

Wolfville Reimagines Climate Risk into a Community Asset

Flood exposure turned waterfront opportunity

Faced with increasing coastal flood risk, the Town of Wolfville partnered with Mantle Climate to explore how a vulnerable waterfront park could be transformed into a climate-resilient asset that protects the town and enhances community value.

CHALLENGE

Located on the Bay of Fundy in Nova Scotia, the Town of Wolfville is home to the highest coastal tidal range in the world. In response to increasing risks from sea level rise, storm surge, and coastal flooding driven by climate change, the town began upgrading its dyke systems and municipal flood mitigation infrastructure as part of its ongoing climate adaptation efforts.

Between the coastline and the rest of the town sits a beloved, culturally significant waterfront park. While the enhanced dyke system would improve Wolfville's overall flood defences, the park itself remained as a "missing link" left exposed in an otherwise continuous line of planned flood protection. As a key community, recreational, and naturalized space, this exposure presented both a risk and an opportunity.

The challenge was not simply to protect the park from flooding, but to redefine its role as part of the town's flood-protection system. The goal was to enable the park to absorb, accommodate, and recover from periodic seawater inundation, while continuing to function as a valued and usable community space.

APPROACH

Through the Climate Ready Infrastructure Service, administered by the Canadian Urban Institute and funded by the Government of Canada, Wolfville engaged Mantle to assess the park's residual coastal flood risk under a range of projected climate scenarios.

Mantle went beyond a simple risk rating for the park and developed design interventions informed by underlying climate variables such as flood depth and frequency. The design options set out how the park could become a "floodable" town feature, one that intentionally and safely accommodates floodwaters and remains intact while providing additional flood protection for the town and continuing to function as a usable and valued community space.

The recommendations featured a mix of grey and green infrastructure strategies, including:

- tiered terraces and boardwalks to elevate portions of the park above projected flood levels
- low-impact development with salt-tolerant native plantings to manage floodwaters
- the use of durable and permeable materials in areas expected to flood
- reinforced intertidal zones with salt marsh restoration to reduce incoming storm surge energy

Each design intervention was evaluated based on its ability to balance flood mitigation performance, feasibility, and enhancement of the park's recreational and ecological value.



RESULTS

What began as a flood-protection exercise evolved into a redefinition of the park's role, from an area to be protected into an active part of the town's flood-management system. Rather than remaining an exposed shoreline, the park is now positioned to serve as a dynamic buffer that manages floodwaters while continuing to support public gatherings, events, trails, education, and enhanced waterfront access.

"This is inspiring. Thank you."

— Planner, Town of Wolfville

With a clear understanding of how often and to what extent the park may experience flooding under different climate scenarios over the coming decades, and a suite of climate adaptation design options in hand, the Town's next steps include public engagement and decision making on final design and implementation.

Municipalities facing worsening climate risks don't have to navigate these challenges alone.

Mantle Climate is on the roster of pre-approved experts for the [Climate Ready Infrastructure Service](#), providing free climate resilience advisory services to eligible municipalities. If you're looking to better understand climate risks and advance resilient infrastructure in your community, contact our team to explore how we can support your next project.

The Town of Wolfville demonstrates what climate leadership looks like. Instead of responding after a climate event, they are proactively reimagining their community assets to be ready for and continue to function when the worst hits." – Ryan Zizzo, CEO & Founder, Mantle Climate



To learn more, contact [Ryan Zizzo](#) | Founder & CEO | mantleclimate.com
We build climate leaders.