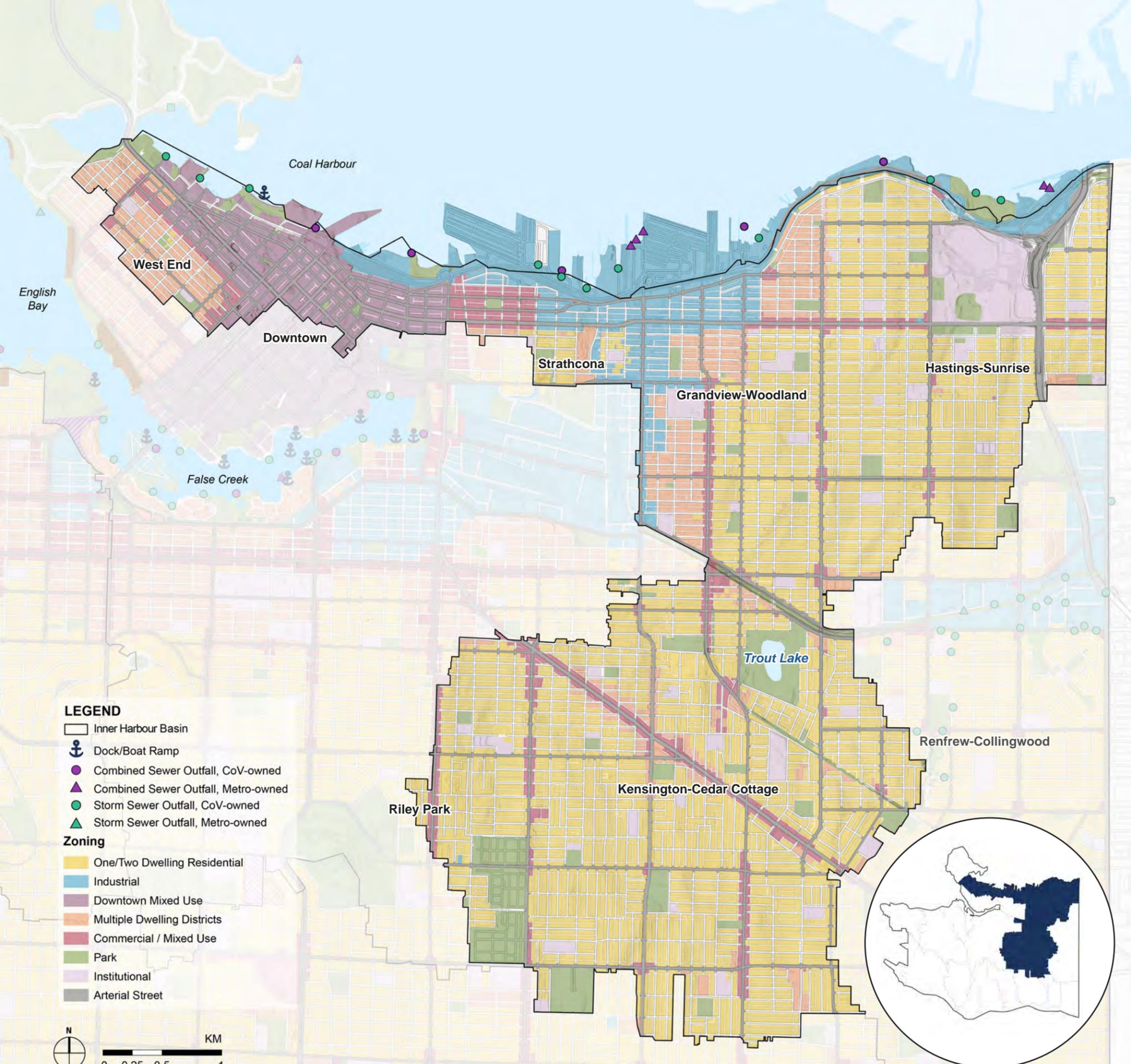


INNER HARBOUR BASIN CURRENT CONDITIONS

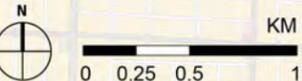


LEGEND

- Inner Harbour Basin
- Dock/Boat Ramp
- Combined Sewer Outfall, CoV-owned
- Combined Sewer Outfall, Metro-owned
- Storm Sewer Outfall, CoV-owned
- Storm Sewer Outfall, Metro-owned

Zoning

- One/Two Dwelling Residential
- Industrial
- Downtown Mixed Use
- Multiple Dwelling Districts
- Commercial / Mixed Use
- Park
- Institutional
- Arterial Street



31%
Of City's
Population



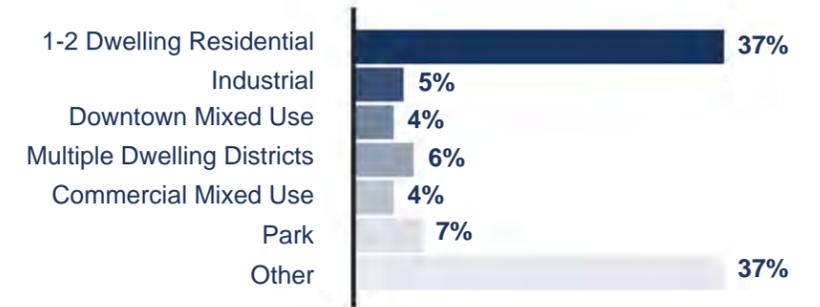
25%
Of City's
Area



**Secondary
Contact**
Recreational Use



1
Dock &
Boat Ramps

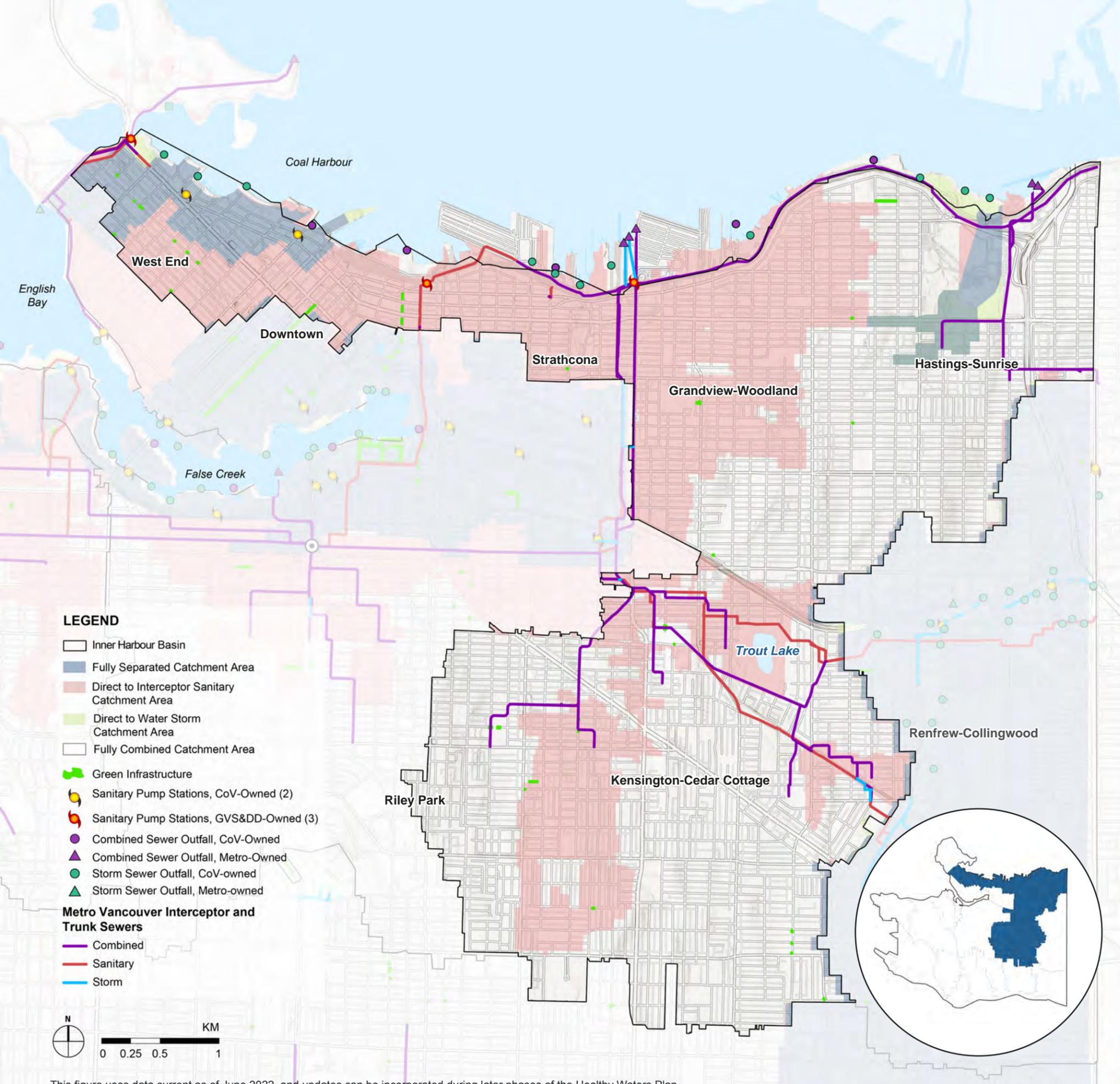


- The waterfront has diverse land uses including Downtown, the Port of Vancouver and industrial uses with few parks and access points.
- This basin has no public beaches and one marina, and there are waterfront parks in the downtown area such as CRAB Park, and New Brighton Park at the basin's eastern edge.
- Trout Lake is one of Vancouver's few freshwater lakes. It is designated for swimming and supplemented with potable water.
- Over 30% of the city's population lives within the basin.
- Port of Vancouver, Canada's largest port, operates the shipping terminal in Burrard Inlet along this basin's waterfront.
- All fishing shellfish harvesting in the Inner Harbour have been closed since 1972 due to poor water quality and the basin is designated for secondary (boating) contact only.
- The Tsleil- Waututh Nation's Burrard Inlet Action Plan (2017), and the Burrard Inlet Water Quality Objectives (2020-2023) will steer water quality improvements in the Inner Harbour, Outer Harbour, and False Creek for the next 50 years.

This figure uses data current as of June 2022, and updates can be incorporated during later phases of the Healthy Waters Plan.

Sources: Tsleil-Waututh Nation, City of Vancouver, Metro Vancouver

INNER HARBOUR BASIN DRAINAGE & OVERFLOWS



1,946
Average Annual
Rainfall (mm)



57%
Of Basin is
Impervious



76%
Of City's CSO
Volume in 2020



47
GRI Assets
2.3
Impervious
Hectares
Managed by
GRI

40%
Of City's CSO
Events in 2020



5
City owned
CSO Outfalls

6
MV owned
CSO Outfall

11
SW Outfalls



5%
Fully
Separated
Catchment
Area

57%
Fully
Combined
Catchment
Area

36%
Direct to
Interceptor
Catchment
Area

1%
Direct to
Water
Storm
Catchment
Area

- There are five City-owned CSO outfalls and 59 stormwater outfalls; Metro Vancouver owns six CSO outfalls.
- In 2020, 79% of the City's CSO volume was discharged into Inner Harbour in 2020, representing 40% of the total CSO events. This is the largest proportion in the city.
- The basin's major conveyance infrastructure includes: five pump stations, the Harbour Interceptor, Clark Drive Interceptor, the Vernon Drive force main, the 8AI as a major E-W trunk, and other trunk sewers that convey combined flow to the Iona Island Wastewater Treatment Plant.
- Near the waterfront, there are fully separated areas and areas where the sanitary is connected directly to the interceptor system.
- Drainage has been drastically altered and the southern portion historically drained to the original False Creek
- There are 47 Green Rainwater Infrastructure assets managing 2.3 hectares of impervious area.

This figure uses data current as of June 2022, and updates can be incorporated during later phases of the Healthy Waters Plan.

