



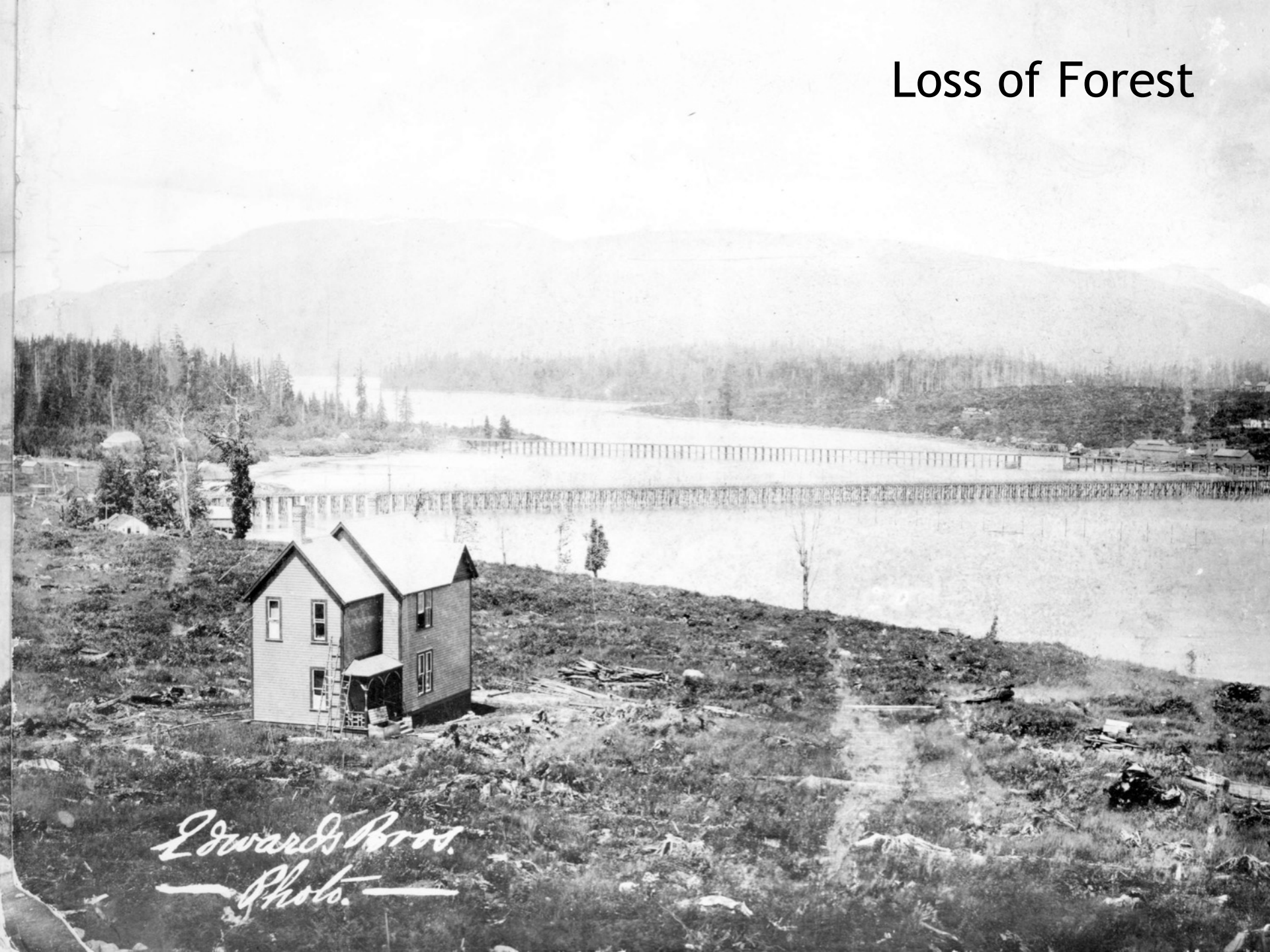
# Biodiversity in Vancouver:

