

# Municipal Climate Change Sustainability: Drinking Water

The adaptations in this section cover a wide variety of topics, from power failure to water storage and monitoring and regulating salt water intrusion.

## Power Failure

- Determine water source backup
- Management plan after backup occurs
- Alternate water supply
- Artesian wells
- Additional reservoirs (for firefighting measures)
- Develop emergency response plan

## Water Shortage

- Lower intake pipe in the water source pond
- Educate public about water conservation
- Partner with neighboring communities to share each others water supply in times of emergency
- Alternate water supply, groundwater
- Encourage the use of rain barrels so residents can collect their own water for gardening during dry periods
- Get rid of or loosen bylaws requiring lawn maintenance for aesthetic purposes. Plants other than grass may need less water and have better drainage
- Identify leaks in the water distribution systems and ensure no water is being lost unnecessarily
- SmartBall:  
<https://puretechltd.com/technology/smartball-leak-detection/>

## Salt Water Intrusion

- Little reports of salt water intrusion in NL, so it must be monitored in areas vulnerable to sea level rise and water supply demand
- Collaboration with universities, community groups, citizens, and levels of government in order to identify areas of concern

## Salt Water Intrusion (cont.)

- Monitoring: Saltwater intrusion is not specifically monitored provincially or federally in the Atlantic provinces
- Elevated salt in a well does not necessarily mean salt water intrusion, it must be measured in numerous samples over a long period of time
- Modeling groundwater flow
- Regulation: Regulations to reduce pumping rates and move wells further inland (some of these regulations already exist by the provincial government)
- Coastal environments are variable so regulations that are appropriate for one area may not be for another
- Reduce demand for groundwater
- Public education on reducing water usage and conservation
- Integrate supply and demand policies
- Artificial recharge: Adding water through man made systems
  - Increases the amount of fresh water to control/ prevent saltwater intrusion
  - Water is stored in permeable man-made basin which will recharge the aquifer
- Aquifer storage and recovery (ASR): Fresh water is injected into the aquifer during high supply seasons. Recovered during low supply
- Barrier systems (two categories):
  - Physical barriers: low permeable material which blocks the intrusion of saltwater
  - Hydraulic barriers: injecting fresh water or pumping saltwater to prevent movement of saltwater interface inland
- Desalination: Salt and mineral content are removed from brackish or seawater
- Blending: Desalinated water is mixed with fresh water at the surface in order to meet drinking water standards