Sources: Tsleil-Waututh Nation, City of Vancouver, Metro Vancouver

INNER HARBOUR BASIN EQUITY, RESILIENCY & GROWTH



44%
Of Basin is within the Priority Equity Area



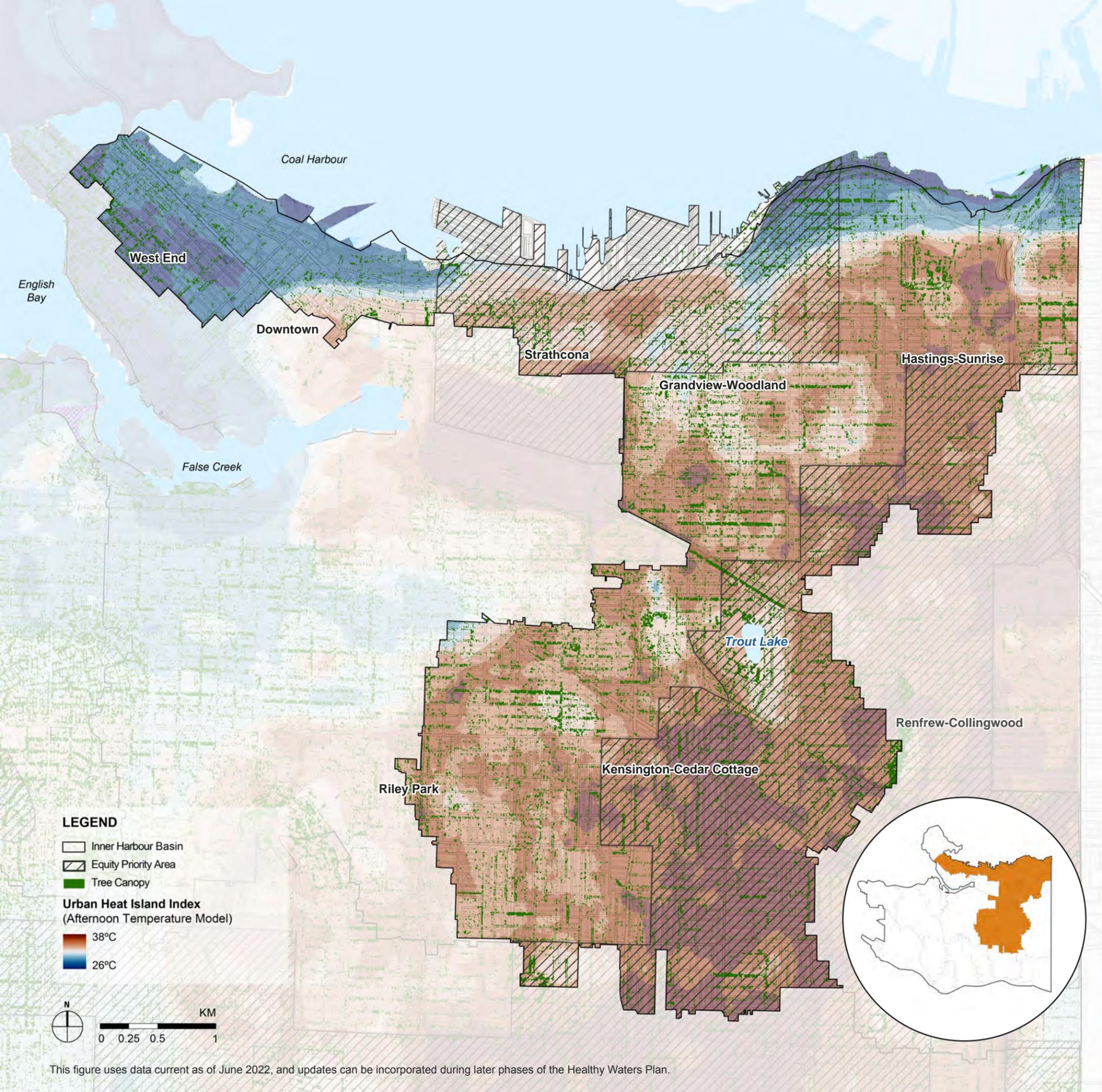
8%
Of Basin is covered by Tree Canopy



34.5
Median Modelled Afternoon Temperature (°C)



High
Expected Growth Rate



- Strathcona, Grandview-Woodland, Hastings, and Kensington-Cedar Cottage neighbourhoods include Priority Equity Areas that represent areas with disproportionately impacted populations.
- This basin is socially vulnerable due to low-income households facing unaffordable rental housing, low economic agency, and low individual autonomy.
- Relative to citywide average, the basin has higher rent burden, lower household income, higher prevalence of single parent households, higher prevalence of non-English speaking households, and larger population of seniors
- Moderate/high future growth is expected per the Vancouver Plan's land use strategy with growth planned near downtown and around other commercial areas.
- The "median modelled afternoon temperature" is 34.5°C, the second highest after Still Creek Basin.
- This basin has second highest median modelled afternoon temperatures (34.5°C) and second lowest tree canopy cover (8%).

This figure uses data current as of June 2022, and updates can be incorporated during later phases of the Healthy Waters Plan.

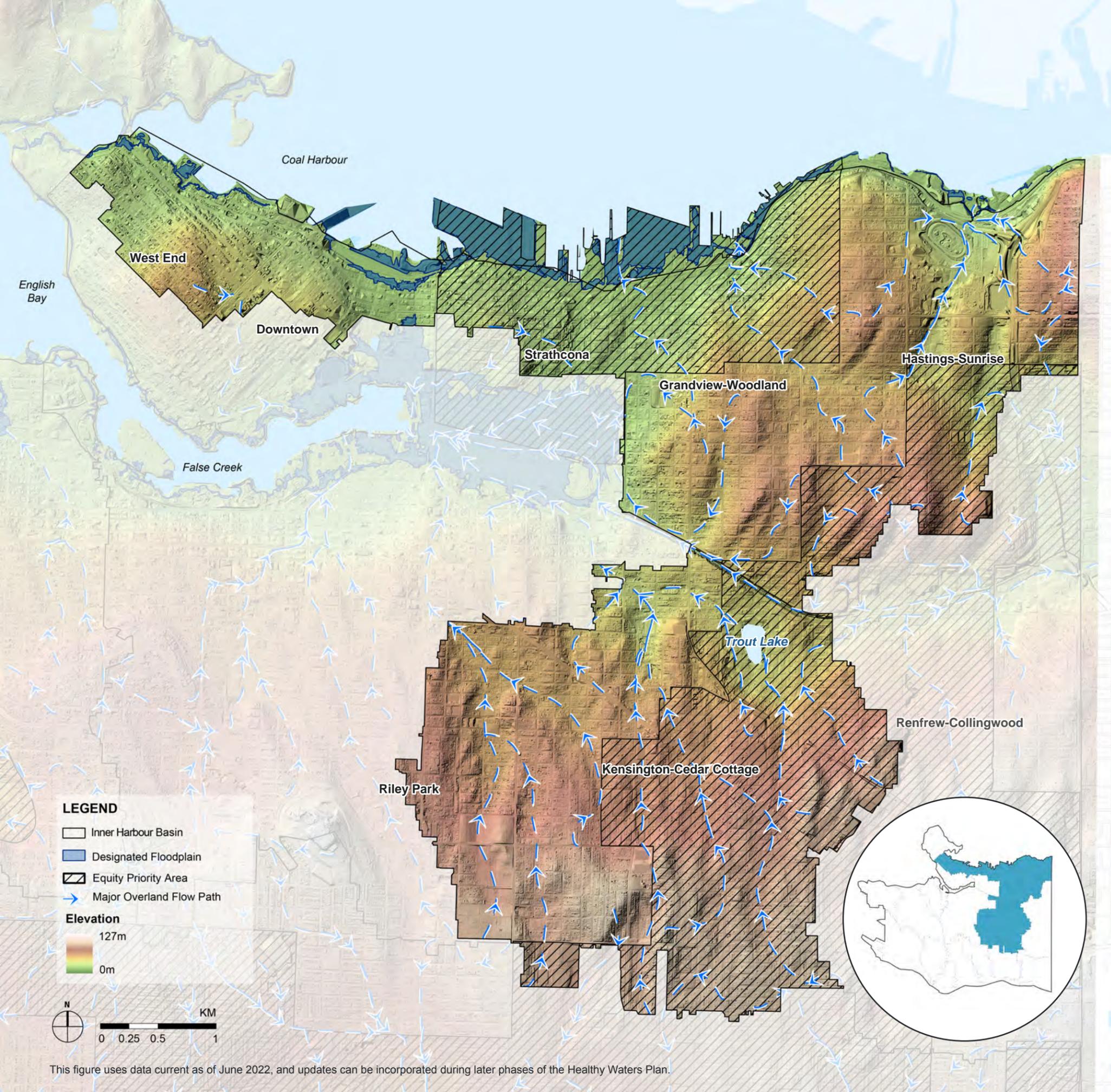
Sources: Tsleil-Waututh Nation, City of Vancouver, Metro Vancouver

INNER HARBOUR BASIN OVERLAND FLOW & COASTAL INUNDATION



<1%

At risk of inundation due to extreme storm surge event with 1m of sea level rise



- Overland flow paths show drainage patterns across the City based solely on topography to identify primary flow paths outside of areas where 2D hydraulic modelling results are available.
- These overland flow paths generally align with the several historic creeks within the basin that have been covered and piped.
- Not counting the Port's property, less than 1% of the basin is at risk of inundation at 1-metre sea level rise by 2100.
- Low-lying areas, land below 4.6 metres, include about 2% of the basin.

This figure uses data current as of June 2022, and updates can be incorporated during later phases of the Healthy Waters Plan.

Sources: Tsleil-Waututh Nation, City of Vancouver, Metro Vancouver



STILL CREEK BASIN CURRENT CONDITIONS



9%
Of City's
Population



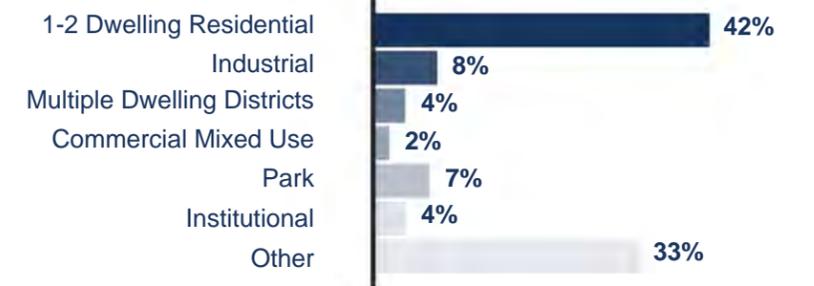
9%
Of City's
Area



**Secondary
Contact**
Recreational Use

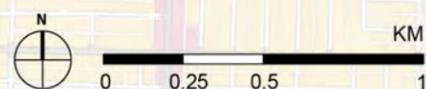


0
Dock &
Boat Ramps



LEGEND

- Still Creek Basin
- Storm Sewer Outfall, CoV-owned
- Storm Sewer Outfall, Metro-owned
- Still Creek Open Channel
- Zoning**
- One/Two Dwelling Residential
- Industrial
- Downtown Mixed Use
- Multiple Dwelling Districts
- Commercial / Mixed Use
- Park
- Institutional
- Arterial Street