Understanding Vancouver's Ecological Network



Nick Page, Vancouver Park Board  
September 2017

# Loss of Forest



*Edwards Bros.  
— Photo. —*

# Vancouver's Old Streams

1:20 000 scale

Legend

- Water
- Urban
- Green
- Other



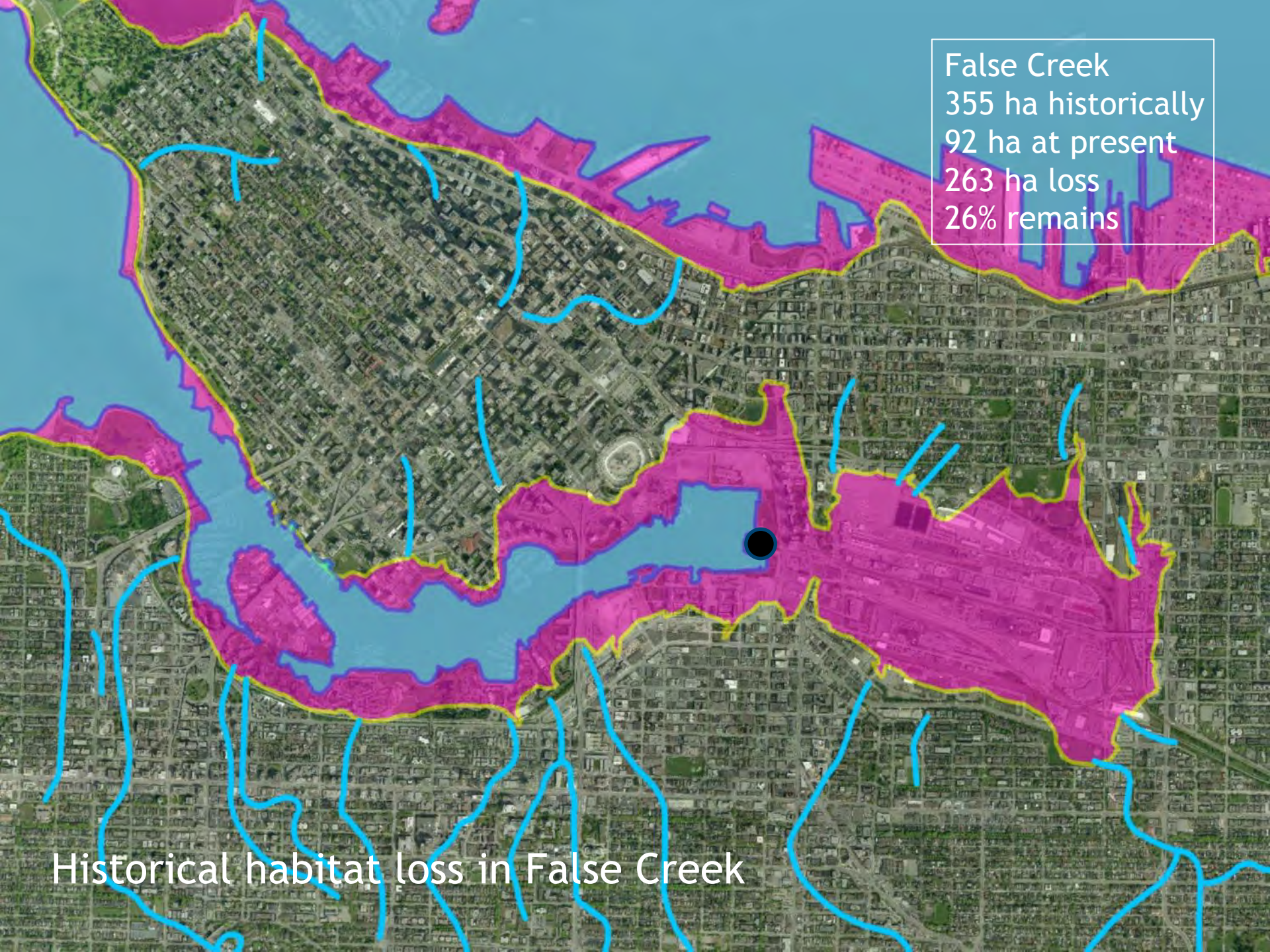
acknowledgements

City of Vancouver  
Vancouver Park Board  
Vancouver Board of Parks and Recreation  
Vancouver Heritage Foundation  
Vancouver Heritage Society  
Vancouver Heritage Trust  
Vancouver Heritage Society  
Vancouver Heritage Society



