Biodiversity and Natural Areas Strategy Public Information Session

September 16, 2020



Diamond Head Consulting Ltd.

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Defining Biodiversity

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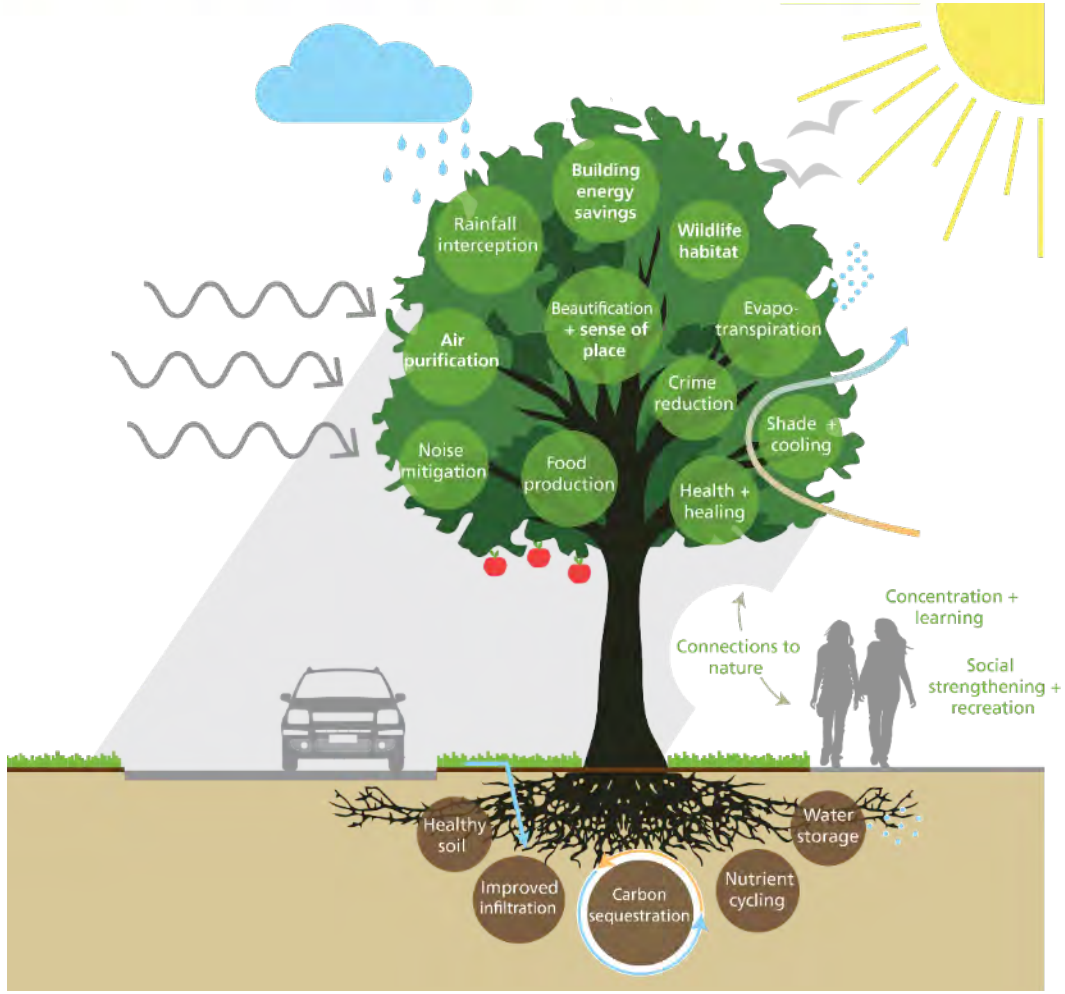
Biodiversity is the variety of species and ecosystems on earth and the ecological processes of which they are a part – including natural ecosystems, living species and other components that provide genetic diversity






Defining Biodiversity

- Often used to measure the integrity and function of a natural system
- An index that can also be used to measure of how well we have integrated our urban environment with nature



The Challenge

- **Biodiversity is disappearing**: Estimated that species are disappearing at 50-100 times the natural rate as a direct result of human activities (MetroVan, 2006).
- **New Westminster is largely developed:** It has distinct natural areas and established urban areas
- **Limited resources for conservation:** The City has greatest control over publicly-owned land. It has some influence on private lands through regulatory tools (zoning), incentives and education.

The Challenge - How to maximize biodiversity within this context?





The Strategy

- Analysis of Biodiversity in the City
- Constraints and emerging threats
- Toolkit for staff, residents and developers
- Implementation
- Monitoring



Where does this strategy fit in?

