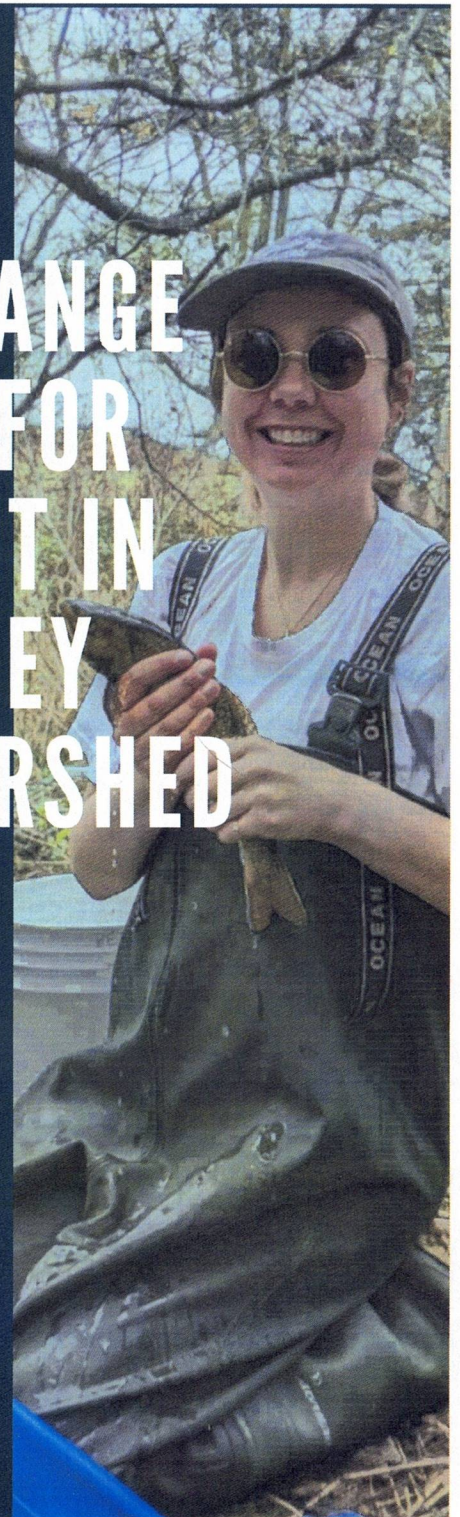


INCREASING CLIMATE CHANGE RESILIENCE FOR BROOK TROUT IN THE WHEATLEY RIVER WATERSHED



PROJECT SUMMARY
REPORT

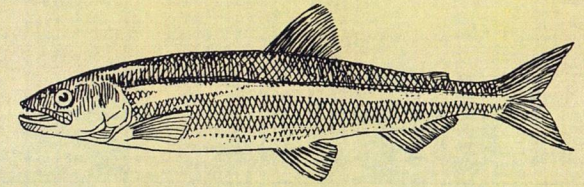
PEI CLIMATE
CHALLENGE FUND



BACKGROUND

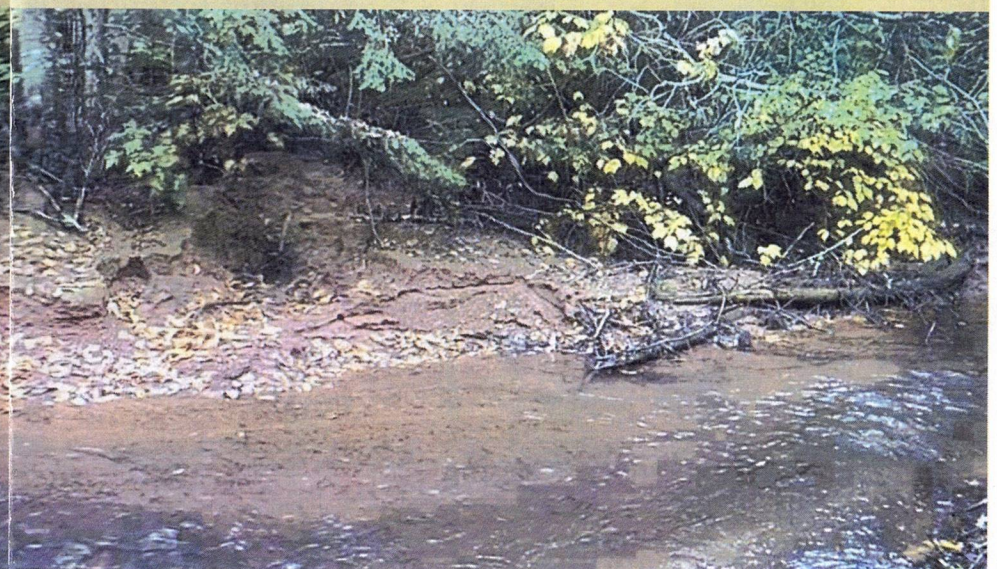
THE IMPACTS OF FUTURE CLIMATE CHANGE WILL THREATEN FRESHWATER ECOSYSTEMS THROUGH:

- An increase in frequency of extreme precipitation events, due to an increased atmospheric moisture capacity →
- A decrease in summer surface water volume in rivers →
- An increase in water temperature →



THESE PROJECTED CHANGES WILL NEGATIVELY AFFECT PEI BROOK TROUT BY:

- Reducing spawning habitat, hatching success, and prey availability through legacy sediment resuspension and bank erosion
- Increasing habitat fragmentation and decreasing important deep-water refuges
- Causing additional thermal stress and increasing interspecific competition with the more tolerant, invasive, rainbow trout species



PURPOSE

This project aims to increase the resilience of Wheatley River brook trout to the impacts of climate change by:

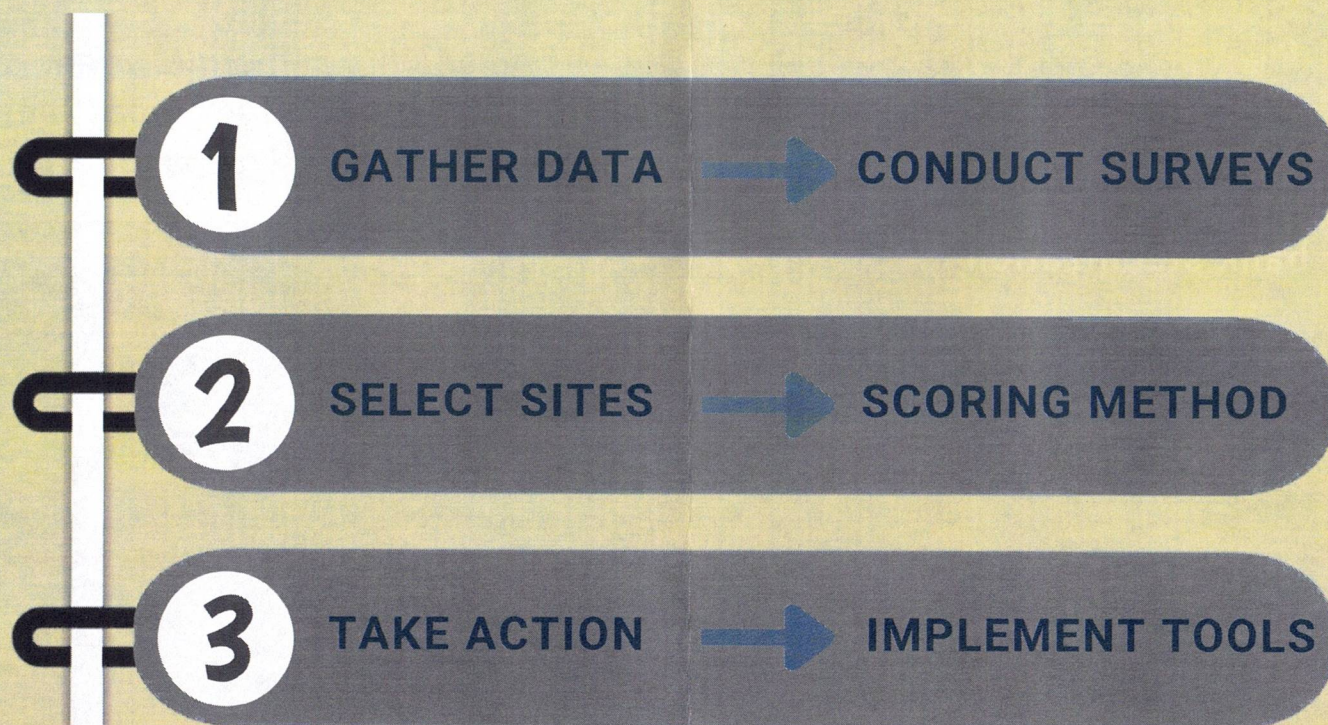
(1) Reducing the amount of sediment going into the system

(2) Enhancing habitat

GOALS

- Mitigate ongoing inputs of sediment to the river
- Stabilize the river bank
- Restore deep-water refuge pools
- Improve the canopy cover along the river

PLAN





Sediment input mitigation



River bank stabilization



Refuge pool restoration

RESULTS

- **28.3km** of the Wheatley River were surveyed and used to determine high-priority areas
- **14 brush mats** were built to mitigate sediment inputs, covering a total riverbank distance of **280m**
- **1250 dogwood & willow cuttings** were planted to stabilize the riverbank, covering a total riverbank area of approximately **1850m²**
- **3 deep-water refuge pools** were restored by excavating a total riverbed area of approximately **1200m²**
- Over **650 native trees & shrubs** were planted to improve canopy cover in the buffer zones, covering a total riparian area of approximately **4.5 acres**

CONCLUSION

This project has not come to an end! We will continue working towards improving habitat conditions for brook trout in the Wheatley River through the lens of climate change and build on the knowledge we have gained in these first 2 years.

ACKNOWLEDGEMENT

WRIG would like to extend a big thank you to the PEI Climate Challenge Fund for supporting and funding this 2-year project

NEXT STEPS

We will continue to monitor the work sites already established and use our priority ranking system to target new sites.