False Creek  
355 ha historically  
92 ha at present  
263 ha loss  
26% remains

Historical habitat loss in False Creek



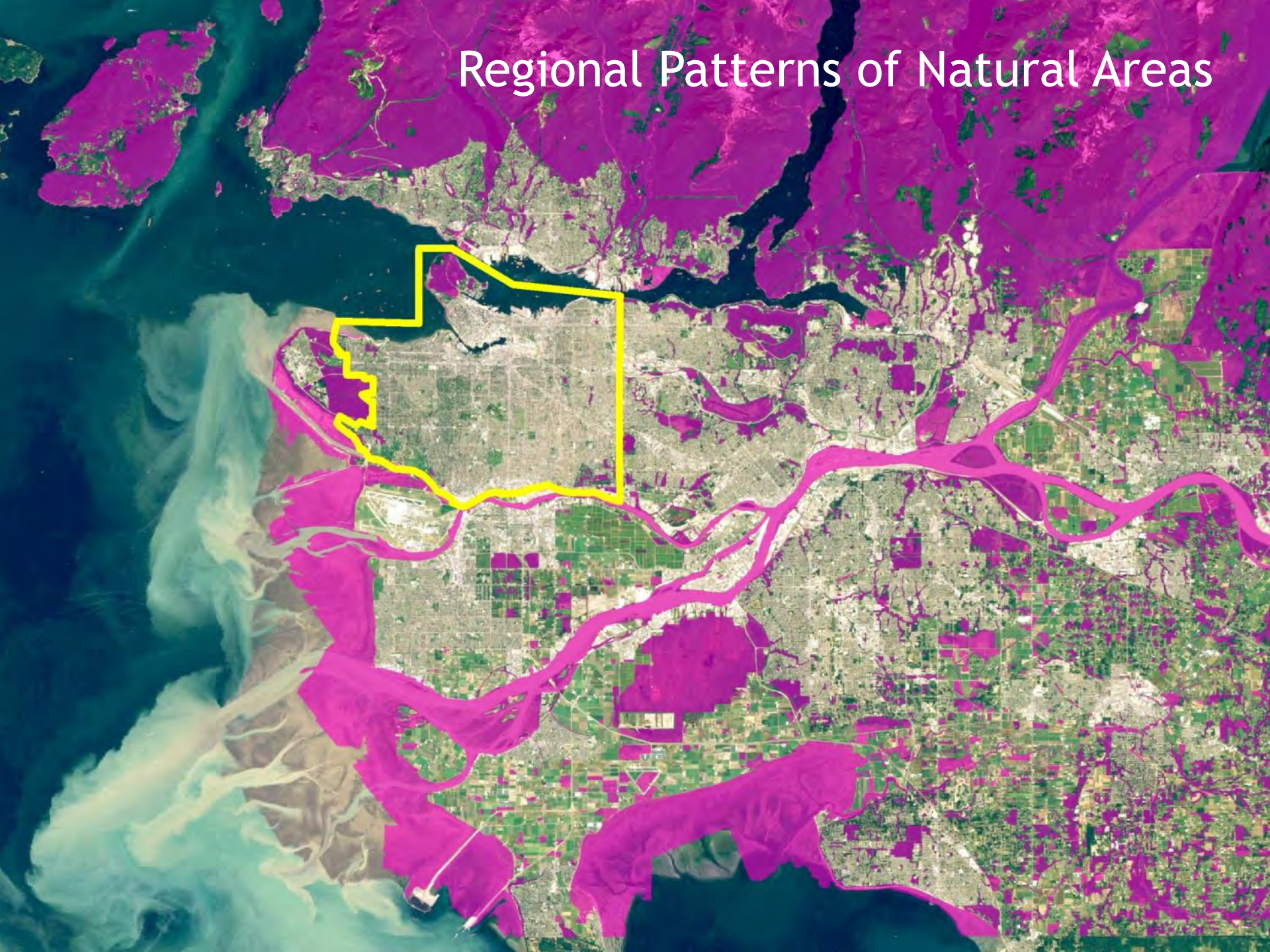


Loss of many wildlife species

The slain Cougar & his Hunters.  
shot in Stanley Park Oct 26<sup>th</sup> 11

# Mapping Vancouver's Ecological Network

# Regional Patterns of Natural Areas

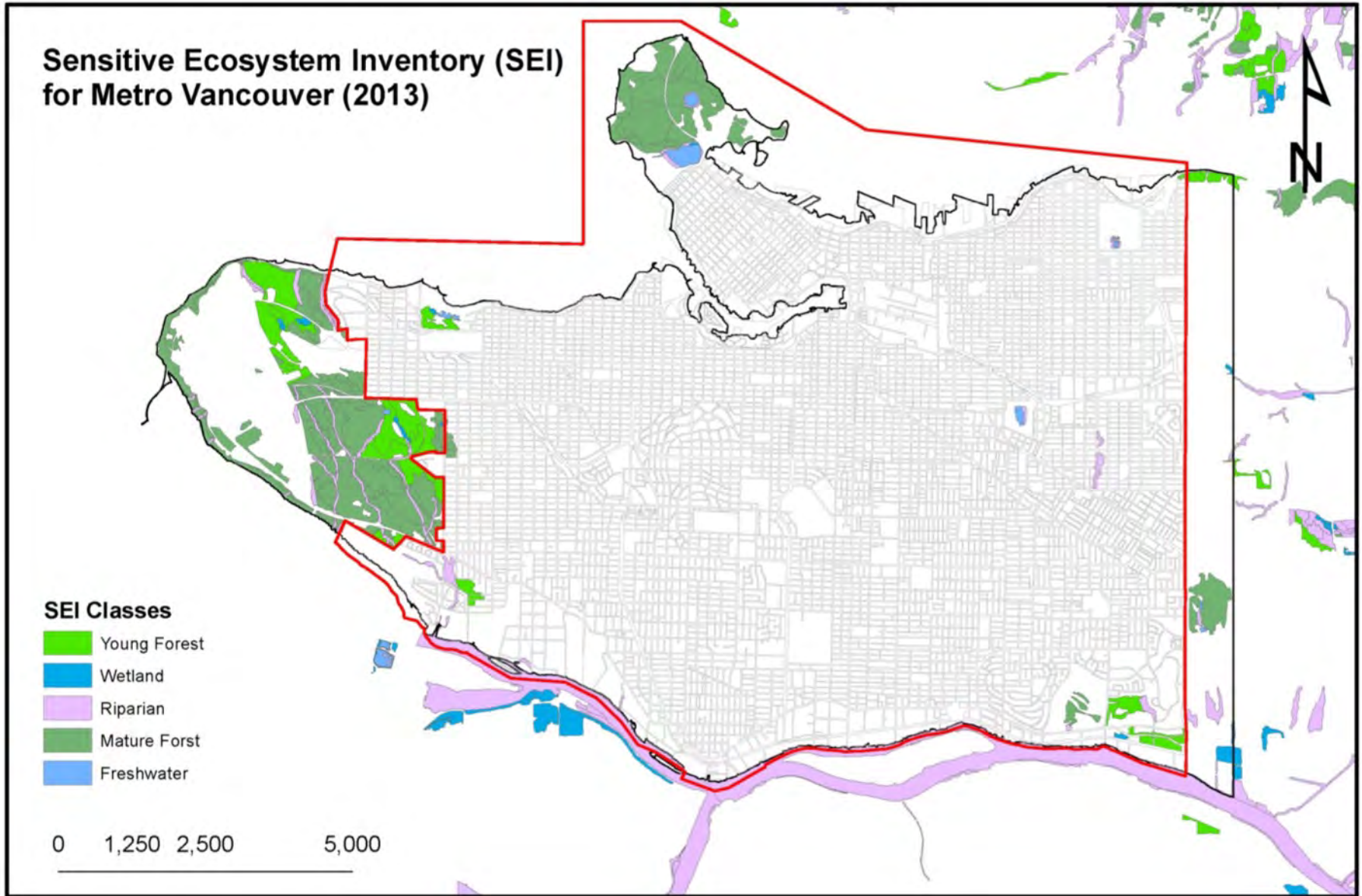


# Sensitive Ecosystem Inventory (SEI) for Metro Vancouver (2013)

## SEI Classes

- Young Forest
- Wetland
- Riparian
- Mature Forst
- Freshwater

0 1,250 2,500 5,000





# Vegetation in the City of Vancouver

## Vegetation Classes

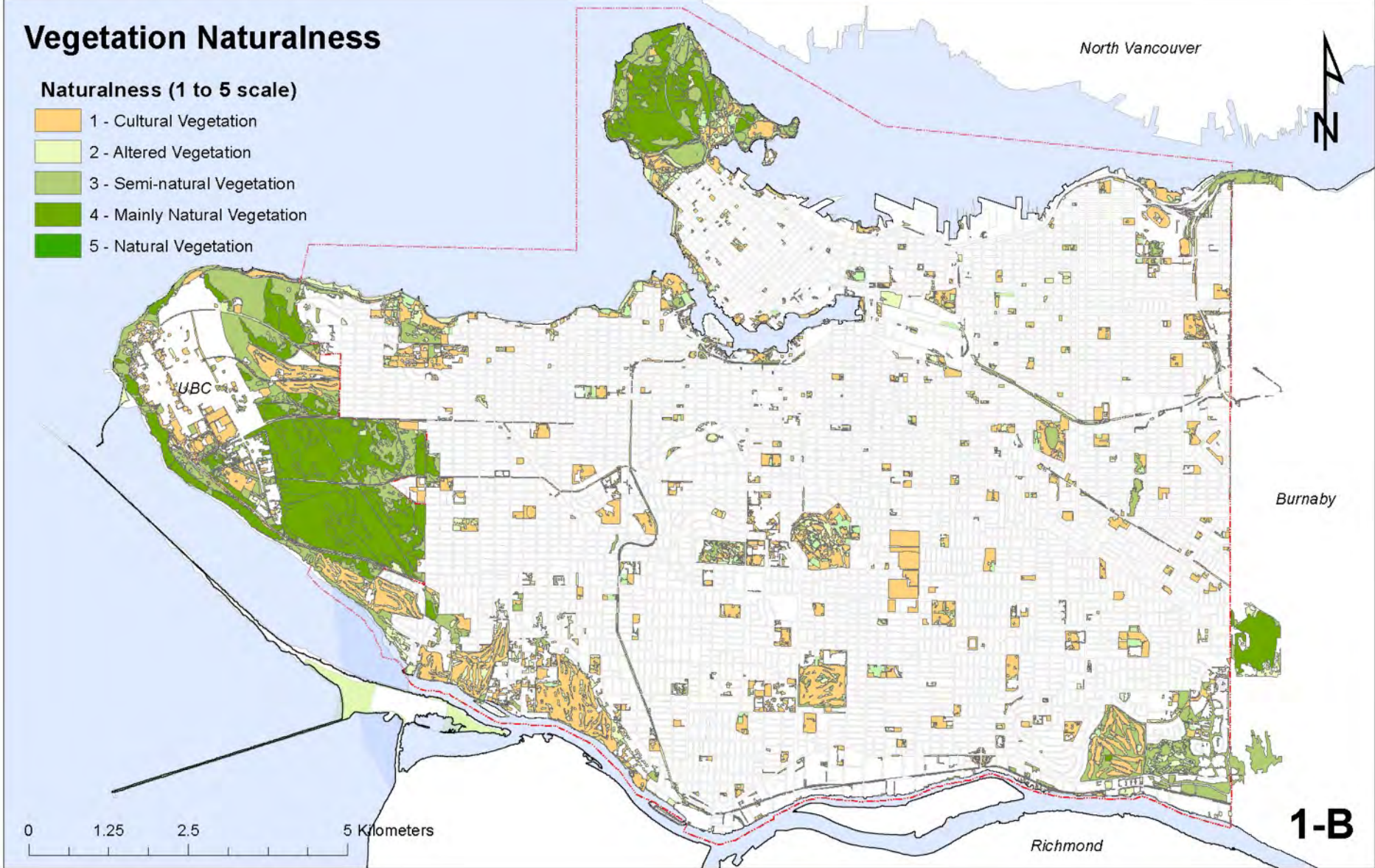
- Unvegetated Open Water