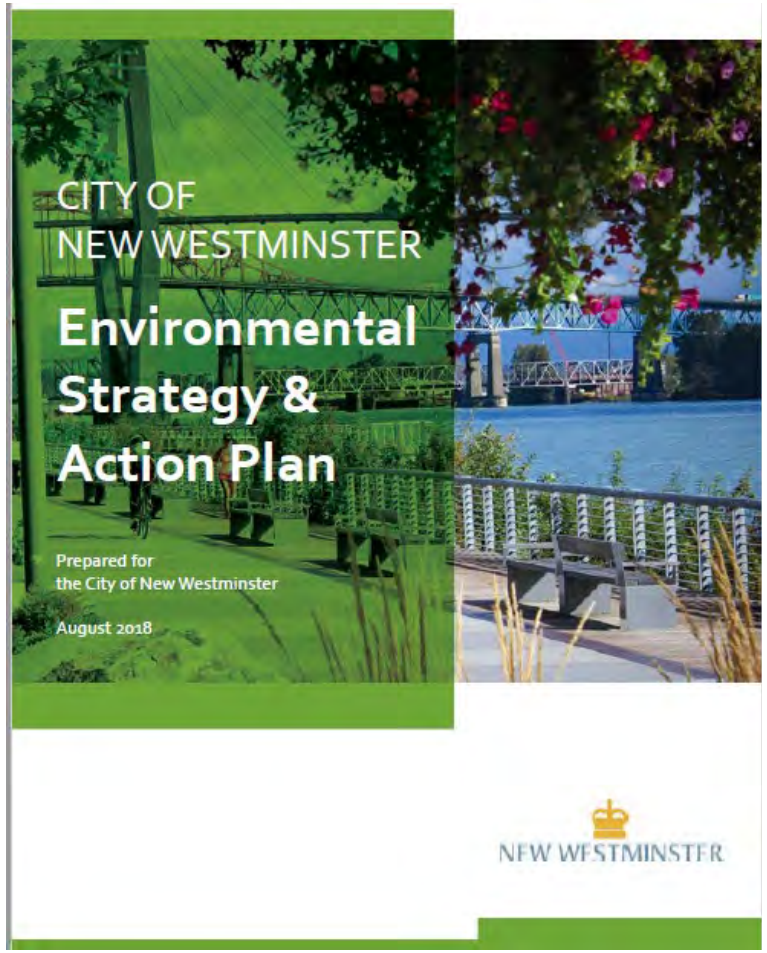
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Environmental Strategy & Action Plan (2018)

"New Westminster is a responsible leader that takes bold action on climate change, protects and restores its natural areas, and minimizes the environmental footprint of its highly urbanized community."

The vision aims to "enhance natural areas and integrate nature into the urban environment."

1. *Protecting and enhancing river corridors and watercourses;*
2. *Protecting and restoring the ecological integrity, biodiversity, and connectivity of natural areas;*
3. *Integrating environmental consideration into city activities and practices.*

