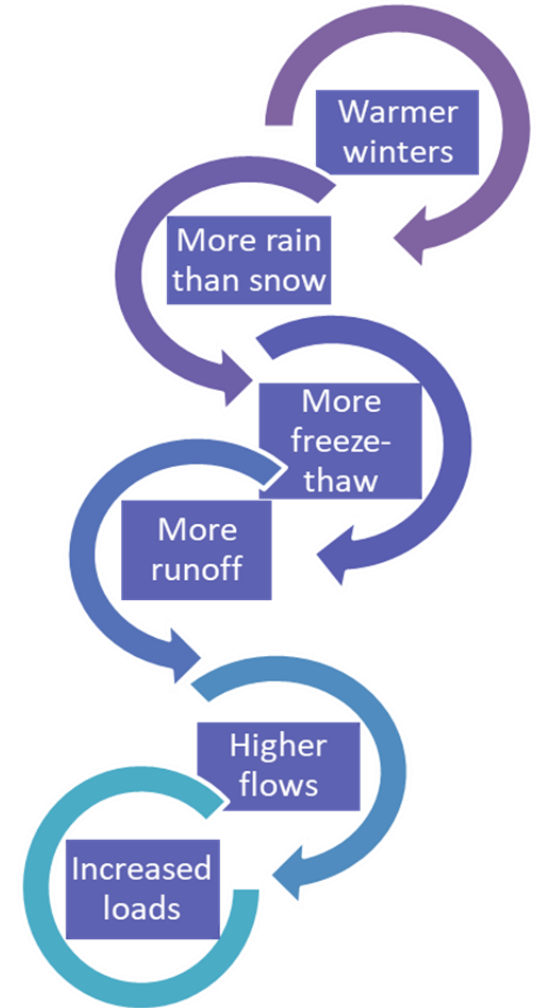
These changes will impact:

- The natural environment
- Watershed function
- Human well-being
- How the LSRCA operates