- Sparsely Vegetated
- Herbaceous (Grass)
- Shrubland
- Forest



# Vegetation Naturalness

Naturalness (1 to 5 scale)

- 1 - Cultural Vegetation
- 2 - Altered Vegetation
- 3 - Semi-natural Vegetation
- 4 - Mainly Natural Vegetation
- 5 - Natural Vegetation





Mainly natural (naturalness 4)



Altered vegetation (naturalness 2)

## Hubs

- Largest natural areas (>10 ha).
- Core of the Ecological Network.
- Capable of supporting entire and diverse populations of animals and plants and associated ecological functions.



## Sites

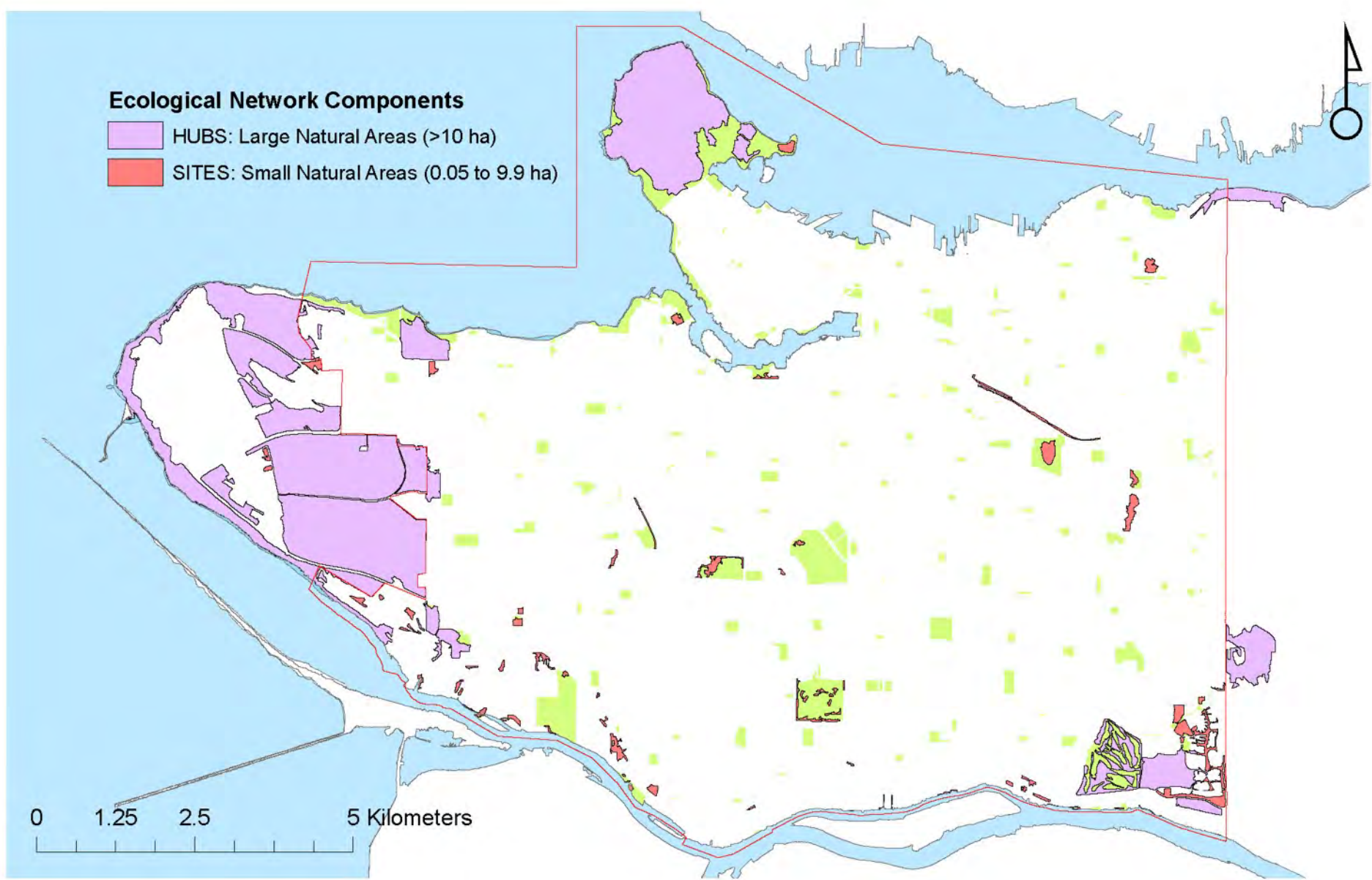
- Smaller (e.g., 0.25-10 ha) non-linear areas of natural ecosystems
- Support smaller or less diverse populations of animals and plants.