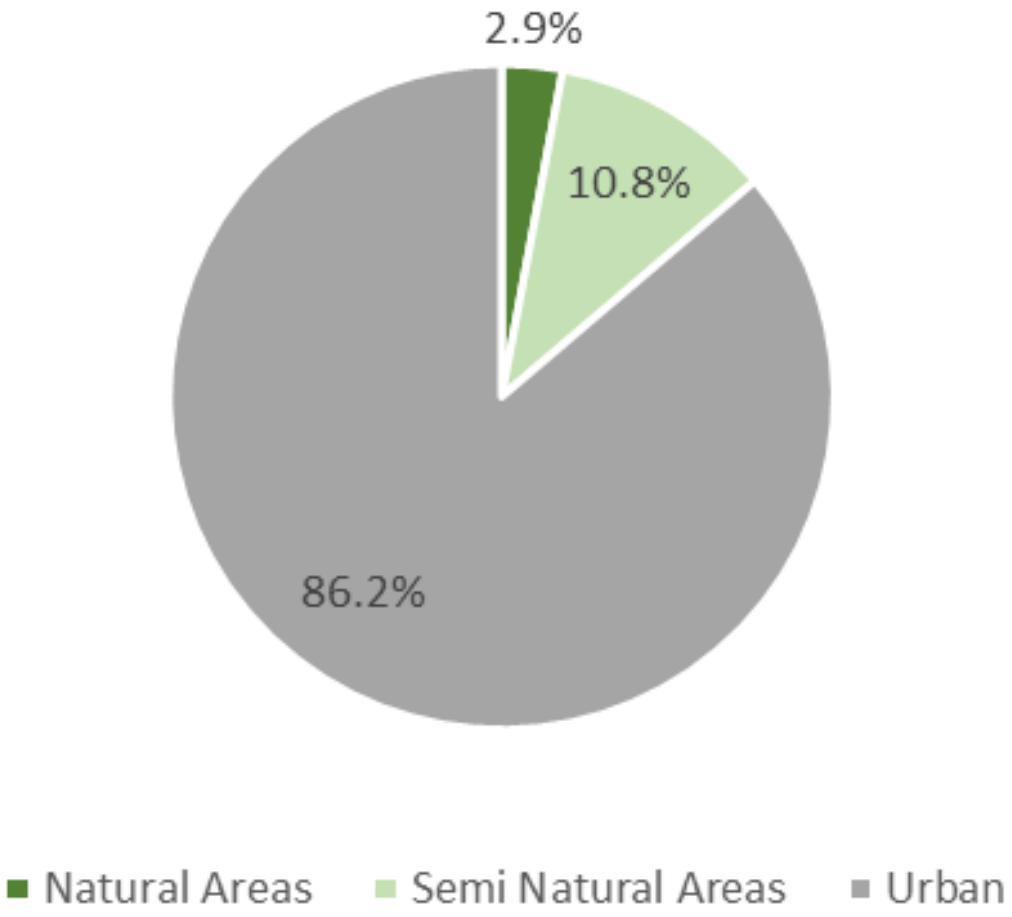


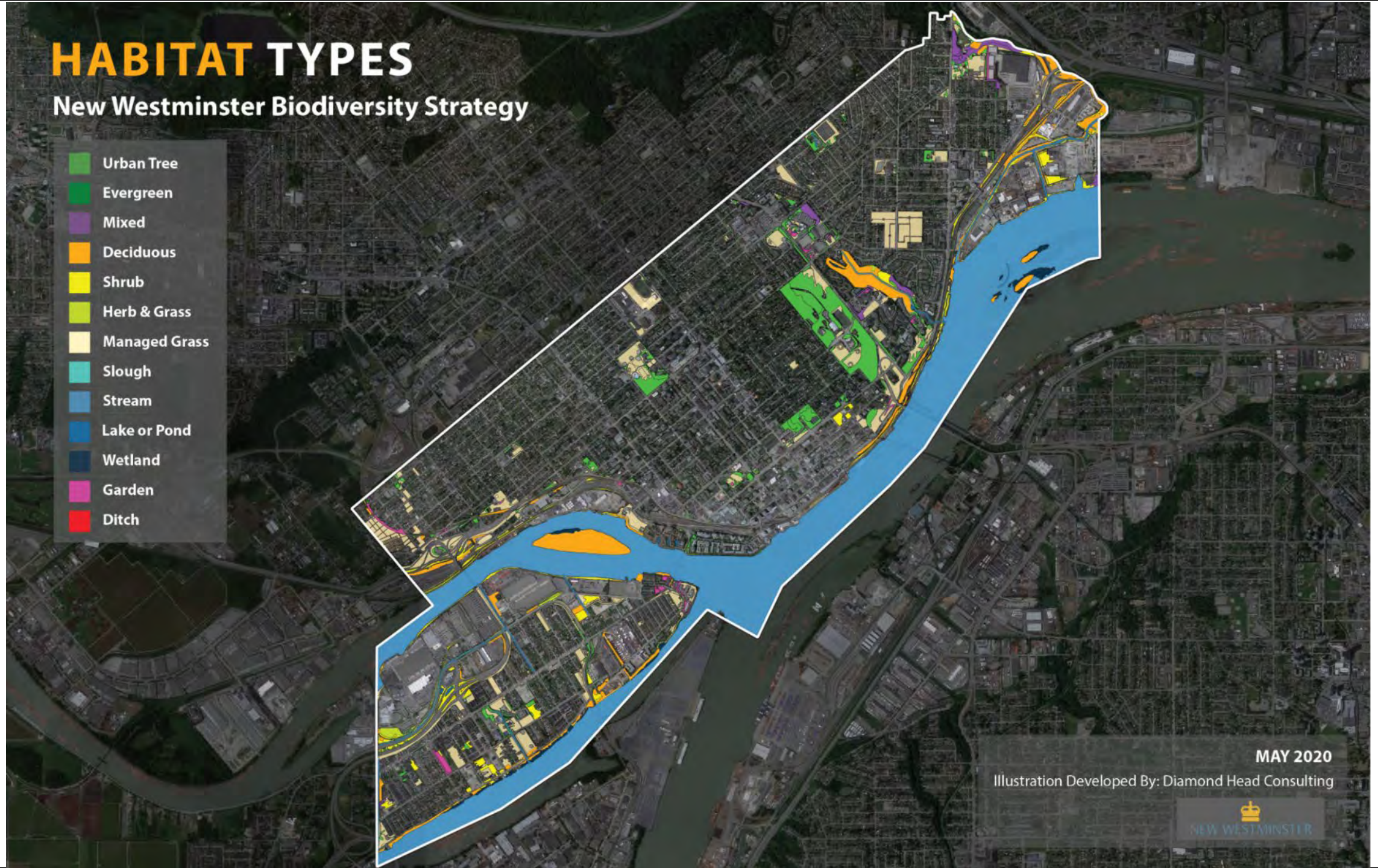
Habitat Mapping

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Ecological Inventory Update

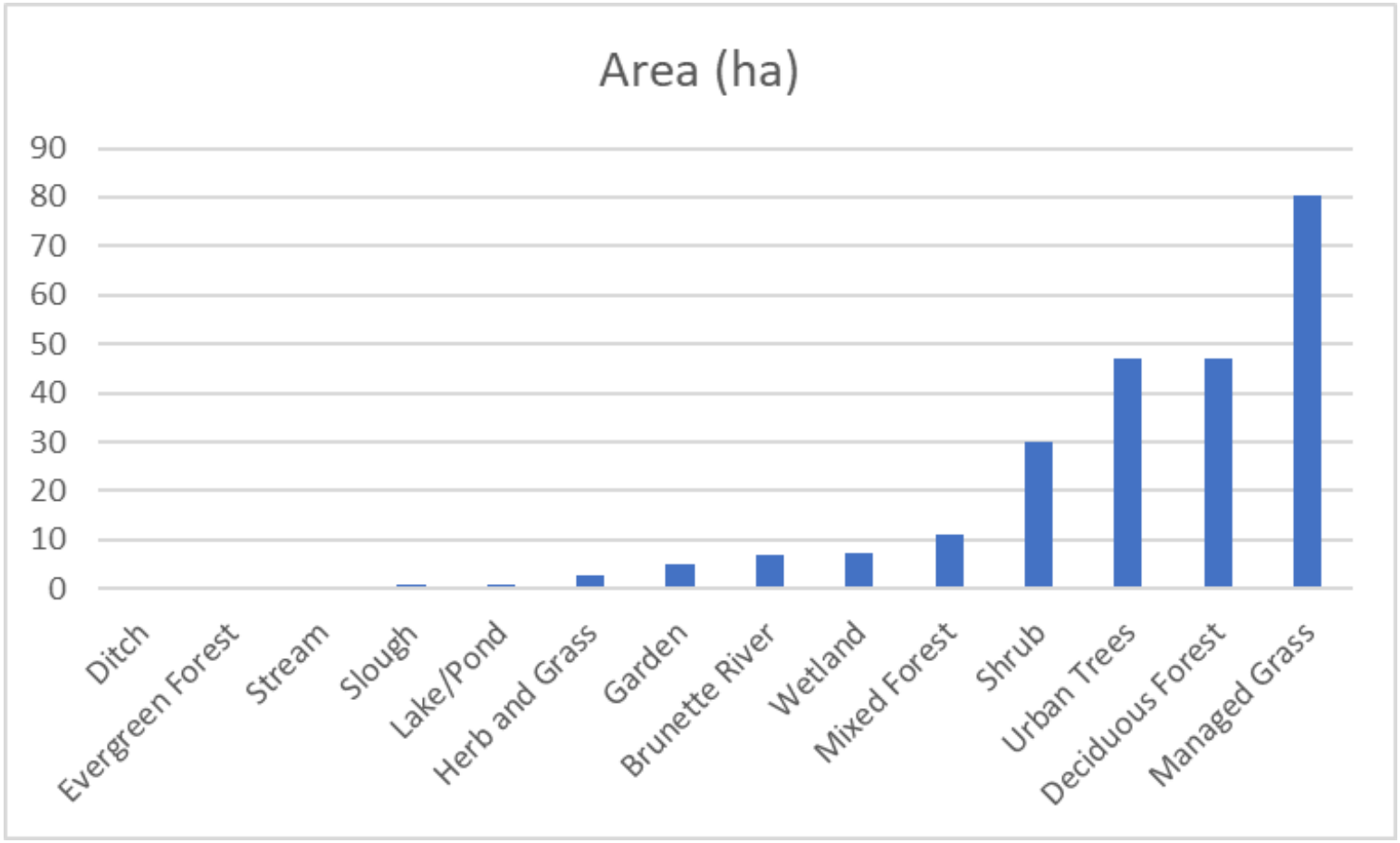
- Natural habitat
- Semi natural habitat




HABITAT TYPES
New Westminster Biodiversity Strategy
Urban Tree
Evergreen
Mixed
Deciduous
Shrub
Herb & Grass
Managed Grass
Slough
Stream
Lake or Pond
Wetland
Garden
Ditch
MAY 2020
Illustration Developed By: Diamond Head Consulting
NEW WESTMINSTER