Key vulnerabilities - water quality

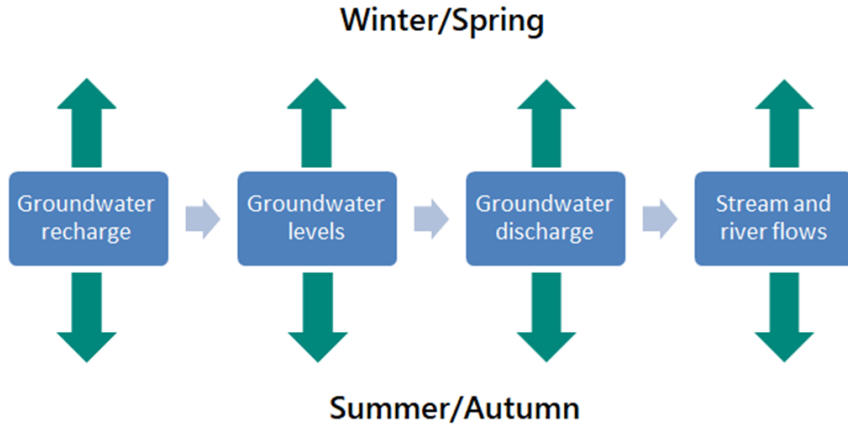


Increased loading from extreme storm events

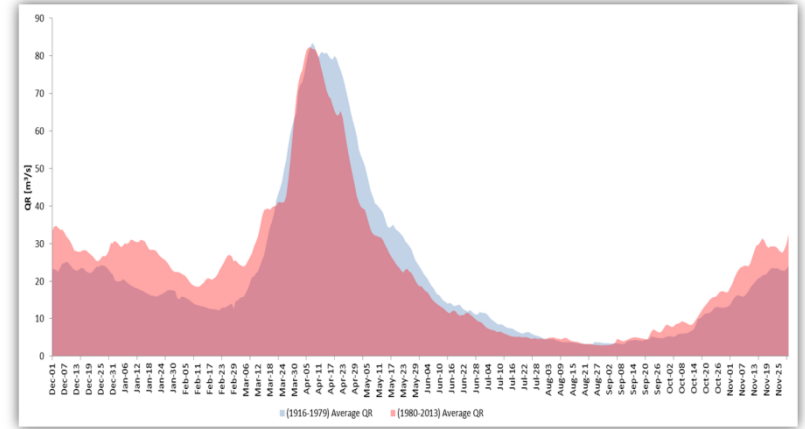


Change in the seasonality of contaminant loading

Key vulnerabilities - water quantity



Shifting seasonality



Earlier spring freshet



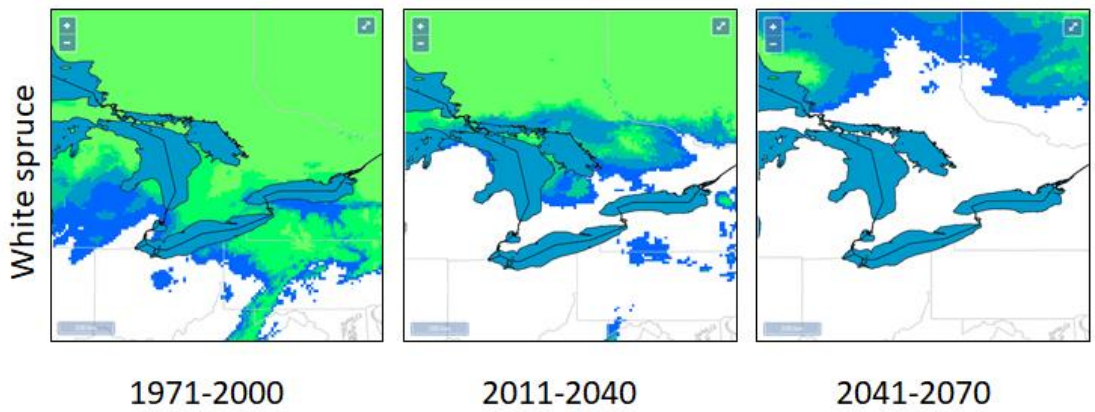
More winter flooding



Key vulnerabilities - Terrestrial NH

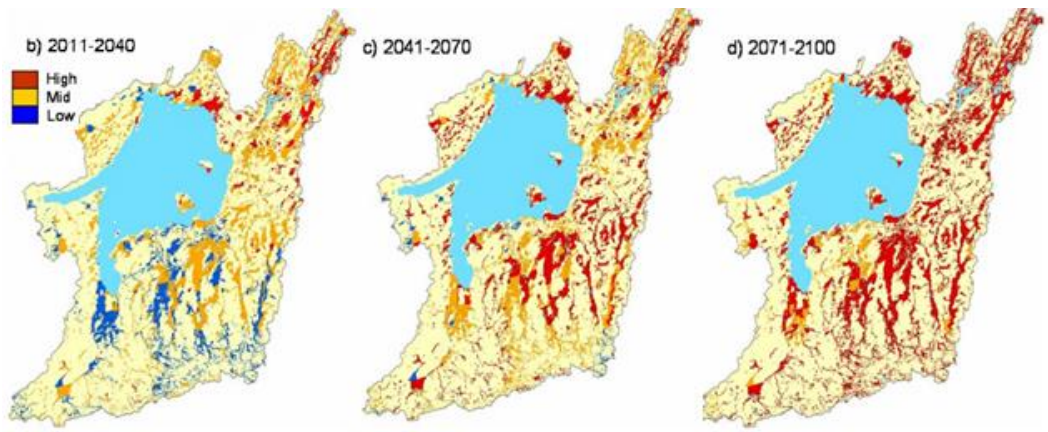


Pests, diseases and invasive species



Shifting species ranges

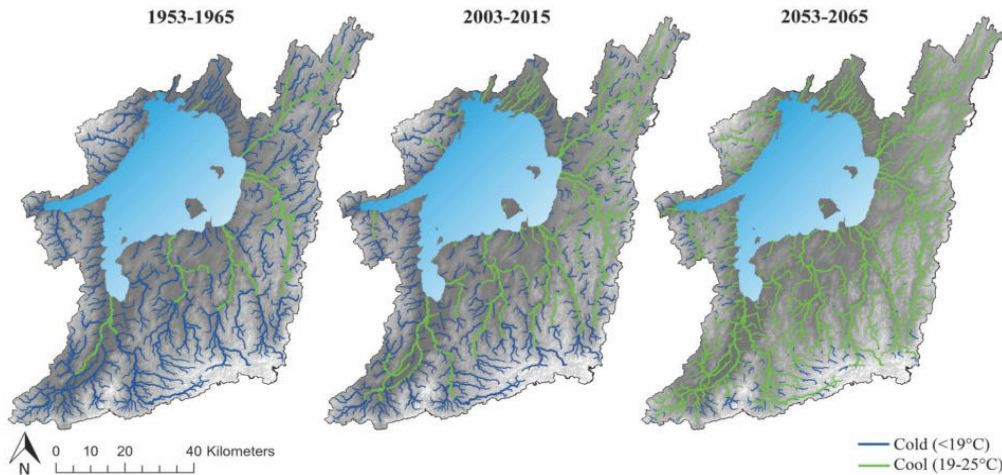
Wetland drying



Damage from extreme weather



Key vulnerabilities - Aquatic NH



Loss of coldwater habitat and decreased DO



Impacts to spawning timing and success



Degraded water quality



Invasive species



Shorter ice season

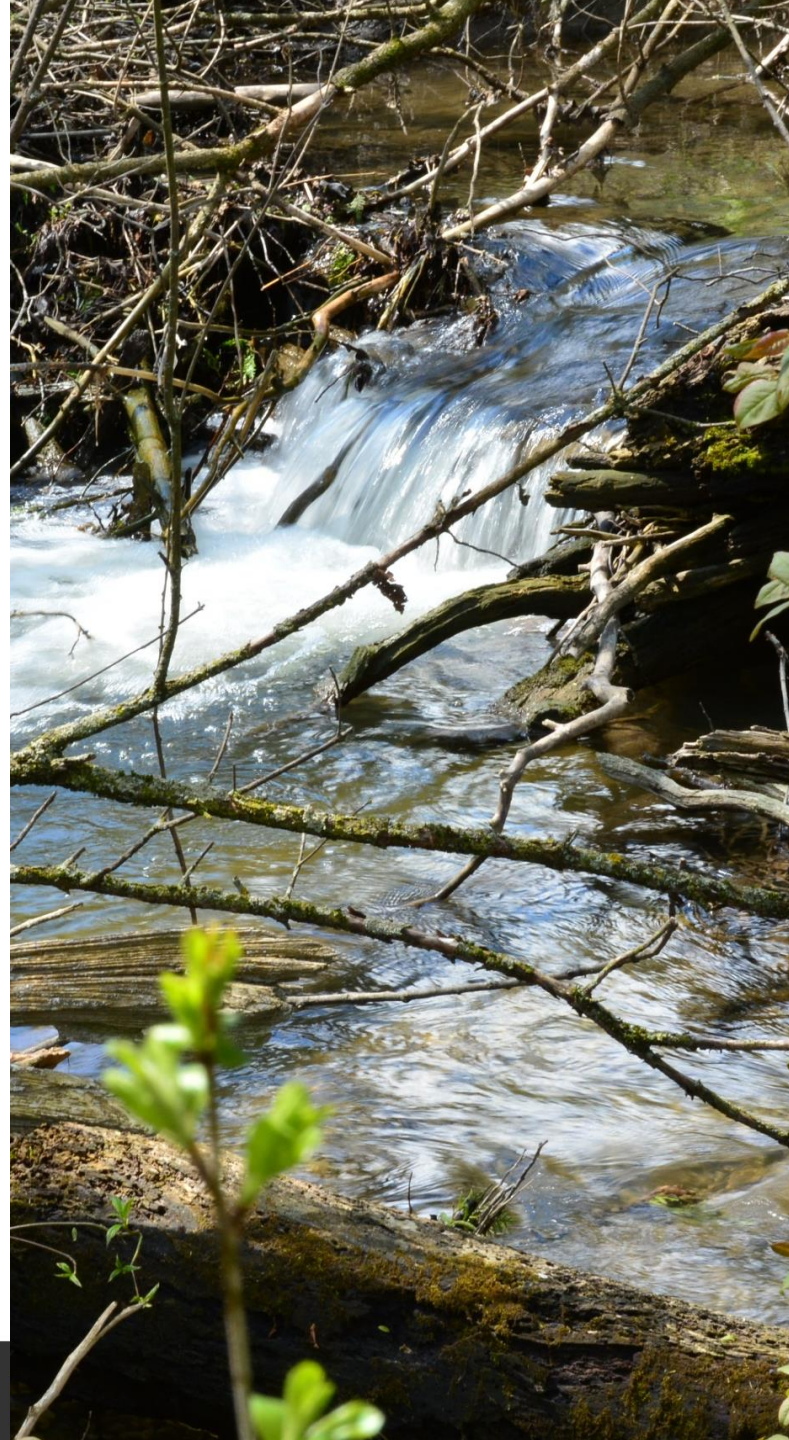
Strategy goals

1. Ensure that people, properties and communities **remain sufficiently protected** as climate conditions change
2. Increase watershed **resistance and resilience to climate change** through conservation, restoration, and improvement of natural ecosystems
3. **Enhance knowledge** of the watershed's natural environment and its response to a changing climate through science and monitoring for informed and **adaptive decision-making**
4. **Facilitate partnerships** and connect people to the watershed in order to **build awareness and capacity** to adapt to a changing climate in the Lake Simcoe watershed



Recommendations (a few examples)

- Build communities to avoid and withstand flooding
- Understand and map climate vulnerable areas
- Work with municipal partners to assess the risk of urban street trees to climate change
- Research and monitor climate change and its impacts
- Educate and empower the public and our partners



Next steps

- Launch strategy and summary document
- Develop Implementation Plan
- Implement strategy and track progress (2020-onwards)



Questions?