## Corridors & Connections

- Linear or non-linear zones of movement (dispersal)

### Ecological Network Components

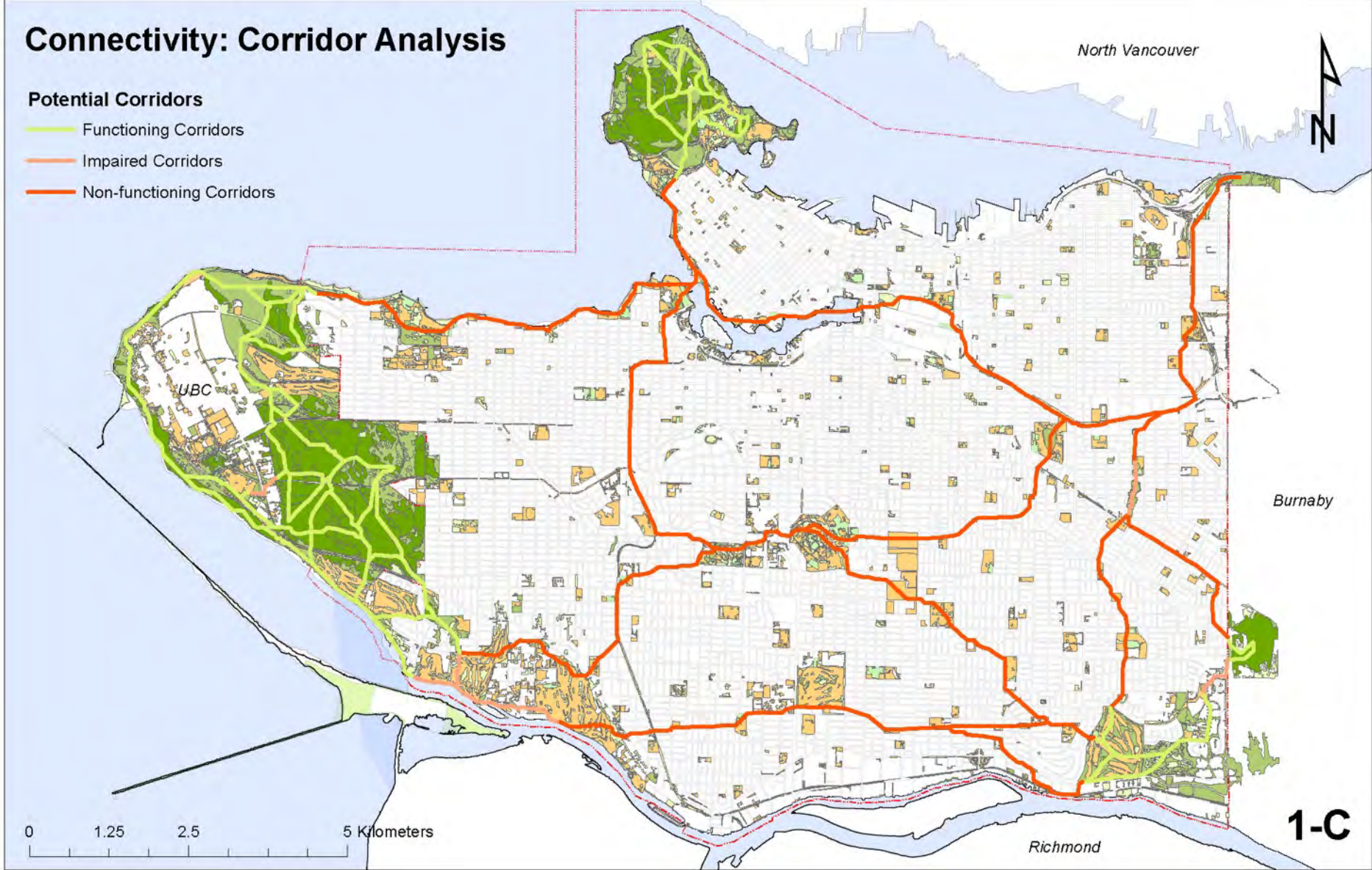
-  HUBS: Large Natural Areas (>10 ha)
-  SITES: Small Natural Areas (0.05 to 9.9 ha)