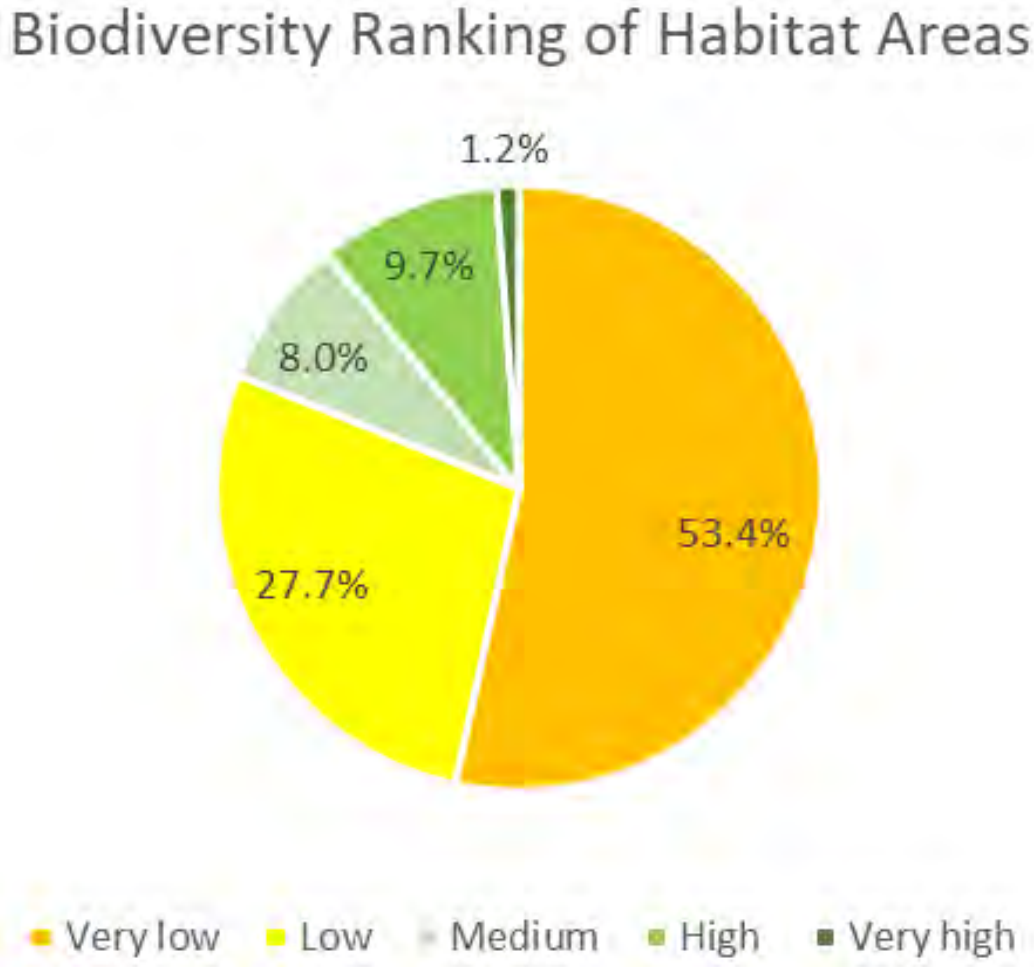
Habitat Mapping

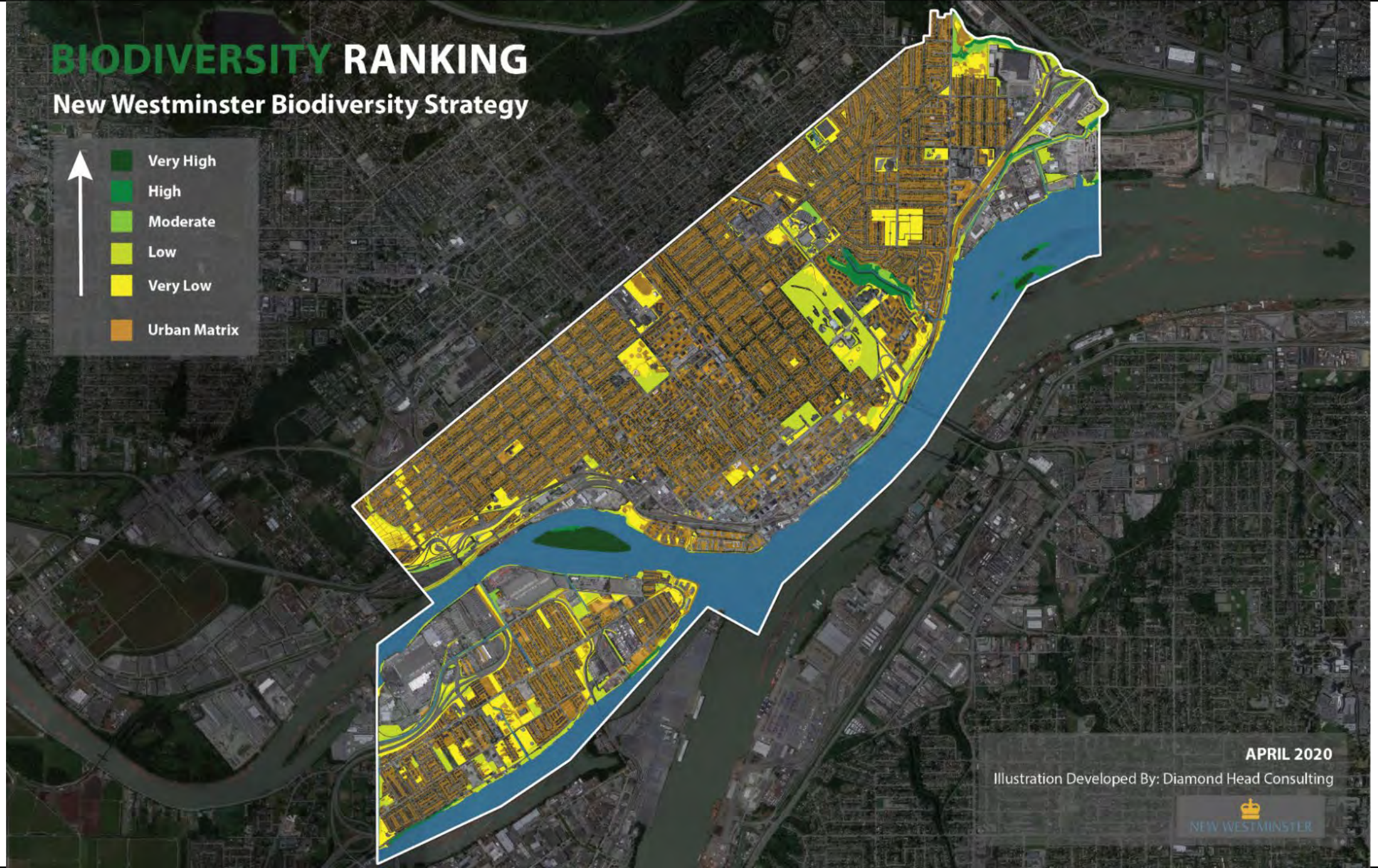
Habitats Type		Area (ha)
Natural Areas	Fraser River	782
	Deciduous forest	47
	Mixed (evergreen-deciduous) forest	11
	Wetland	7
	Brunette River	7
	Lake/pond	0.8
	Other Rivers/streams	0.1
	Evergreen forest	0.1
Semi Natural Areas	Managed grass	80
	Shrub	29
	Urban trees	46
	Garden	5
	Herbaceous cover and grass	2.8
	Sloughs	0.7
	Ditches	0.04



Biodiversity Ranking

Ranked based on the ability of each habitat area to support species




BIODIVERSITY RANKING
New Westminster Biodiversity Strategy
Very High
High
Moderate
Low
Very Low
Urban Matrix
APRIL 2020
Illustration Developed By: Diamond Head Consulting
NEW WESTMINSTER

PROTECT

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Protect the remaining habitat areas in the City

- Parks master plans
- Development permit areas/guidelines
- Adopt a no net loss of habitat in parks
- Designate wildlife refuge areas



AQUIRE

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Acquire new habitat areas

- Land acquisition
- Wider riparian setbacks
- Covenants/right of ways



CONNECT

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Connect habitat areas – The Green Infrastructure Network