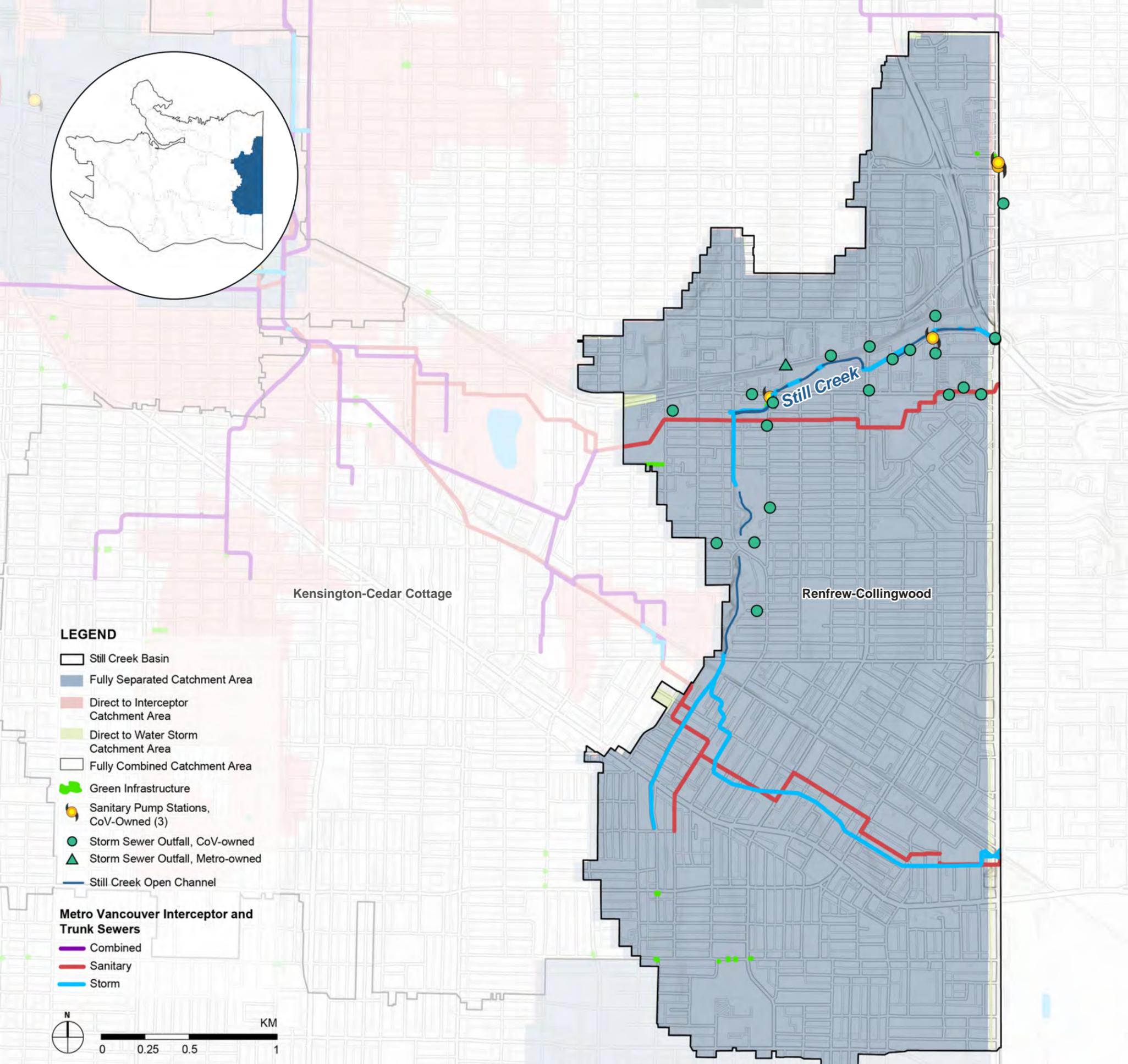
Kensington-Cedar Cottage

Renfrew-Collingwood

Still Creek

- Still Creek Basin is a heavily urbanized salmon-bearing creek in east Vancouver that is a tributary to the Fraser River.
- The basin is primarily single family residential with a commercial area along Grandview Highway and E. Broadway and industrial/employment lands in the Grandview Boundary Mixed Employment Area.
- The basin has no public beaches or boat launches, but there is public access to Still Creek at the Still Creek Boardwalk and the Renfrew Ravine Rim Trail.
- Sections of the creek are piped and covered near the commercial/industrial areas of the basin and in the upstream/southern portion of the catchment.
- The basin covers 9% of the city and 9% of the city's population lives within the basin.
- Designated for secondary contact only, but multi-governmental investment in rehabilitating the creek in the last 10-15 years has resulted in some habitat restoration and presence of salmon.

STILL CREEK BASIN DRAINAGE & OVERFLOWS



1,958
Average Annual
Rainfall (mm)



55%
Of Basin is
Impervious



0%
Of City's CSO
Volume in 2020



14
GRI Assets
0.9
Impervious
Hectares
Managed by
GRI

0%
Of City's CSO
Events in 2020



0
City owned
CSO Outfalls

0
MV owned
CSO Outfall

22
SW Outfalls



98%
Fully
Separated
Catchment
Area

<1%
Fully
Combined
Catchment
Area

<1%
Direct to
Interceptor
Catchment
Area

1%
Direct to
Water
Storm
Catchment
Area

- There are no CSO outfalls, but there are 22 stormwater outfalls discharging to the creek.
- The basin's major conveyance infrastructure includes four pump stations and the Collingwood and the Copley Sanitary Trunk Sewers.
- The basin is 100% fully separated, about 1% is sanitary direct to the interceptor, and 100% of stormwater is direct to waterbody.
- High concentrations of pathogens and other contaminants continue to be measured in the creek pointing to chronic issues with pollution, source controls, cross-connections and urban runoff.
- There are 14 Green Rainwater Infrastructure assets managing 0.9 hectares of impervious area.

This figure uses data current as of June 2022, and updates can be incorporated during later phases of the Healthy Waters Plan.

Sources: City of Vancouver, Metro Vancouver



STILL CREEK BASIN EQUITY, RESILIENCY & GROWTH



79%
Of Basin is within the Priority Equity Area



7%
Of Basin is covered by Tree Canopy



35.1
Median Modelled Afternoon Temperature (°C)



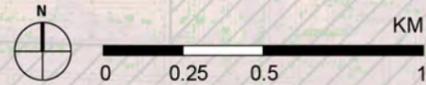
Moderate
Expected Growth Rate

LEGEND

- Still Creek Basin
- Equity Priority Area
- Tree Canopy
- Still Creek Open Channel

Urban Heat Island Index (Afternoon Temperature Model)

- 38°C
- 26°C



Kensington-Cedar Cottage

Renfrew-Collingwood

Still Creek

- The City's defined Priority Equity Area, which represents areas with disproportionately impacted populations, overlaps in the Renfrew-Collingwood neighbourhoods and covers 79% of the basin.
- In this basin, social vulnerability is characterized by higher concentration of low-income newcomers facing housing insecurity, low income households facing economic, social and housing insecurity; low individual autonomy.
- Relative to citywide average, this basin has a lower household income, a higher prevalence of single parent households, a higher prevalence of non-English speaking households, a larger population of visible minorities, and a larger population of Indigenous people.
- Moderate/high future growth is expected per the Vancouver Plan's land use strategy with growth planned, particularly along existing rapid transit lines.
- The "median modelled afternoon temperature" is 35.1°C, the highest in the City, and the tree canopy cover is 7%, the lowest in the city.

This figure uses data current as of June 2022, and updates can be incorporated during later phases of the Healthy Waters Plan.

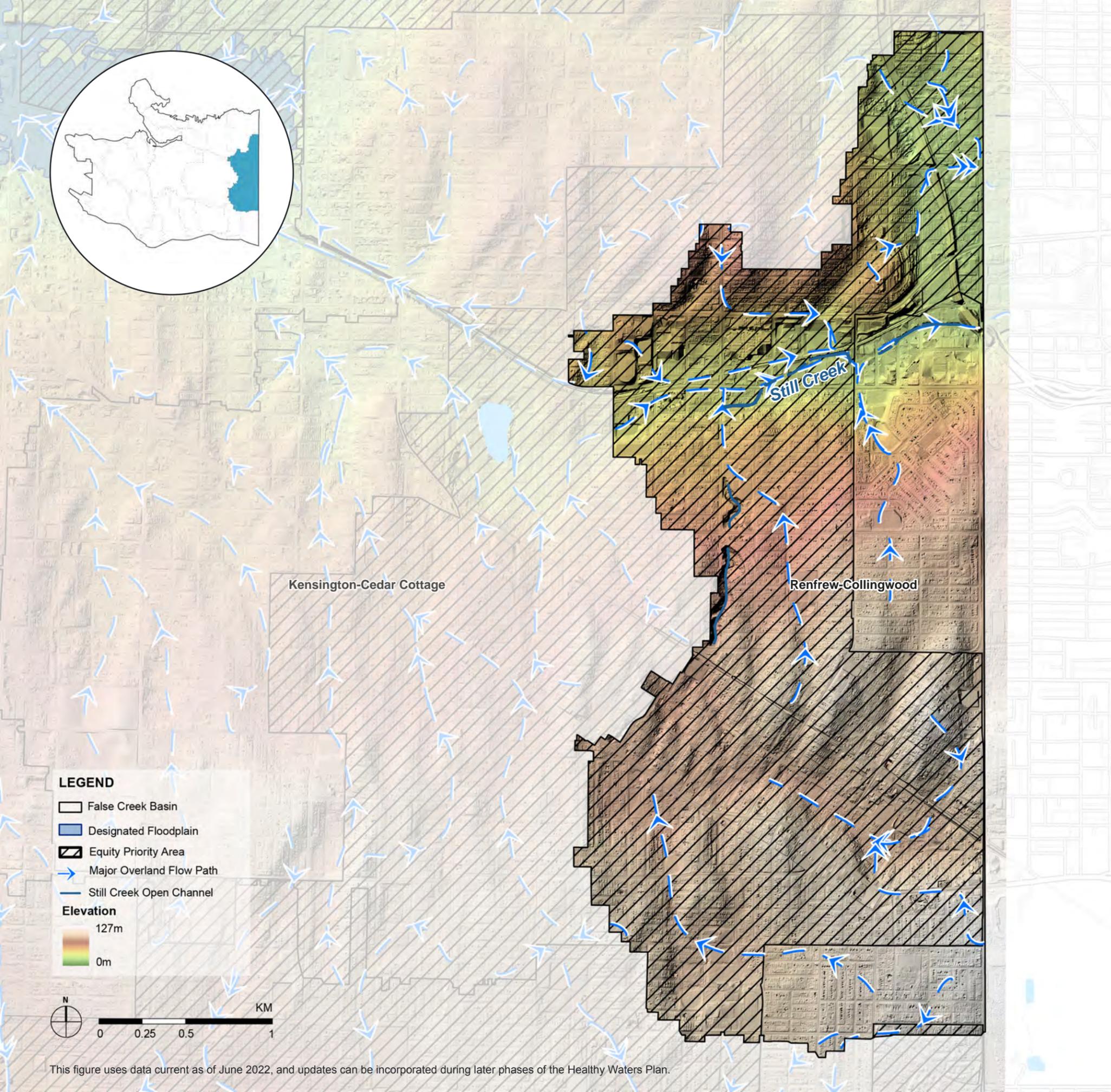
Sources: City of Vancouver, Metro Vancouver

STILL CREEK BASIN OVERLAND FLOW & COASTAL INUNDATION



0%
At risk of inundation due to extreme storm surge event with 1m of sea level rise

- Overland flow paths show drainage patterns across the City based solely on topography to identify primary flow paths outside of areas where 2D hydraulic modelling results are available.
- The basin is not at risk of inundation at 1-metre sea level rise by 2100
- There are no low-lying areas, land below 4.6 metres, within the basin, but there are some areas with steep slopes.