# Connectivity: Corridor Analysis


## Potential Corridors


- Functioning Corridors
- Impaired Corridors
- Non-functioning Corridors

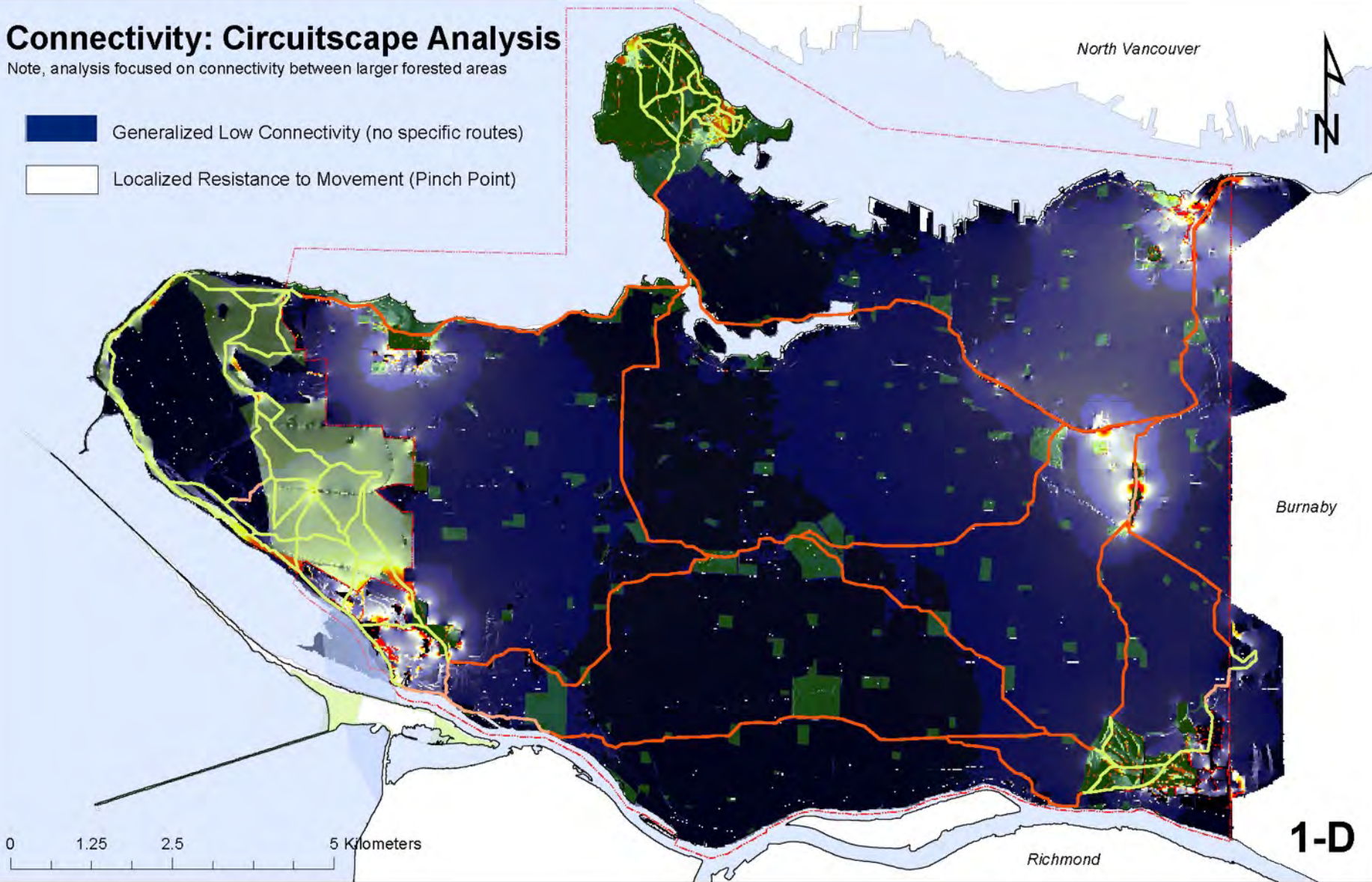


# Connectivity: Circuitscape Analysis

Note, analysis focused on connectivity between larger forested areas

 Generalized Low Connectivity (no specific routes)

 Localized Resistance to Movement (Pinch Point)

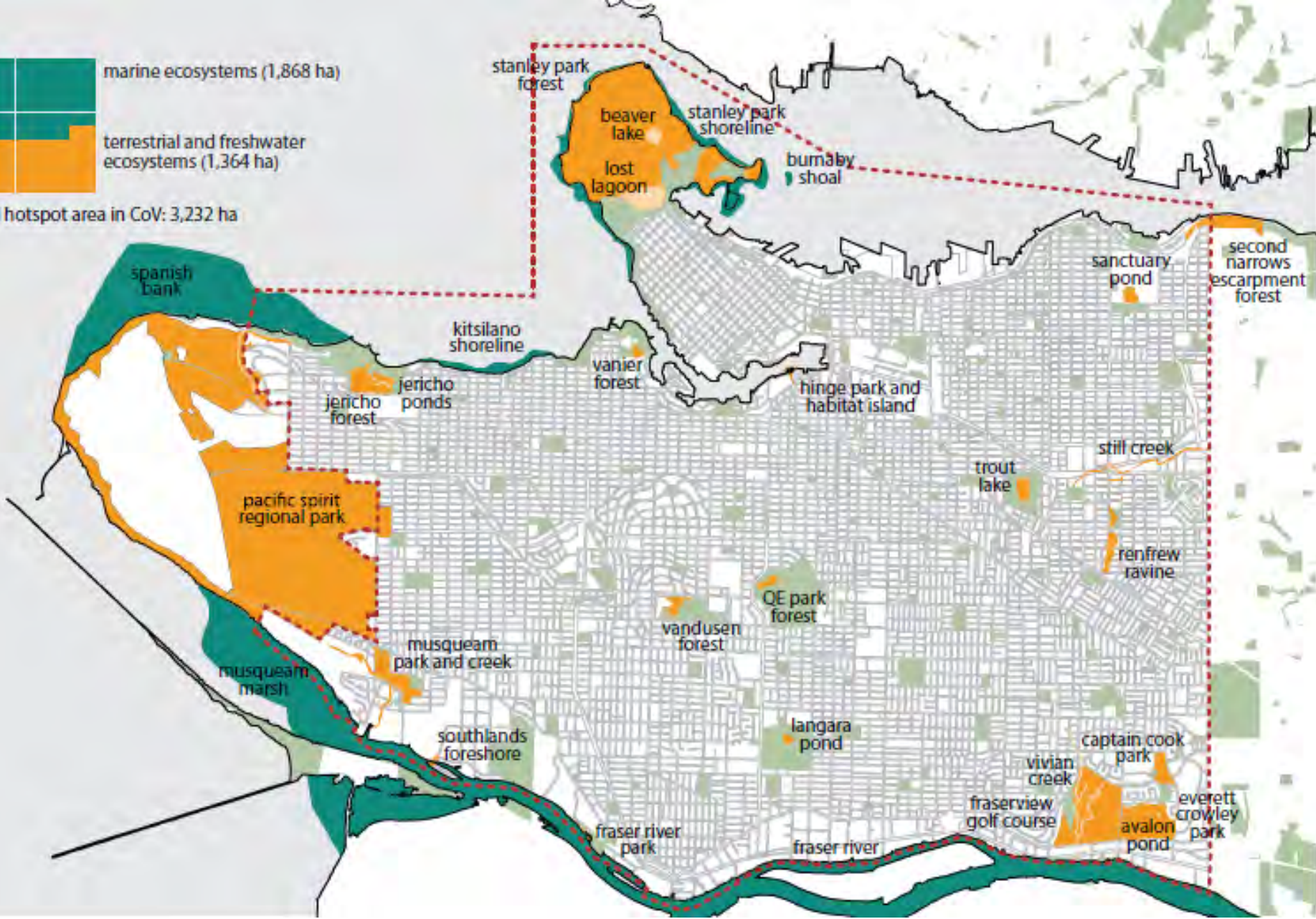




marine ecosystems (1,868 ha)