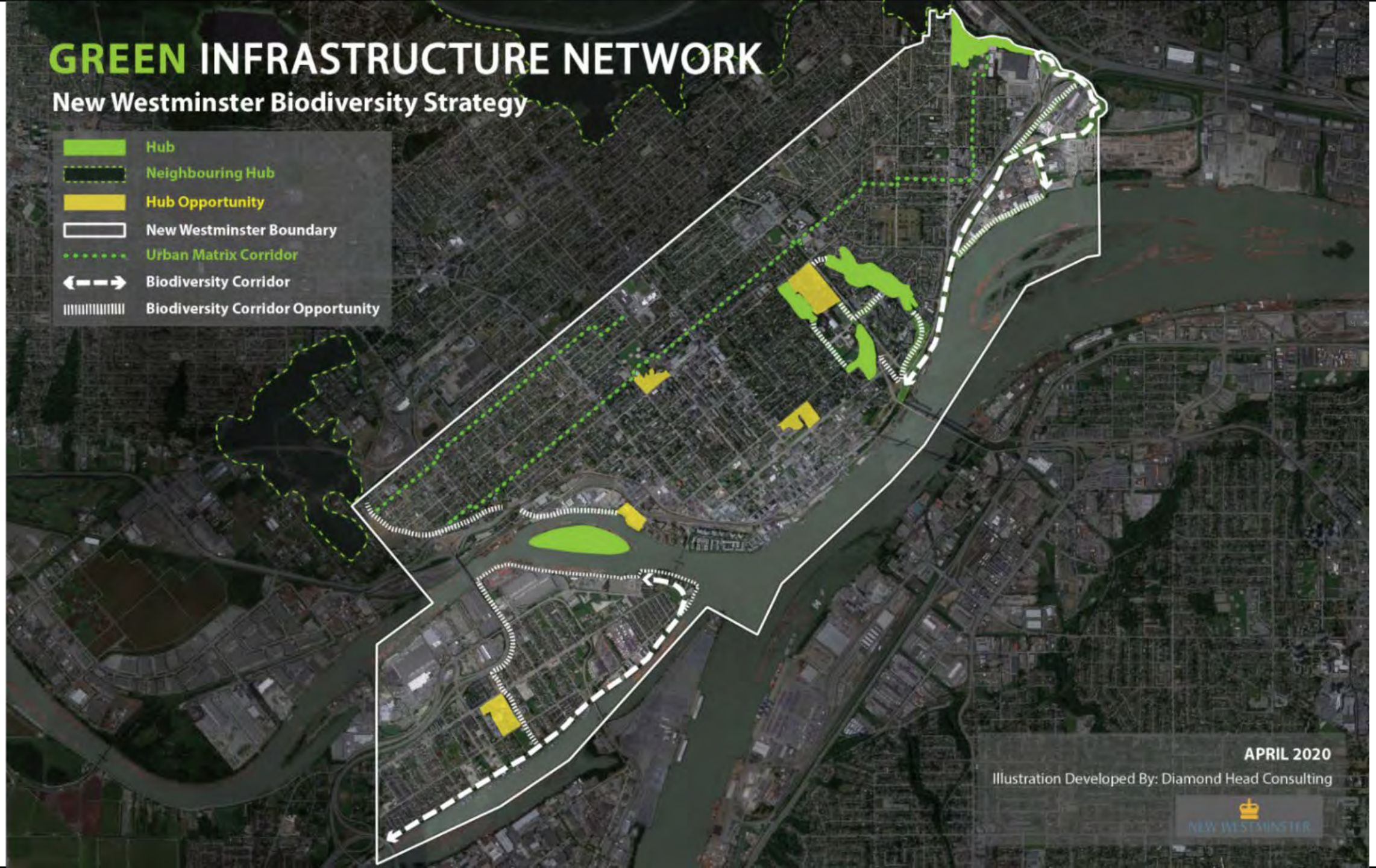
- A network of key habitat areas and corridors
- Helps to prioritise acquisition and restoration efforts
- Includes corridors for people, public and private lands.



Green Infrastructure Network






GREEN INFRASTRUCTURE NETWORK
New Westminster Biodiversity Strategy
Hub
Neighbouring Hub
Hub Opportunity
New Westminster Boundary
Urban Matrix Corridor
Biodiversity Corridor
Biodiversity Corridor Opportunity
APRIL 2020
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ENHANCE