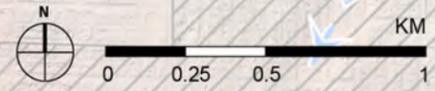
LEGEND

- False Creek Basin
- Designated Floodplain
- Equity Priority Area
- Major Overland Flow Path
- Still Creek Open Channel

Elevation

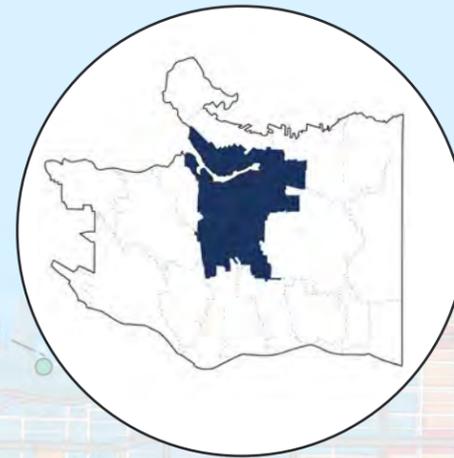
127m

0m



This figure uses data current as of June 2022, and updates can be incorporated during later phases of the Healthy Waters Plan.

FALSE CREEK BASIN CURRENT CONDITIONS



22%
Of City's
Population



15%
Of City's
Area



2
Beaches

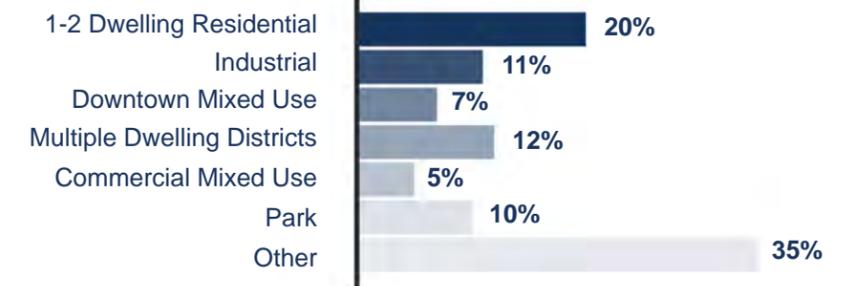


10
Dock &
Boat Ramps



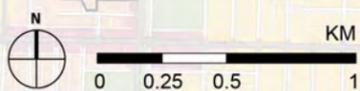
**Secondary
Contact**
Recreational Use
East of Burrard St.
Bridge

**Primary & Secondary
Contact**
Recreational Use
West of Burrard St.
Bridge



LEGEND

- False Creek Basin
- Dock/Boat Ramp
- Combined Sewer Outfall, CoV-owned
- Combined Sewer Outfall, Metro-owned
- Storm Sewer Outfall, CoV-owned
- Storm Sewer Outfall, Metro-owned
- Beach
- Major Planning Projects - Partnerships with MST
- First Nations Reserve Lands**
- Kitsilano I.R. #6
- Zoning**
- One/Two Dwelling Residential
- Industrial
- Downtown Mixed Use
- Multiple Dwelling Districts
- Commercial / Mixed Use
- Park
- Institutional
- Arterial Street



Coal Harbour
English Bay
West End

West End

Downtown

Burrard St. Bridge

False Creek

Strathcona

Fairview

Mount Pleasant

Shaughnessy

Riley Park

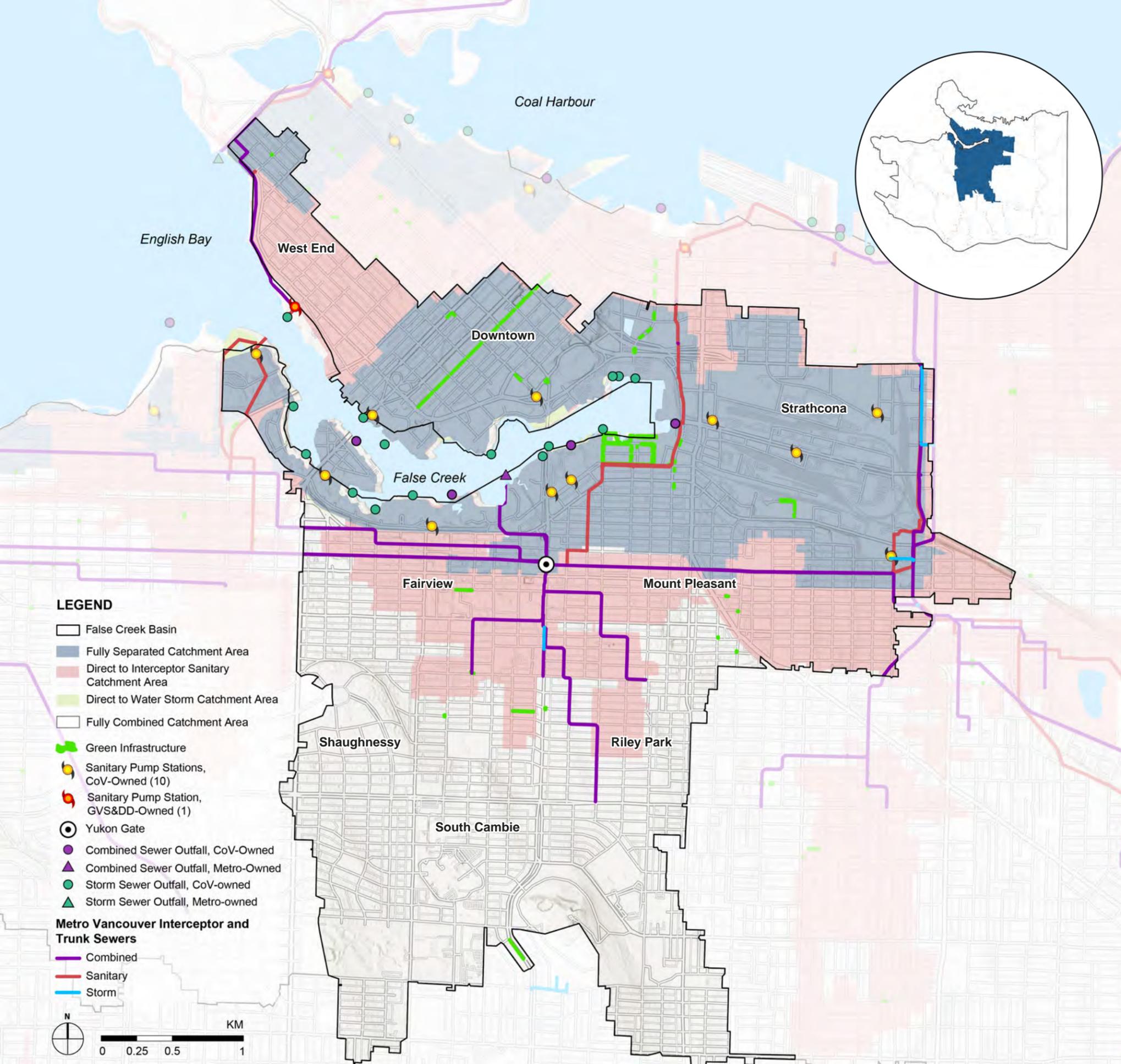
South Cambie

This figure uses data current as of June 2022, and updates can be incorporated during later phases of the Healthy Waters Plan.

Sources: Tsleil-Waututh Nation, City of Vancouver, Metro Vancouver

- False Creek is a heavily used waterfront and waterbody with many access locations for boating, rowing, paddling, and viewing the water.
- The waterbody is confined with limited freshwater inputs.
- The shoreline is a mix of piers, soft edges, headwalls, vertical sea walls, and other park/public access points.
- High levels of metals and legacy contaminants in False Creek are due to the history of heavy industrial activity in this area.
- East of Burrard Street Bridge is designated for secondary contact (boating) only.
- West of the Burrard Street Bridge is designated for primary (swimming) and secondary contact.

FALSE CREEK BASIN DRAINAGE & OVERFLOWS



1,896
Average Annual
Rainfall (mm)



53%
Of Basin is
Impervious



3%
Of City's CSO
Volume in 2020



109
GRI Assets
6.0
Impervious
Hectares
Managed by
GRI

20%
Of City's CSO
Events in 2020



4
City owned
CSO Outfalls

1
MV owned
CSO Outfall

15
SW Outfalls



36%
Fully
Separated
Catchment
Area

41%
Fully
Combined
Catchment
Area

24%
Direct to
Interceptor
Catchment
Area

<1%
Direct to
Water
Storm
Catchment
Area

- The City owns four CSO outfalls and 15 stormwater outfalls; Metro Vancouver owns one CSO outfall along the waterfront.
- In 2020, a relatively small portion (2.5%) of the City's total CSO volume was discharged into False Creek, however these discharges represent 20% of the unique CSO events.
- The basin's major conveyance infrastructure includes 17 pump stations, the Yukon Gate control structure, and major interceptors and sanitary trunks.
- Fully separated areas include 36% of the basin and are largely in the Downtown Core neighbourhoods.
- The combined system serves 38% of the basin, and 27% has separated sanitary flows directly connect to the MV interceptors.
- There are 109 Green Rainwater Infrastructure assets managing 6.0 hectares of impervious area.

This figure uses data current as of June 2022, and updates can be incorporated during later phases of the Healthy Waters Plan.

Sources: Tsleil-Waututh Nation, City of Vancouver, Metro Vancouver

FALSE CREEK BASIN

EQUITY, RESILIENCY & GROWTH



8%
Of Basin is within the Priority Equity Area



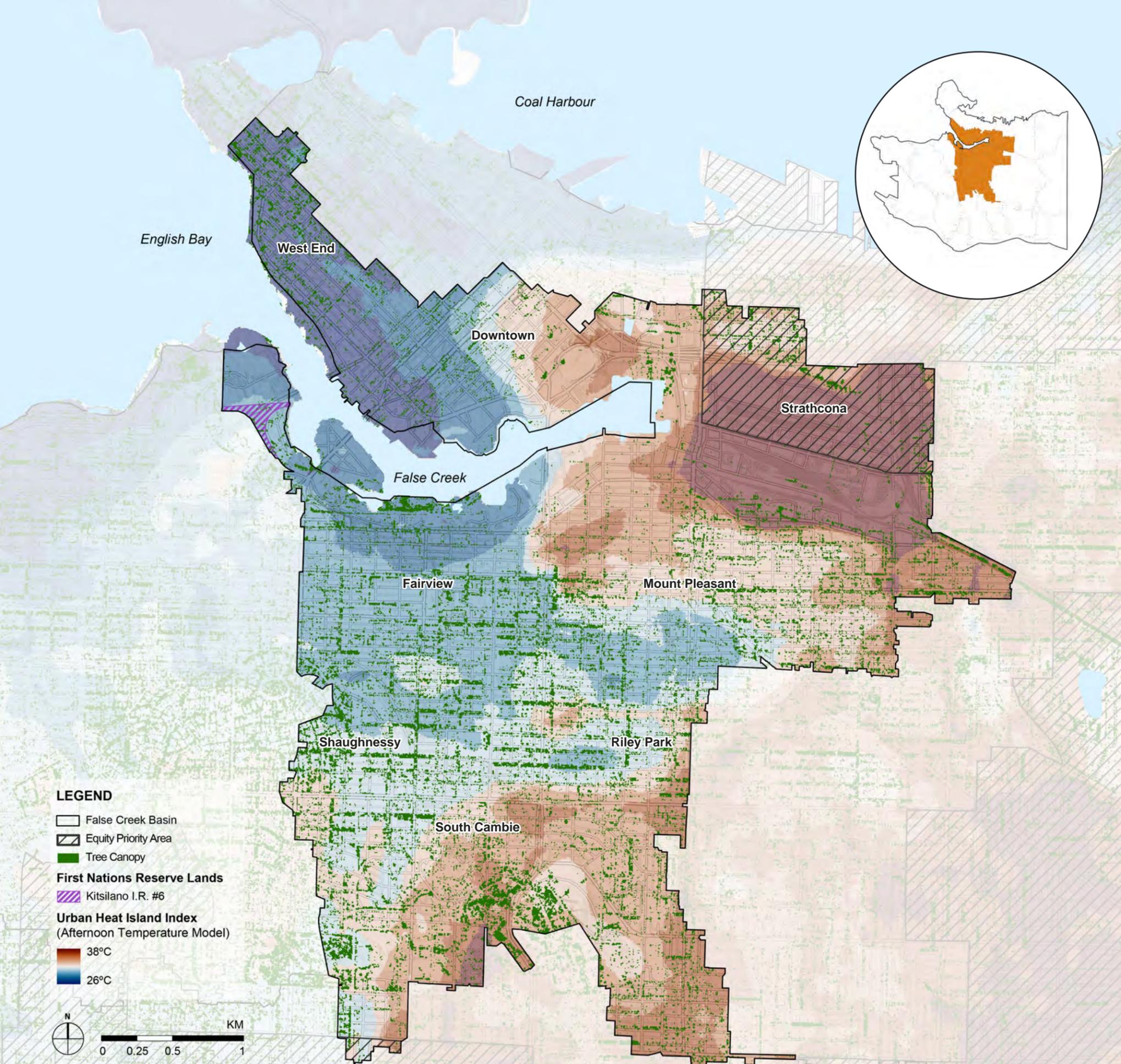
12%
Of Basin is covered by Tree Canopy



33.0
Median Modelled Afternoon Temperature (°C)



High
Expected Growth Rate



This figure uses data current as of June 2022, and updates can be incorporated during later phases of the Healthy Waters Plan.