terrestrial and freshwater ecosystems (1,364 ha)

total hotspot area in CoV: 3,232 ha

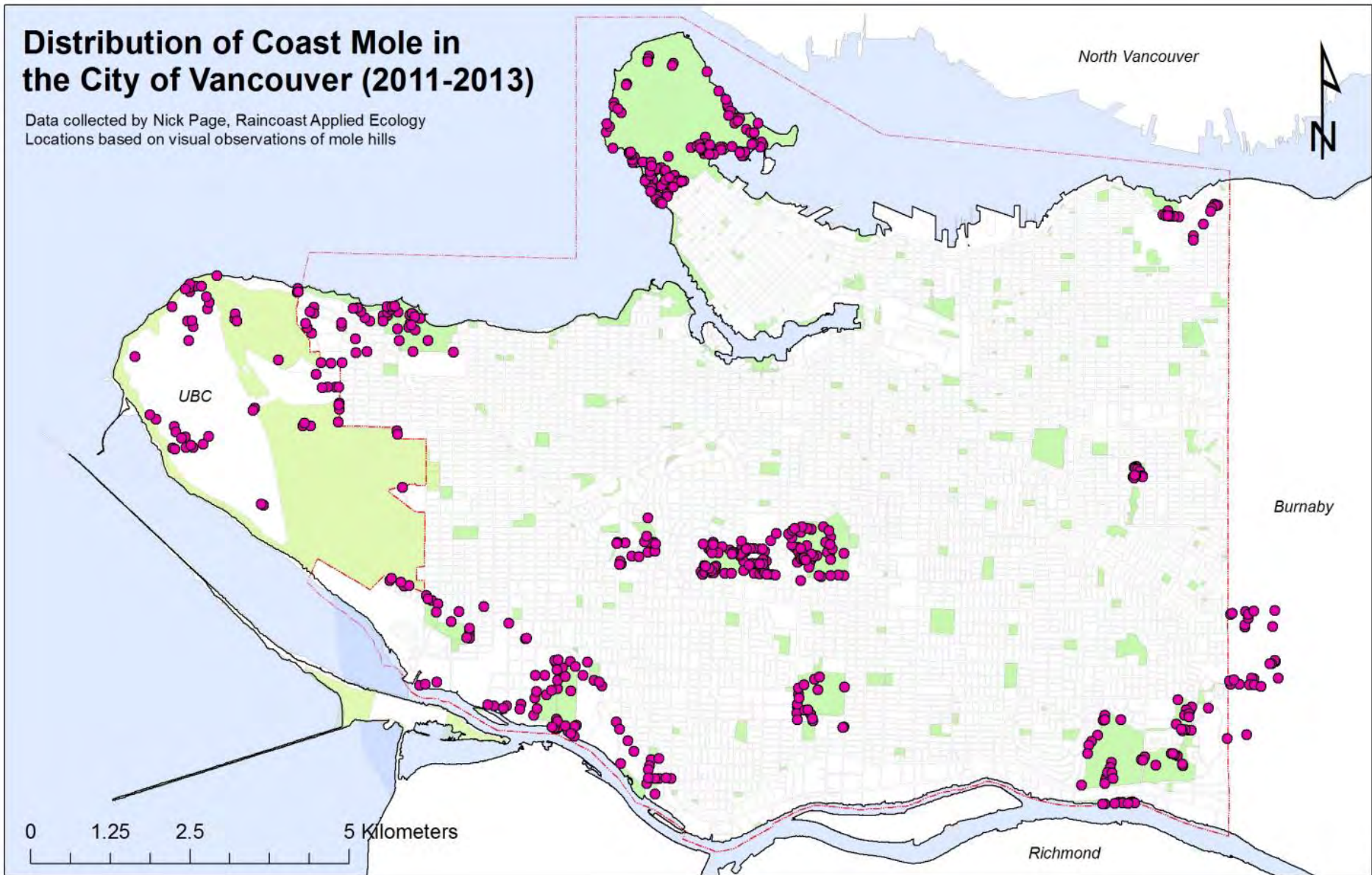


# Biodiversity Hotspots



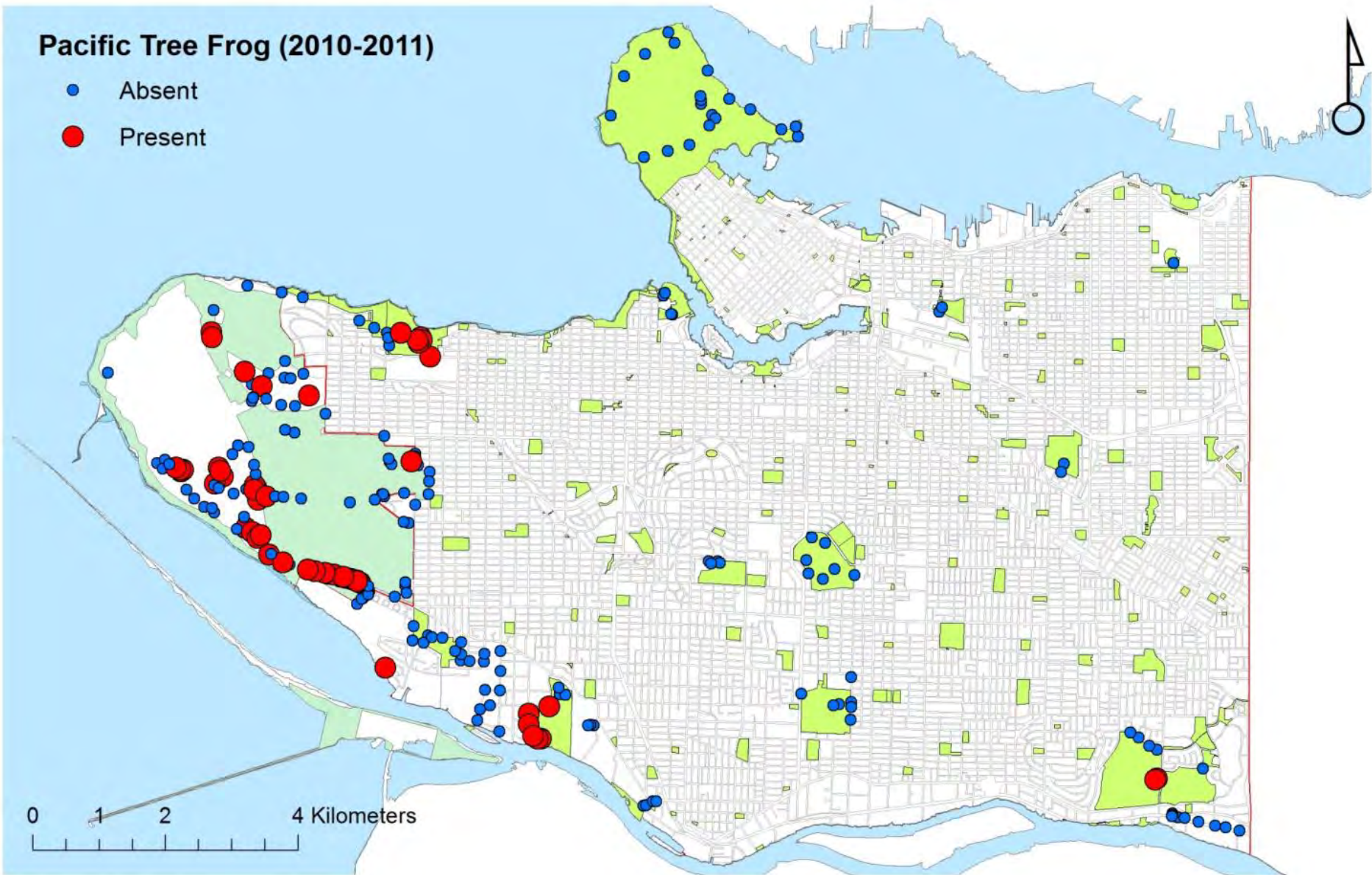