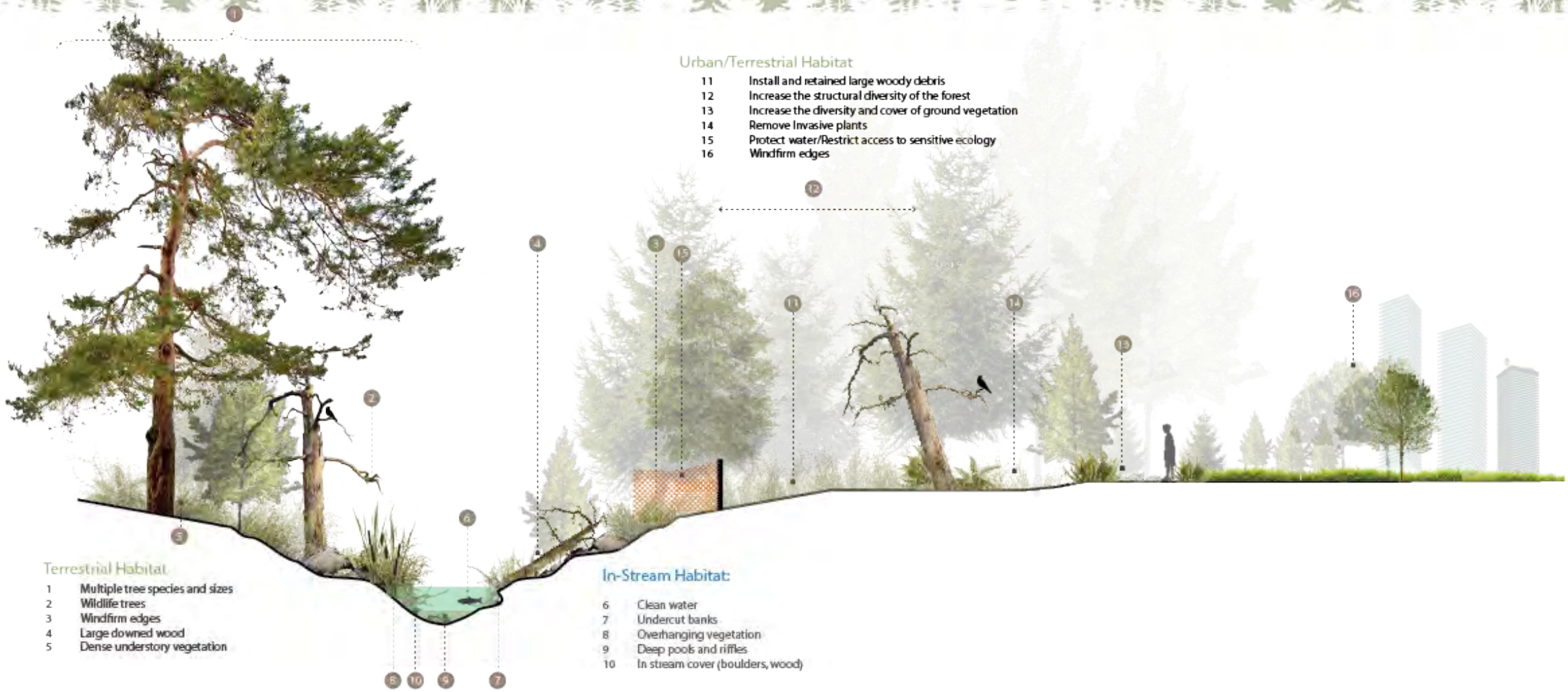
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Enhance the quality of habitat

- Natural Area Parks – “Wildlife Sanctuaries”
- The Fraser and Brunette Rivers – “Regional Aquatic Corridors”
- Urban Parks – “Shared Spaces for Residents and Wildlife”
- City Streets and Greenways – “Corridors for People and Wildlife”
- Residential Properties – “Backyard Biodiversity”
- High Density Development – “Innovation for Small Spaces”



Existing natural area parks



Existing natural area parks

- Planting trees and plants to improve species diversity
- Installing specific habitat features (nesting and roosting)
- Designating wildlife refuge areas
- Removing invasive plant species
- Protecting wildlife trees
- Add large woody debris
- Install water features



Private Residences

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Backyard

Biodiversity

Providing shelter

4 New trees
5 Indoorpets
6 Bat boxes
7 Stone piles
8 Pervious surface
11 Mason bee home
12 Wet depression
13 Woody cover
15 Bird nest boxes
17 Mature trees
18 Native plants

Providing food

2 Bird feeder
9 Pollinator plants

Providing water

10 Water feature
14 Dripper

Reduce impact

1 Minimize light pollution
3 Bird friend windows
16 Mulch



Private Residences

- Plant trees
- Native gardens
- Water features
- Pollinator gardens
- Bird friendly windows
- Managed lighting
- Mason bee homes
- Bat boxes
- Bird nesting boxes
- Controlled lighting



Greenways


Kissing crowns
30
Key
1 Pollinator plants
2 Bioswale
3 Diverse tree planting
4 Signage for Greenway Corridor
5 Native plants

Street Boulevards

Boulevard areas are an opportunity to create habitat and corridors within the City





