ADAPTATION OPTIONS

Drought

This document offers different ways to adapt to drought for individuals, communities, and municipalities including planning ahead, using nature-based approaches, built infrastructure, and policies and programs. It also includes options specifically for farms and gardens. It is not intended to be comprehensive. Instead, this is a short summary of well-researched adaptation approaches that may be relevant for Atlantic Canada.

Context

- Drought is a prolonged period of dry weather that reduces the availability of freshwater. Low rainfall and high temperatures can cause lakes, rivers, and soils to dry up more quickly.
- Climate change may cause more frequent or intense droughts in Atlantic Canada, mostly due to higher temperatures.
- Drought reduces the quality of freshwater, puts stress on nature, and brings challenges for sectors that rely on water, such as agriculture.

Nature-Based Approaches

- **Drought-tolerant plants.** Using drought-tolerant plants (or xeriscaping) and being more efficient in watering gardens and plants will reduce water usage. A yard which uses drought-tolerant plants instead of traditional grass saves water and lowers maintenance costs while improving biodiversity.
- **Natural or naturalized areas.** Natural systems like wetlands and forests are very good at storing and cleaning water, helping to reduce both drought and flood risk. Protecting, restoring, and expanding these natural systems helps keep watersheds healthy. Other benefits include a greater availability of places for recreation, habitats for plants and animals, and more.

Built Infrastructure

- **Rainwater harvesting.** Rain barrels and other equipment can capture and store rainwater and runoff. Using harvested rainwater for things like gardening or flushing toilets can reduce demands on water supplies during times when water is scarce.
- **Greywater recycling.** Water that has been lightly used (e.g., from bathroom sinks, washing machines or showers) is no longer considered drinking water. However, this water can still be used for activities that don't require drinking water, such as flushing toilets. This is called greywater recycling and means water is used as much as possible before going into septic systems or municipal wastewater treatment.
- **Water supply and storage.** For governments and other water providers, using a variety of water sources (e.g., surface, well) can help reduce the risk of low water supply during droughts. Ample storage reduces the risk of reservoirs running low. Options to increase storage could include raising dams or removing accumulated sediment in reservoirs.

Policy and Programs

- **Planning and education.** Community action plans can help manage and reduce the impacts of droughts. Plans may include limiting or restricting water use or using alternate water supplies. Public education on the importance of water conservation can help reduce water use.
- **Water conservation.** Rebate programs can provide incentives for installing rain barrels, water-saving appliances, or drought-tolerant vegetation. Water metering and pricing based on how much water is used can encourage saving water. Restrictions or penalties could discourage wasting water.
- **Water efficiency standards.** There are some examples of municipalities that have implemented their own standards for water efficient fixtures in new construction. Higher standards for water use efficiency can lower water consumption and reduce costs.

Farms and Gardens

- **Sustainable practices.** Practices like zero tillage minimize disturbance to the soil, which improves soil health and conservation of moisture. Cover crops, planted to cover the soil during times when no harvest crops are planted, enrich soils with organic matter. Mixing trees and shrubs with traditional crops provides shade and helps to retain moisture. Diversifying the kinds of crops, and companion planting, can buffer from the impacts of drought.
- **Improved drought resilience.** Efficient irrigation can meet crop water needs while reducing water usage. This can include mixing crops (including those that retain water in the soil), watering plants directly instead of spraying broadly, or using real-time monitoring of weather conditions and water demand to precisely identify irrigation needs. Planting drought-resistant crop varieties can improve resilience when water is scarce. Using greenhouses can allow for better management of temperature and humidity for sensitive crops.

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