

# NORTH SHORE RAIN GARDEN PROJECT

## WHY RAIN GARDENS?

Rain gardens are a form of green stormwater infrastructure. They intercept, filter, and infiltrate stormwater from streets, sidewalks, parking lots, and other impervious surfaces. This helps remove contaminants from the stormwater and allows it to flow through more natural pathways to receiving water bodies. Rain gardens come in many forms and they all help to reduce negative stormwater impacts to urban watersheds such as poor water quality and flooding.

## THE RAIN GARDEN WALKING TOUR

### 13TH STREET AND MOODY AVENUE

As one of the original rain gardens designed by the City of North Vancouver, it was a pilot project to test how rain garden infrastructure works within the municipality and features a sedimentation basin at the inflow to reduce infilling of fine sediment into the latter part of the garden. Although simple in appearance, this rain garden still filters and infiltrates storm water, diverting it from flowing directly, through grey stormwater infrastructure, into Burrard Inlet. Many gardens like this one are now being upgraded.



### 13TH STREET AND ST. ANDREWS AVENUE

This is a series of gardens along the Northwest side of St. Andrews Street. The gardens have inflows that are cut into the curb along the street side of the garden. There are storm drain overflows in case of high flow events and green-lidded monitoring wells to measure how much water the rain gardens intercept and infiltrate, and potentially other water quality indicators. These gardens slope inwards towards the center and are planted with *Carex spp.*, irises, and some small vine maples. Building rain gardens in series, like this one, reduces the loading to each rain garden, increases the lifespan of each garden, and reduces the chance of flooding in large storm events. These gardens filter and infiltrate water which would otherwise flow directly into Burrard inlet.

### EAST 15TH STREET BETWEEN LONSDALE AVENUE & CHESTERFIELD AVENUE

This is a row of three rain gardens. The first garden has two separate inflows and the two others have a single inflow, catching stormwater from the surrounding road. Each garden has an overflow, to prevent flooding, and a monitoring well. The gardens are planted with a variety of sedges, rushes, mint, and Oregon grape. The bottom of these gardens are rock beds which reduce erosion in the garden. There are also sedimentation basins at the entry to reduce the input of fine sediment into the garden. These gardens divert stormwater from Wagg Creek, helping to reduce stress to this urban watershed.





## WEST 14TH STREET, JUST EAST OF CHESTERFIELD AVENUE

This is a very large garden in the centre of a cul-de-sac near the library. It has three different inflows from the road to various points in the garden. The garden is planted with a variety of ferns, rushes, sedges, and wild flowers and it helps reduce stormwater-loading to the Wagg Creek watershed. Vegetated gardens help catch more contaminants than non-vegetated rain gardens while also providing our urban spaces with aesthetic and ecological value.

## LONSDALE AVENUE BETWEEN 16TH AND 17TH STREET

This rain garden can be distinguished from the other surrounding gardens on Lonsdale Ave. by the lowered bed, the curb cut inflow to the garden from the road, and the overflow storm drain on the south side of the garden. This garden is planted with several different sedges (*Carex* spp.) as well as fragrant lavender. It intercepts and infiltrates storm water from the Wagg Creek watershed, improving water quality and reducing flooding risk.



## LOWER LONSDALE CATCHMENT

The Lower Lonsdale catchment is a stormwater catchment area that leads straight to Burrard Inlet. Burrard Inlet is a coastal fjord separating Vancouver and North Vancouver: the traditional territory of the Musqueam, Squamish, and Tsleil-Waututh First Nations. The inlet is home to a variety of marine flora and fauna and is currently the focus of several initiatives hoping to improve water quality. Rain gardens, like the ones featured in this walking tour, represent a small but important contribution to these efforts. These gardens help reduce the loading of stormwater-related contaminants into these waters, reducing stress to the many plants, animals, and people who call Burrard Inlet home.

## WAGG CREEK CATCHMENT

Wagg Creek is a highly urbanized watershed with a high impervious surface cover, up to 44% of the total watershed. This impervious surface cover leads to low water levels in the creek, except during storm events when flooding risks are increased, and poor water quality from stormwater discharge. Both these factors can contribute to low quality habitat for aquatic flora and fauna. Wagg Creek is a tributary of Mosquito Creek which is a local, salmon-bearing stream. Salmon require particularly good water quality for their spawning and rearing freshwater habitat. Rain gardens make an important contribution to reducing stress to these iconic fish through the reduction of inputs of low quality water via stormwater drainage systems.

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