Neighbourhood level Recommendations

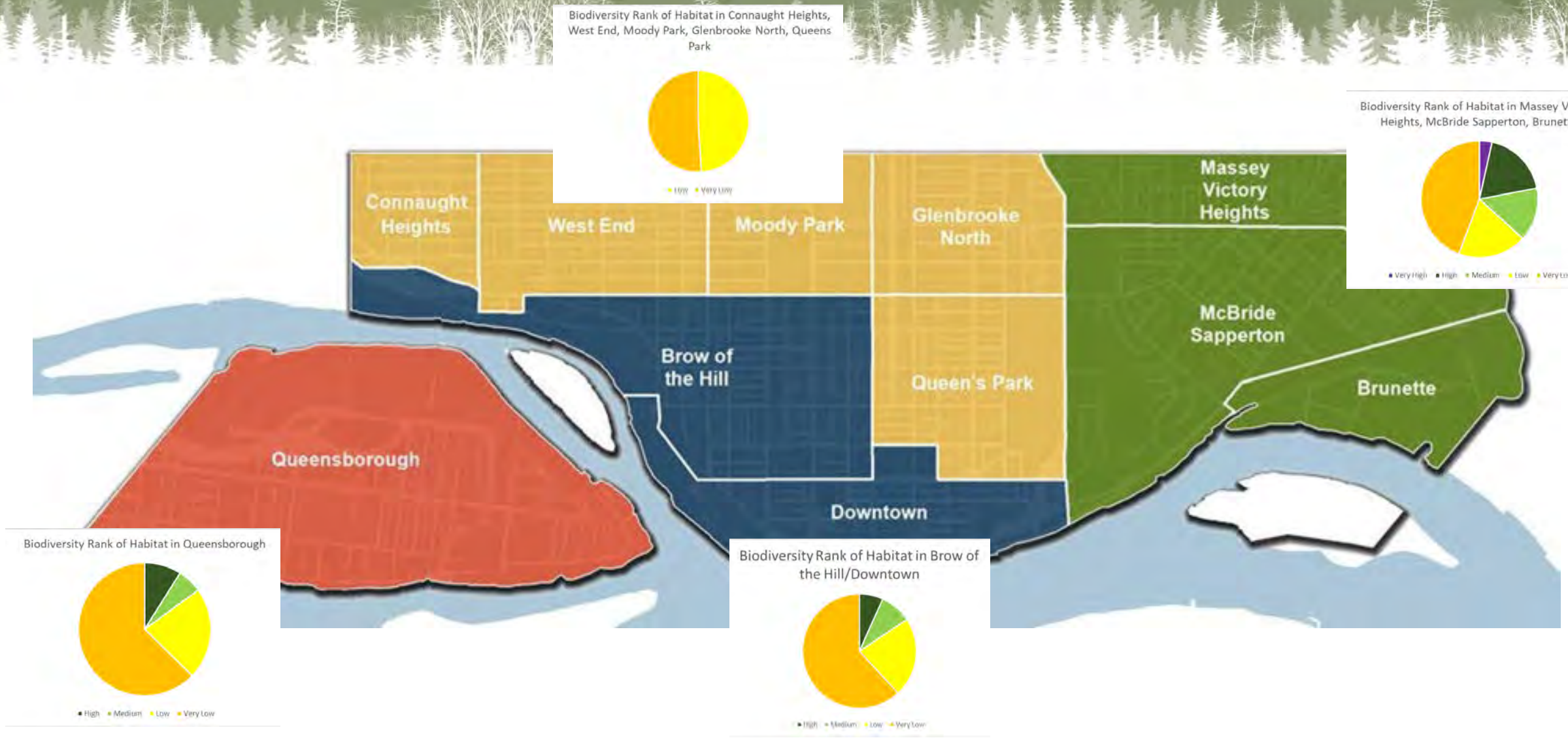
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Four areas of study - consistent with the Master Tree Planting Plan

1. Queensborough
2. Brow of the Hill, Downtown
3. Massey Victory Heights, McBride Sapperton, Brunette
4. Connaught Heights, West End, Moody Park, Glenbrooke North, Queens Park



Neighbourhood level Recommendations



Indicators and Monitoring

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Possible measurable indicators are being explored to track biodiversity and natural area health over time

- Tree canopy cover
- Cover of natural habitat areas
- Spread of invasive plant species
- Birds species from annual counts
- Presence of keystone indicator species
- Riparian condition of the Fraser and Brunette

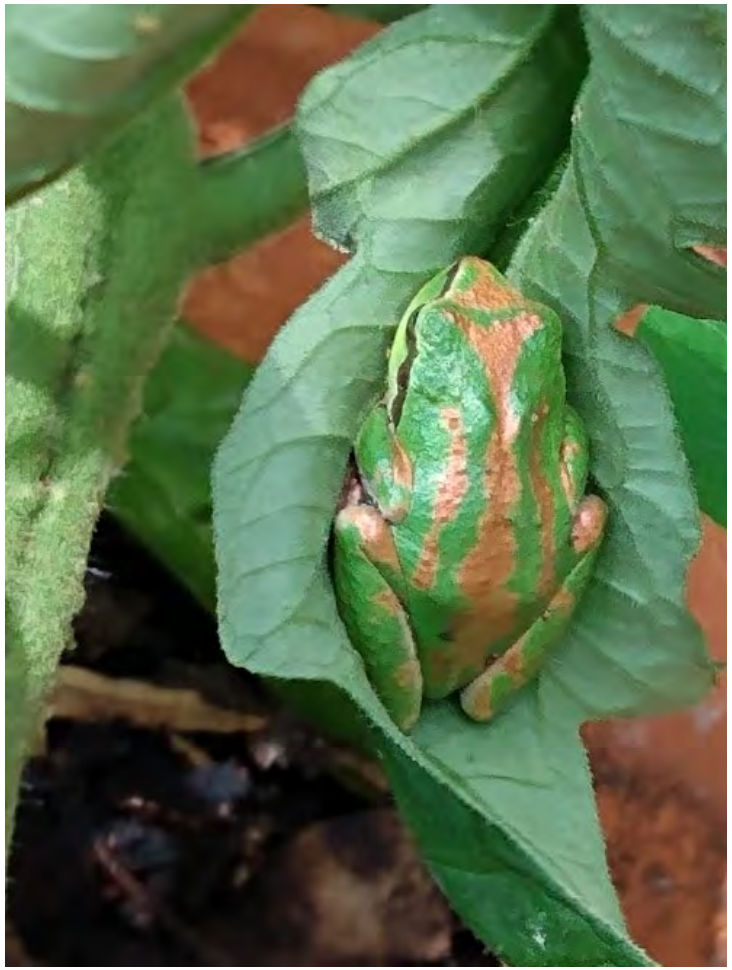


Questions and Discussion



Next Steps

- Website update (presentation will be posted)
- Interactive map (please visit and provide input)
- Compiling input and feedback
- Finalization of the strategy





Thank you!

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