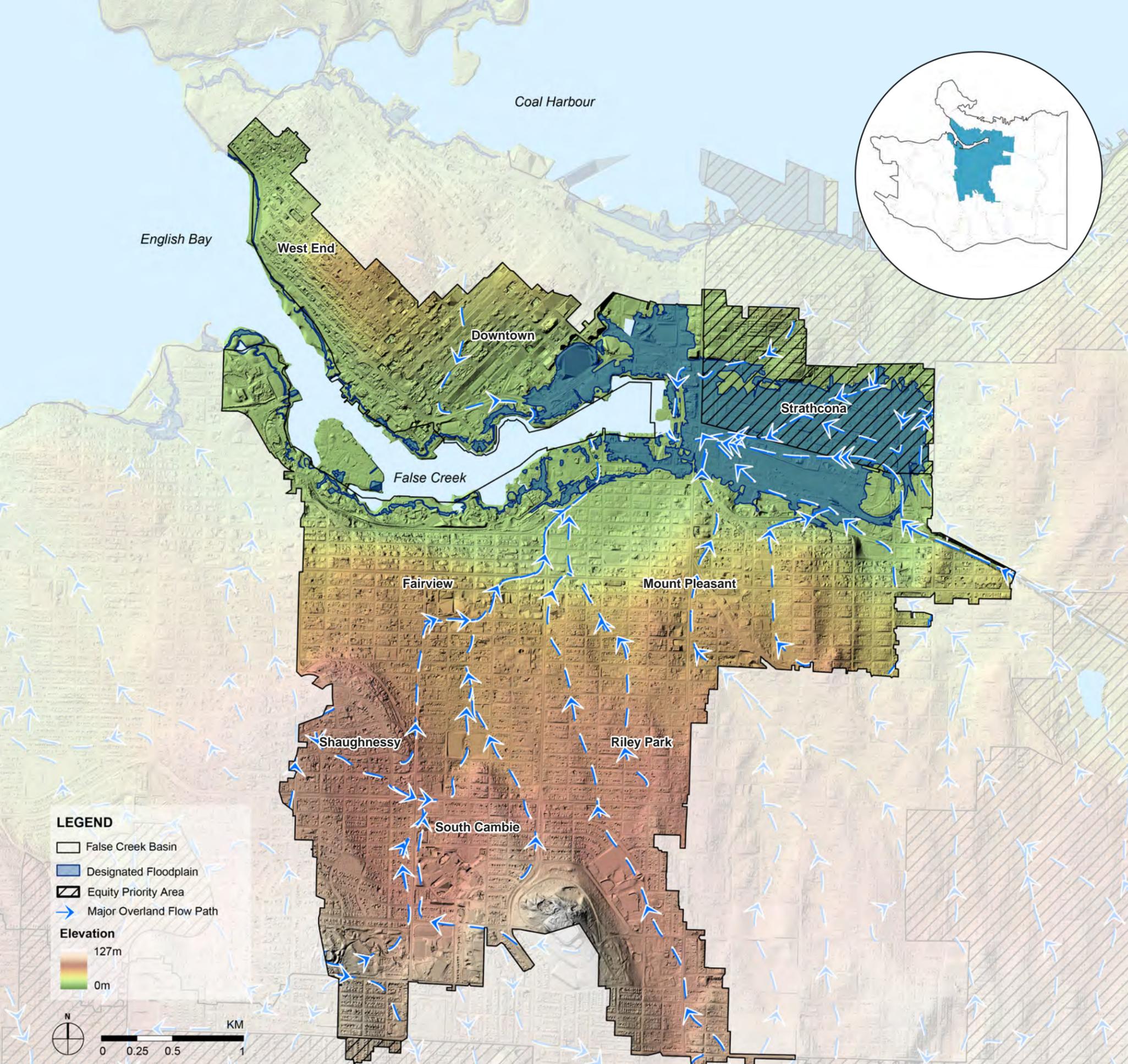
- The City's defined Priority Equity Area, which represents areas with disproportionately impacted populations, overlaps the False Creek Basin in the Strathcona neighbourhood.
- The basin's social vulnerability is characterized by low-income households with unaffordable rental housing facing economic, social and housing uncertainty; moderate individual autonomy.
- Relative to the citywide average, the basin has a higher rent burden, a larger population of Indigenous people, and a larger population of seniors.
- The "median modelled afternoon temperature" is high in the denser West End, Strathcona, Mount Pleasant, and Fairview neighbourhoods.
- Overall, tree canopy cover is less dense as compared to other basins due to the density and urban characteristics of this basin.
- High future growth is expected per the Vancouver Plan's land use strategy:
 - Señákw, the Squamish Nation's development of the Kitsilano Reserve Lands, will include over 6,000 rental units and is in early construction phases.
 - The Broadway Plan, approved by City Council in June 2022, outlines upgrades and interventions required to accommodate 50,000 new residents, and 40,000 new jobs by 2050.

FALSE CREEK BASIN OVERLAND FLOW & COASTAL INUNDATION



11%
At risk of inundation due to extreme storm surge event with 1m of sea level rise

- Overland flow paths show drainage patterns across the City based solely on topography (i.e. not including the sewer network or simulated rainfall) to identify primary flow paths outside of areas where 2D hydraulic modelling results are available.
- These overland flow paths generally align with the historic creeks that have been covered and piped.
- The 2100, 1-metre projected sea level rise would impact 11% of the basin, primarily in the industrial areas, the Vancouver rail yard, and along the shoreline of False Creek.
- The basin has the highest percentage of 2100 sea level rise inundation as compared to all the other basins and overlaps with the Priority Equity Area (does not account for Port property in Inner Harbour Basin).
- Low-lying areas, land below 4.6 metres, include 13% of the Basin bear False Creek's shoreline and within the Vancouver rail yards and Downtown core.
- The City is sponsoring the Sea2City Design Challenge to help guide urban development and ecological revitalization in the False Creek floodplain in the face of climate risks.



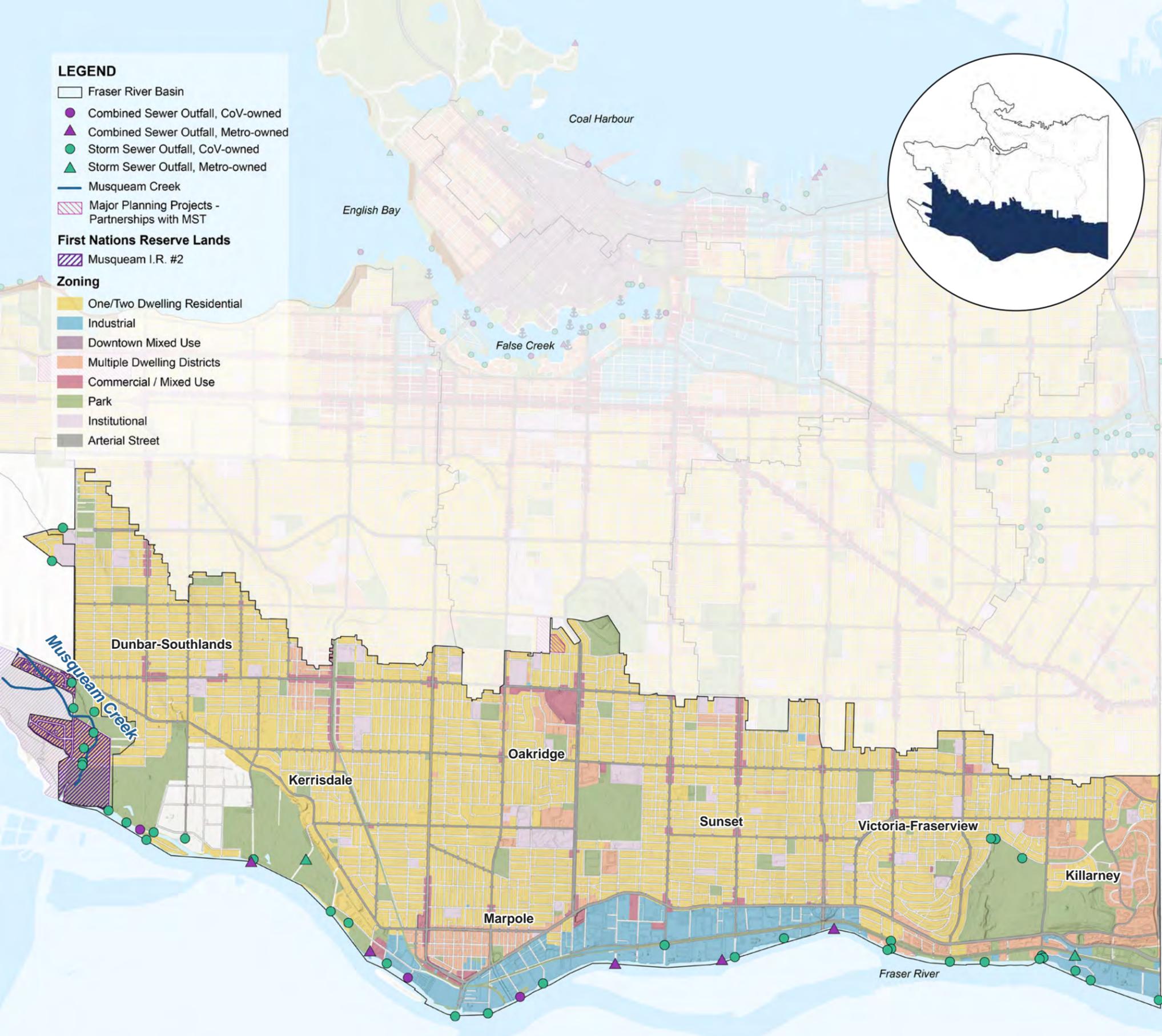
This figure uses data current as of June 2022, and updates can be incorporated during later phases of the Healthy Waters Plan.

Sources: Tsleil-Waututh Nation, City of Vancouver, Metro Vancouver

FRASER RIVER BASIN CURRENT CONDITIONS

LEGEND

-  Fraser River Basin
-  Combined Sewer Outfall, CoV-owned
-  Combined Sewer Outfall, Metro-owned
-  Storm Sewer Outfall, CoV-owned
-  Storm Sewer Outfall, Metro-owned
-  Musqueam Creek
-  Major Planning Projects - Partnerships with MST
- First Nations Reserve Lands**
-  Musqueam I.R. #2
- Zoning**
-  One/Two Dwelling Residential
-  Industrial
-  Downtown Mixed Use
-  Multiple Dwelling Districts
-  Commercial / Mixed Use
-  Park
-  Institutional
-  Arterial Street



25%
Of City's
Population



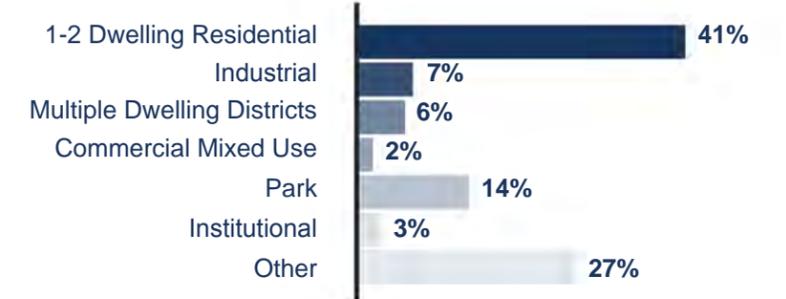
36%
Of City's
Area



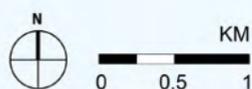
**Secondary
Contact**
Recreational Use



0
Dock &
Boat Ramps



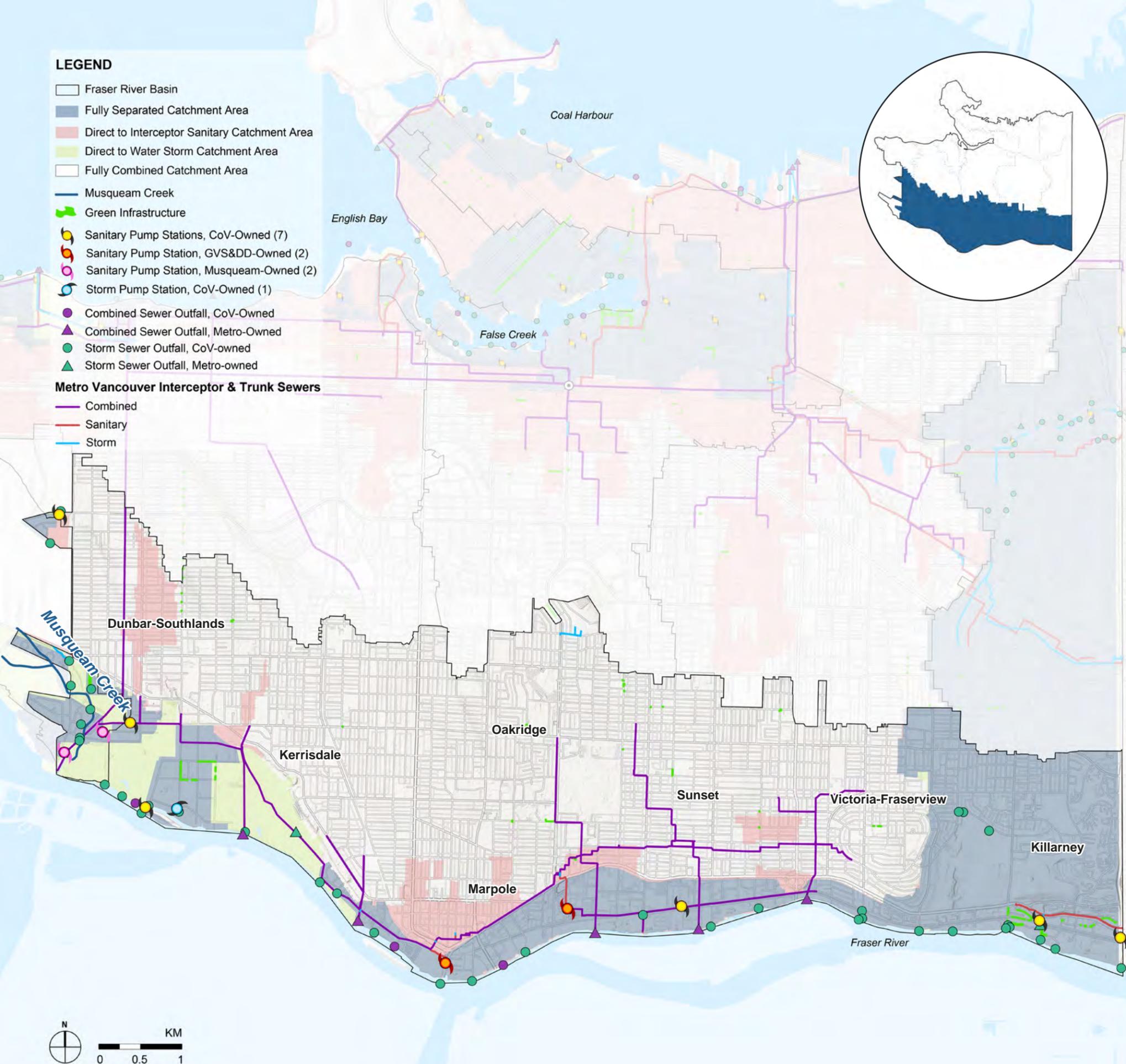
- The lower Fraser River waterfront is a mix of industrial, commercial, residential, and parkland, serving as the southern boundary of the City before it flows into the Strait of Georgia.
- The basin has no public beaches, boat launches, or marinas but there are waterfront parks, such as Fraser River Park and Riverfront Park.
- The basin covers 36% of the City, mostly low-density residential neighbourhoods from Dunbar in West Vancouver to Killarney in East Vancouver.
- The lower Fraser River is critical for fish habitat that supports the commercial fishing industry. It is the mouth of one of the province's largest drainages capturing a quarter of B.C.
- The River is designated for secondary (boating) contact, but the River and areas in the Outer Harbour support significant recreational salmon fisheries.
- All shellfish harvesting in the Fraser River has been closed since 1972 due to poor water quality.
- At western edge of the basin, Musqueam Creek holds special cultural and spiritual significance for the Musqueam Indian Band.



This figure uses data current as of June 2022, and updates can be incorporated during later phases of the Healthy Waters Plan.

Sources: City of Vancouver, Metro Vancouver

FRASER RIVER BASIN DRAINAGE & OVERFLOWS



1,711
Average Annual
Rainfall (mm)



43%
Of Basin is
Impervious



14%
Of City's CSO
Volume in 2020



119
GRI Assets
5.2
Impervious
Hectares
Managed by
GRI

25%
Of City's CSO
Events in 2020



3
City owned
CSO Outfalls

5
MV owned
CSO Outfall

38
SW Outfalls



27%
Fully
Separated
Catchment
Area

60%
Fully
Combined
Catchment
Area

7%
Direct to
Interceptor
Catchment
Area

6%
Direct to
Water
Storm
Catchment
Area

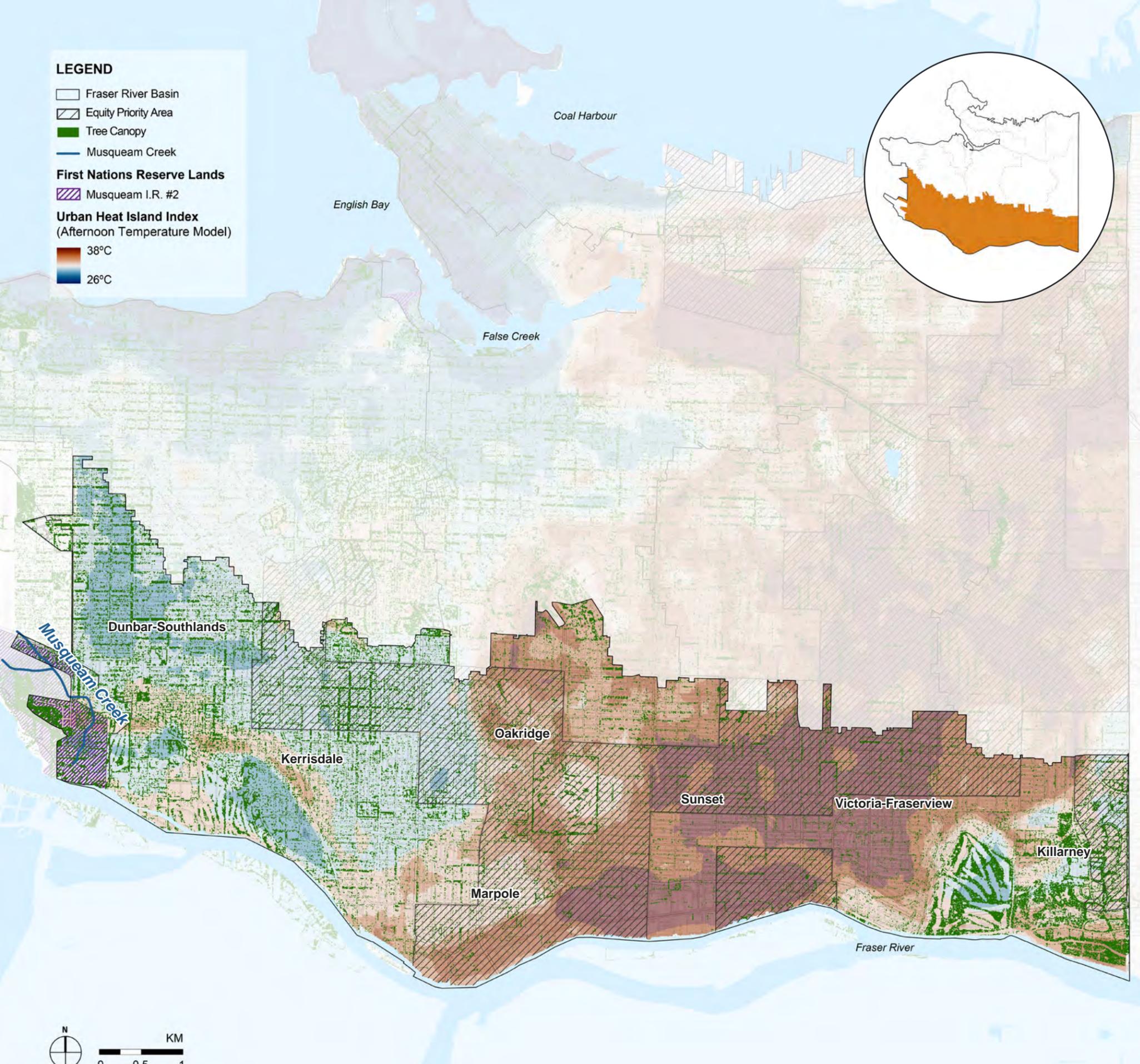
- The City owns three CSO outfalls and 38 stormwater outfalls; Metro Vancouver owns five CSO outfalls along the waterfront.
- In 2020, 14% of the City's CSO volume was discharged into Fraser River, representing 25% of the total CSO events.
- The basin's major conveyance infrastructure includes: eight pump stations, large sewer trunks, and the North Arm Interceptor that convey combined flow to the Iona Island WWTP.
- The southeastern corner of the basin (Champlain sewershed) is conveyed to the Fraser Sewerage Area and the Annacis Island WWTP instead of Iona Island WWTP.
- Low baseflows and summer dry creek beds are an ongoing issue for Musqueam Creek; augmentation from a well and pump was installed in 1998.
- There are 119 Green Rainwater Infrastructure assets managing 5.2 hectares of impervious area.



This figure uses data current as of June 2022, and updates can be incorporated during later phases of the Healthy Waters Plan.

Sources: City of Vancouver, Metro Vancouver

FRASER RIVER BASIN EQUITY, RESILIENCY & GROWTH



41%
Of Basin is within the Priority Equity Area



17%
Of Basin is covered by Tree Canopy



33.5
Median Modelled Afternoon Temperature (°C)



Moderate
Expected Growth Rate

- The City's defined Priority Equity Area, which represents areas with disproportionately impacted populations, overlaps in the Oakridge, Sunset, Kensington, Victoria, and Fraserview neighbourhoods.
- In the basin, social vulnerability in this basin is characterized by higher concentration of low-income newcomers facing housing insecurity, low-income households facing economic, social and housing insecurity, and unaffordable rental housing; moderate individual autonomy.
- Relative to citywide average, the basin has higher rent burden, lower household income, higher prevalence of single parent households, larger population of seniors, larger population of visible minorities.
- Moderate/high future growth is expected per the Vancouver Plan's land use strategy with growth planned, particularly along 49th St. and between Granville St. and Boundary Rd.
- The "median modelled afternoon temperature" is 33.5°C, the second highest after Still Creek Basin, and the tree canopy cover is 17%.
- Riparian forest integrity, the percentage of intact forest within a 30 metre setback along the stream corridor for Musqueam Creek, is 77%. Healthy riparian buffers support resilience by providing habitat, mitigating erosion and vegetation loss, and mitigating some impacts from development.
- Future development plans for the Musqueam Creek Basin include residential housing, which will add impervious cover.



This figure uses data current as of June 2022, and updates can be incorporated during later phases of the Healthy Waters Plan.

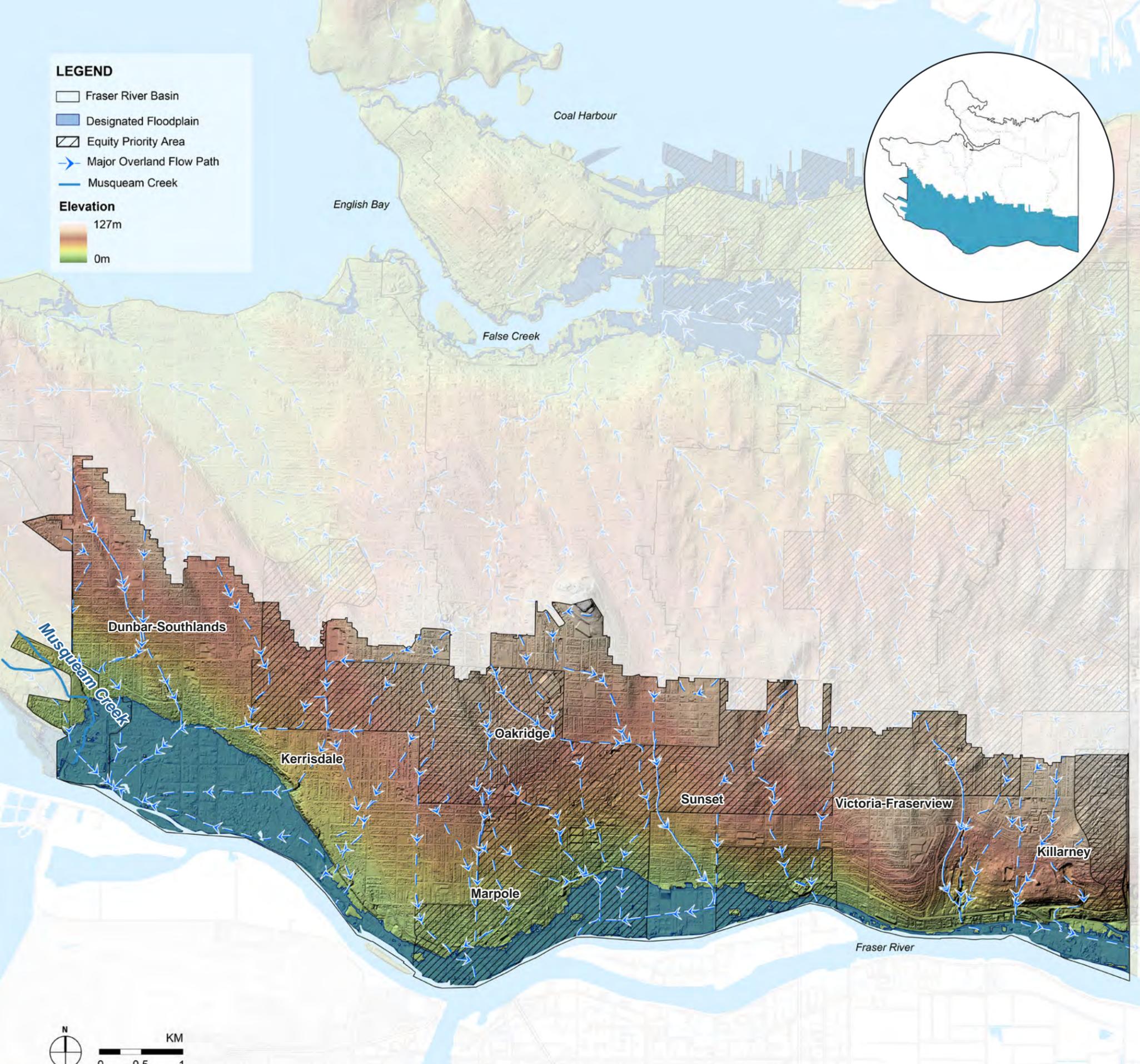
Sources: City of Vancouver, Metro Vancouver

FRASER RIVER BASIN OVERLAND FLOW & COASTAL INUNDATION



16%
At risk of inundation due to extreme storm surge event with 1m of sea level rise

- Overland flow paths show drainage patterns across the City based solely on topography to identify primary flow paths outside of areas where 2D hydraulic modelling results are available.
- The overland flow paths generally align with the several historic creeks within the basin that have been covered and piped.
- 16% of the Basin is at risk of inundation as it is within the Fraser River floodplain.
- The Southlands neighbourhood is the lowest lying in the basin.
- Vivian Creek, a small tributary to the Fraser River, is a priority for the City. There is ongoing monitoring of water quality in Vivian Creek as part of the City's monitoring and adaptive management program.
- South of Marine Drive, Musqueam Creek runs through the Reserve and is susceptible to flooding when high tide coincides with heavy rainfall.
- Flood protection recommendations from the 2017 Musqueam Creek Flood Protection Study included:
 - Upgrade Salish Drive Culvert on Cutthroat Creek, install 51st Ave flood alleviation culvert on Musqueam Creek, and upgrade Musqueam Creek tide gate;
 - Construct standard dikes along Musqueam Creek with a design crest El. 4.6 m to protect low-lying properties on Crown Place and Thellaiwhaltun Avenue up to the design coastal flood level;
 - Raise the 51st Avenue Bridge and road approaches to El. 4.6 m;
 - Co-ordinate with neighbouring jurisdictions & government to develop a plan to raise the Fraser River dike to a design crest elevation for projected sea level rise, storm surge, and wave effects.



LEGEND

- Fraser River Basin
- Designated Floodplain
- Equity Priority Area
- Major Overland Flow Path
- Musqueam Creek

Elevation

127m
0m



This figure uses data current as of June 2022, and updates can be incorporated during later phases of the Healthy Waters Plan.

Sources: City of Vancouver, Metro Vancouver

OUTER HARBOUR BASIN CURRENT CONDITIONS



13%
Of City's
Population



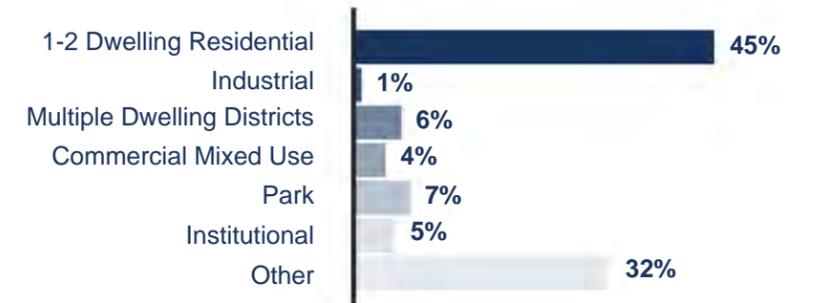
16%
Of City's
Area



**Primary &
Secondary
Contact**
Recreational Use



3
Beaches

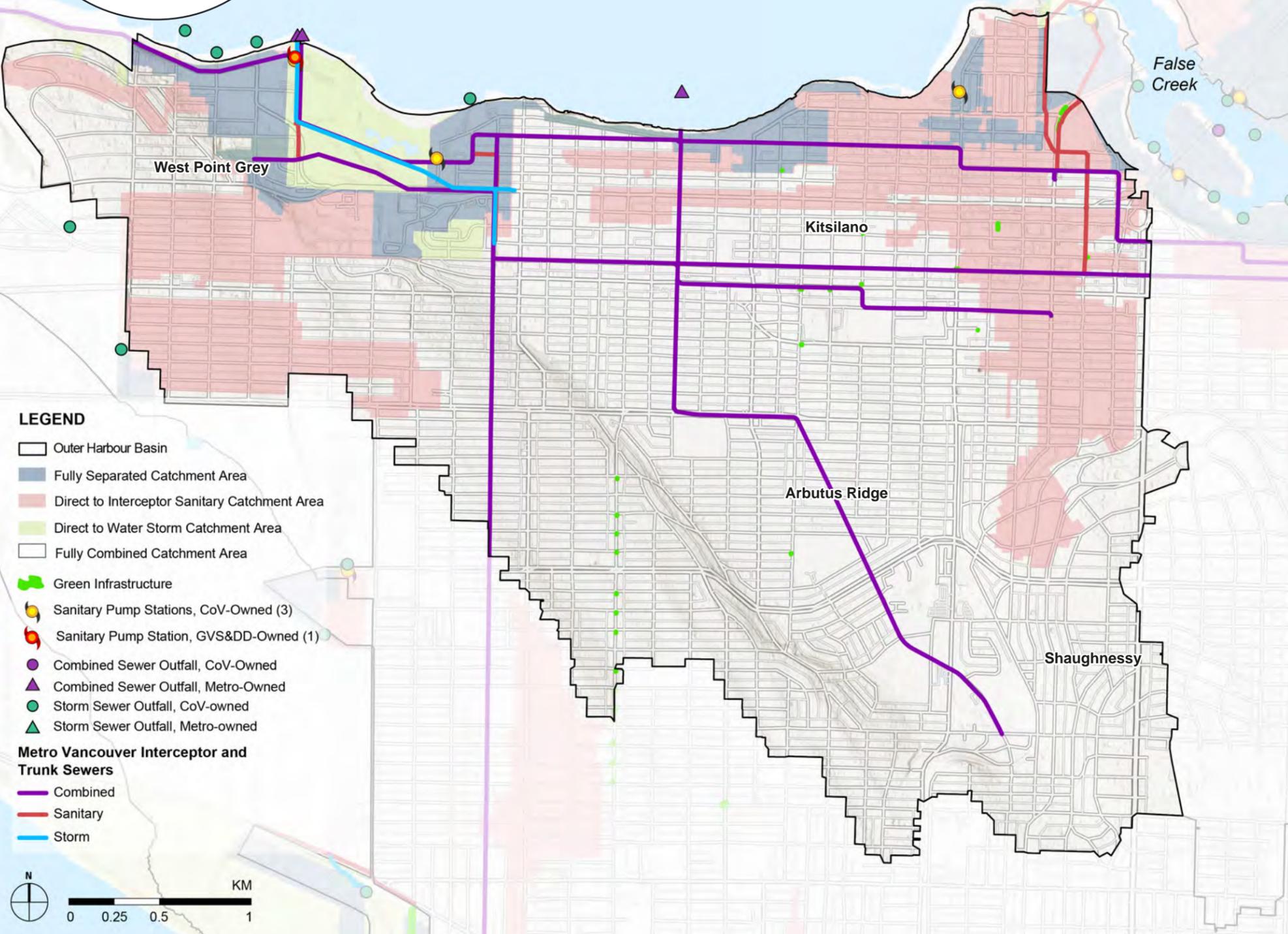


- The waterfront is primarily a mix of public beach and soft edge, with many public access points and parks.
- The basin's three beaches total 22 hectares. (Note: The False Creek Basin boundary is captured on English Bay beach)
- Outer Harbour is a wide, open waterbody adjacent to the Strait of Georgia.
- The recreation designation is for primary (swimming) contact.
- The Tsleil- Waututh Nation's Burrard Inlet Action Plan (2017), and the Burrard Inlet Water Quality Objectives (2020-2023) will steer water quality improvements in the Inner Harbour, Outer Harbour, and False Creek for the next 50 years.
- All shellfish harvesting in the Outer Harbour have been closed since 1972 due to poor water quality.

This figure uses data current as of June 2022, and updates can be incorporated during later phases of the Healthy Waters Plan.

Sources: Tsleil-Waututh Nation, City of Vancouver, Metro Vancouver

OUTER HARBOUR BASIN DRAINAGE & OVERFLOWS



1,758
Average Annual
Rainfall (mm)



47%
Of Basin is
Impervious



4%
Of City's CSO
Volume in 2020



26
GRI Assets
1.6
Impervious
Hectares
Managed by
GRI



15%
Of City's CSO
Events in 2020

6
SW Outfalls

1
City owned
CSO Outfalls

3
MV owned
CSO Outfall



6%
Fully
Separated
Catchment
Area

68%
Fully
Combined
Catchment
Area

22%
Direct to
Interceptor
Catchment
Area

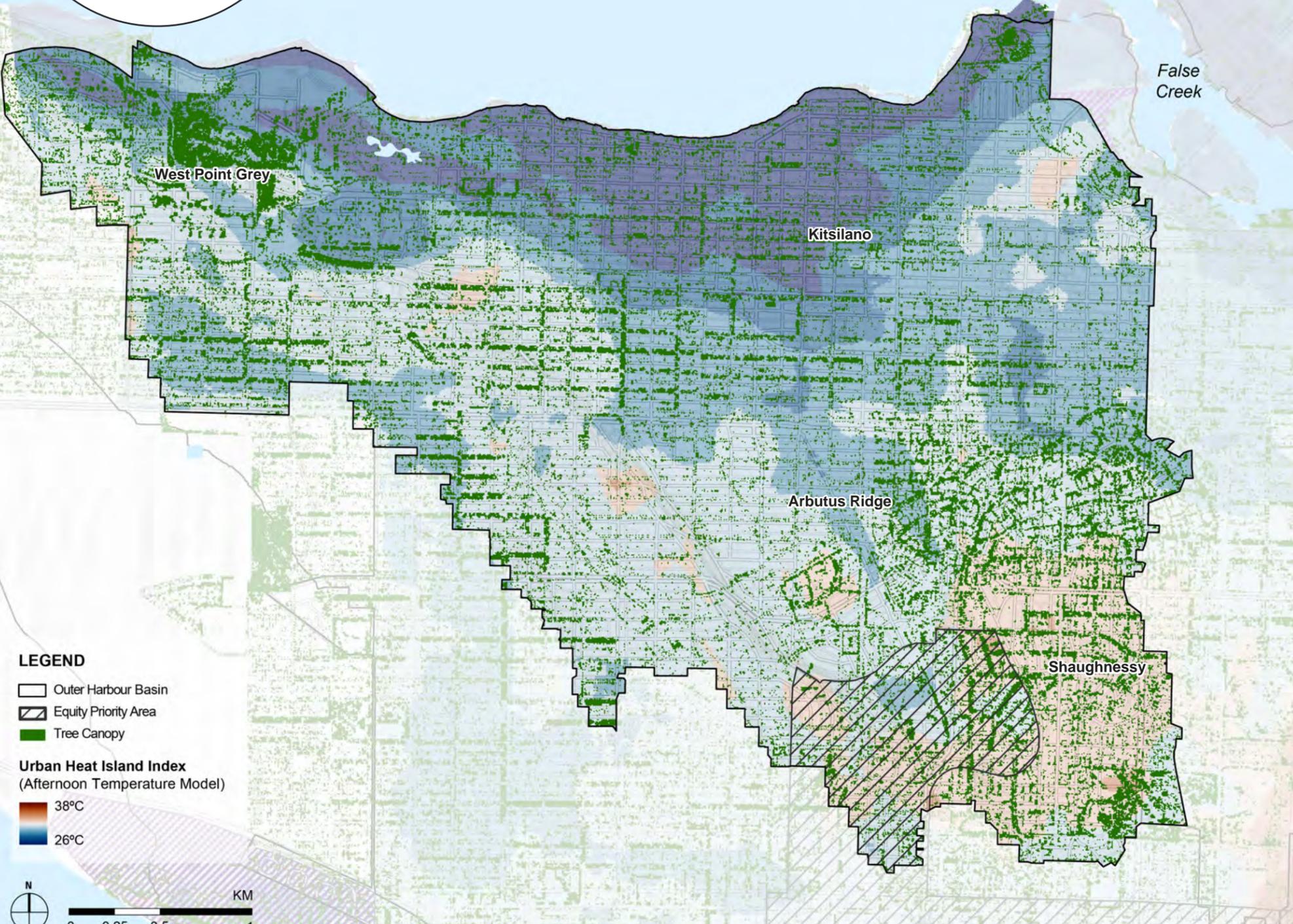
3%
Direct to
Water
Storm
Catchment
Area

- The City owns one CSO outfall and ten stormwater outfalls; Metro Vancouver owns three CSO outfalls along the waterfront.
- In 2020, 4.2% of the City's CSO volume discharged into Outer Harbour, representing 15% of the total CSO events.
- The basin's major conveyance infrastructure includes: four pump stations, large sewer mains, and the Highbury interceptor that conveys combined flow to the Iona Island Wastewater Treatment Plant.
- Most of the basin is served by combined sewers (~68%).
- There are fully separated areas and areas where the sanitary pipes are connected directly to the interceptor system along the waterfront.
- There are 26 Green Rainwater Infrastructure assets managing 1.6 hectares of impervious area .

This figure uses data current as of June 2022, and updates can be incorporated during later phases of the Healthy Waters Plan.

Sources: Tsleil-Waututh Nation, City of Vancouver, Metro Vancouver

OUTER HARBOUR BASIN EQUITY, RESILIENCY & GROWTH



LEGEND

- Outer Harbour Basin
- Equity Priority Area
- Tree Canopy

**Urban Heat Island Index
(Afternoon Temperature Model)**

- 38°C
- 26°C



6%
Of Basin is within the Priority Equity Area



19%
Of Basin is covered by Tree Canopy



31.6
Median Modelled Afternoon Temperature (°C)



Moderate
Expected Growth Rate

- The basin is comparatively affluent and the Priority Equity Area overlaps only in the Arbutus Ridge neighbourhood.
- In this basin, social vulnerability is characterized by higher concentration of low-income newcomers facing housing insecurity, low-income households facing economic, social and housing insecurity, and unaffordable rental housing; relatively high individual autonomy.
- Relative to citywide average, the basin has a higher rent burden, a larger population of seniors, and a larger population of visible minorities.
- Moderate future growth is expected per the Vancouver Plan's land use strategy with growth planned in the areas near downtown.
- The "median modelled afternoon temperature" is the lowest (31.6°C) in the City, except for Musqueam Creek Basin which is mostly forested.
- The tree canopy density is the highest as compared to other basins, except for Musqueam Creek Basin which is mostly forested.

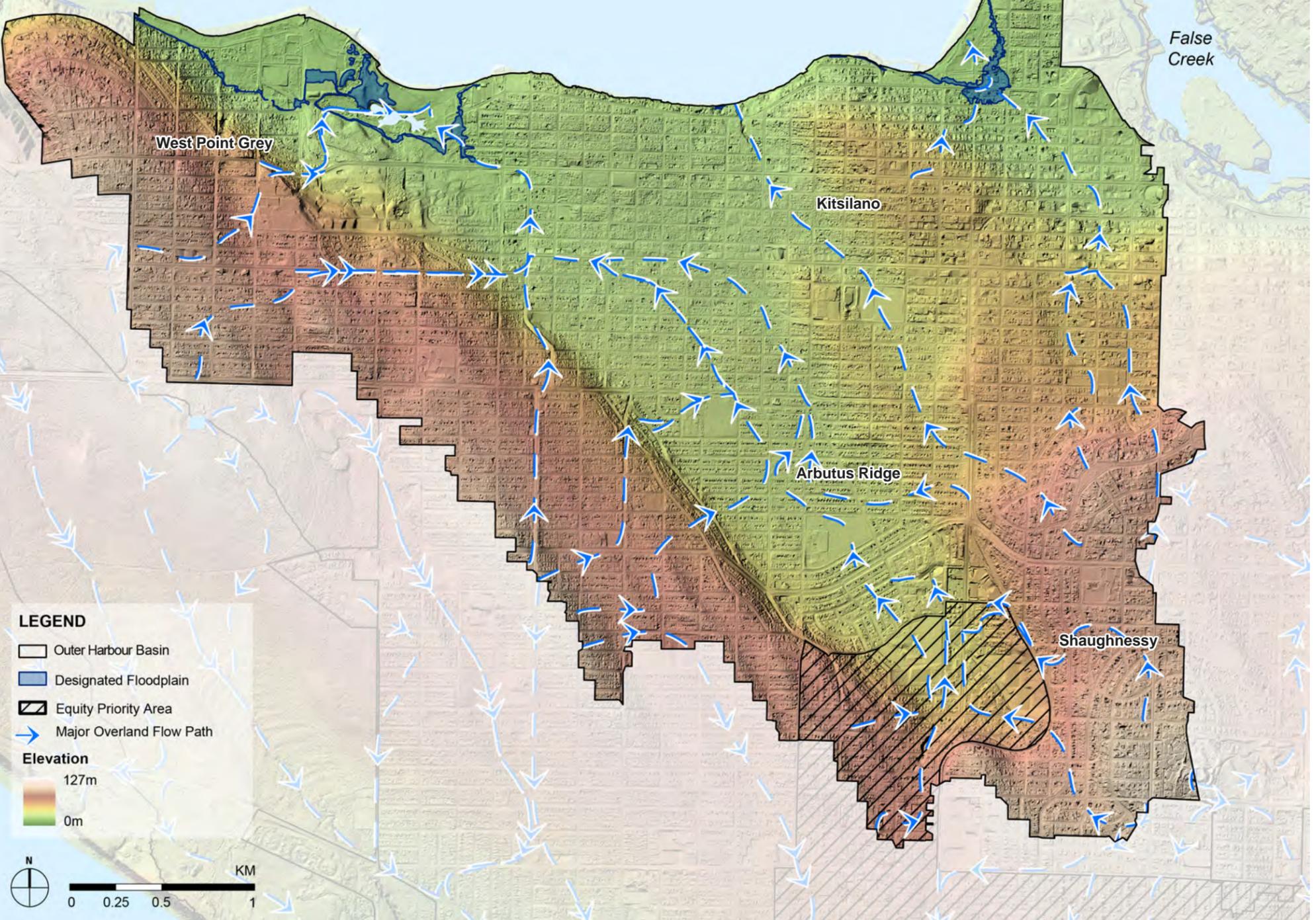
This figure uses data current as of June 2022, and updates can be incorporated during later phases of the Healthy Waters Plan.

Sources: Tsleil-Waututh Nation, City of Vancouver, Metro Vancouver

OUTER HARBOUR BASIN OVERLAND FLOW & COASTAL INUNDATION



<1%
At risk of inundation due to extreme storm surge event with 1m of sea level rise



- Overland flow paths show drainage patterns across the City based solely on topography to identify primary flow paths outside of areas where 2D hydraulic modelling results are available.
- These overland flow paths generally align with the several historic creeks within the basin that have been covered and piped.
- Less than 1% of the basin is at risk of inundation at 1-metre sea level rise by 2100.
- Low-lying areas, land below 4.6 metres, are about 4% of the basin, primarily along the shoreline of False Creek and English Bay.

This figure uses data current as of June 2022, and updates can be incorporated during later phases of the Healthy Waters Plan.

Sources: Tsleil-Waututh Nation, City of Vancouver, Metro Vancouver