# Distribution of Coast Mole in the City of Vancouver (2011-2013)

Data collected by Nick Page, Raincoast Applied Ecology  
Locations based on visual observations of mole hills

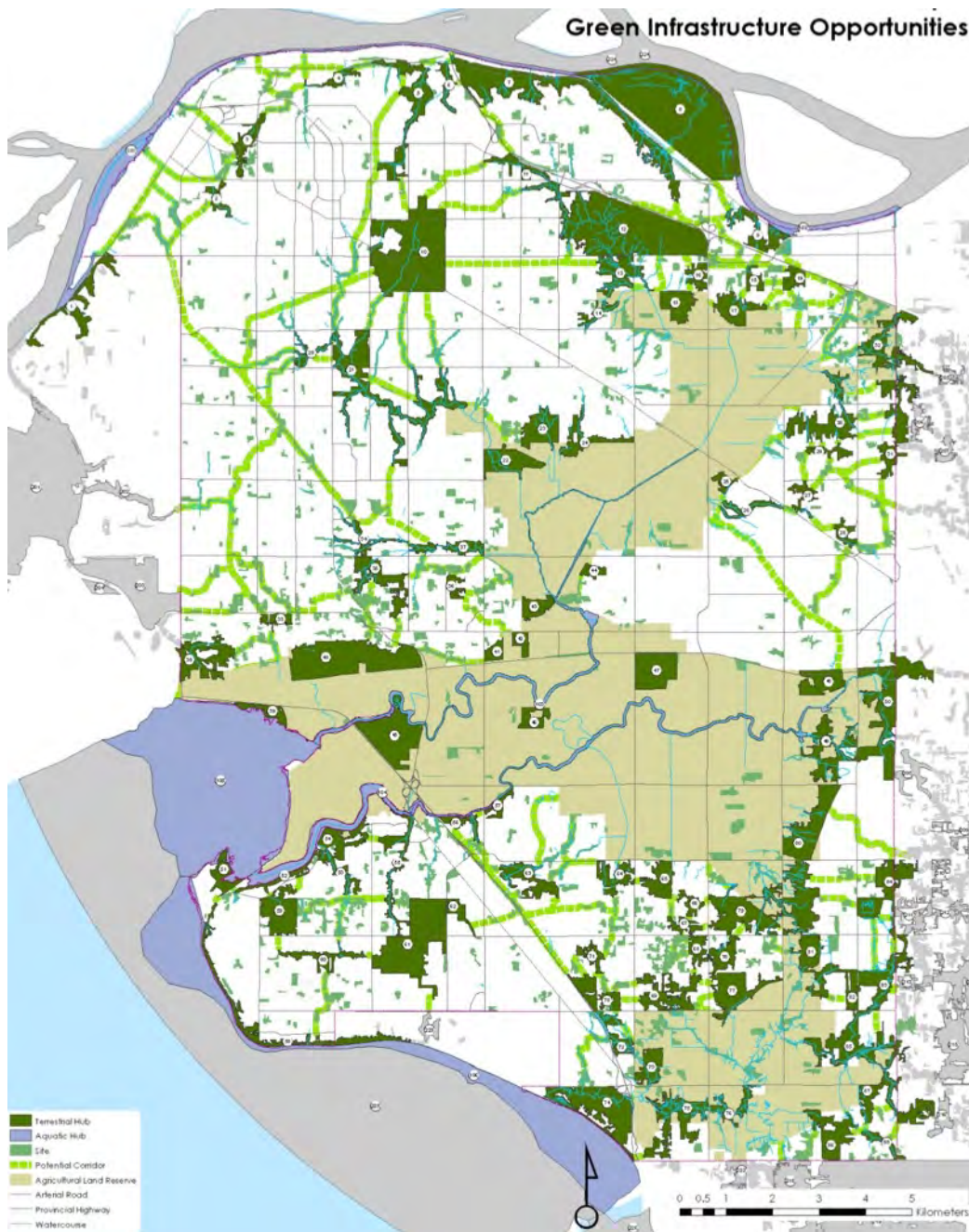


# Pacific Tree Frog (2010-2011)

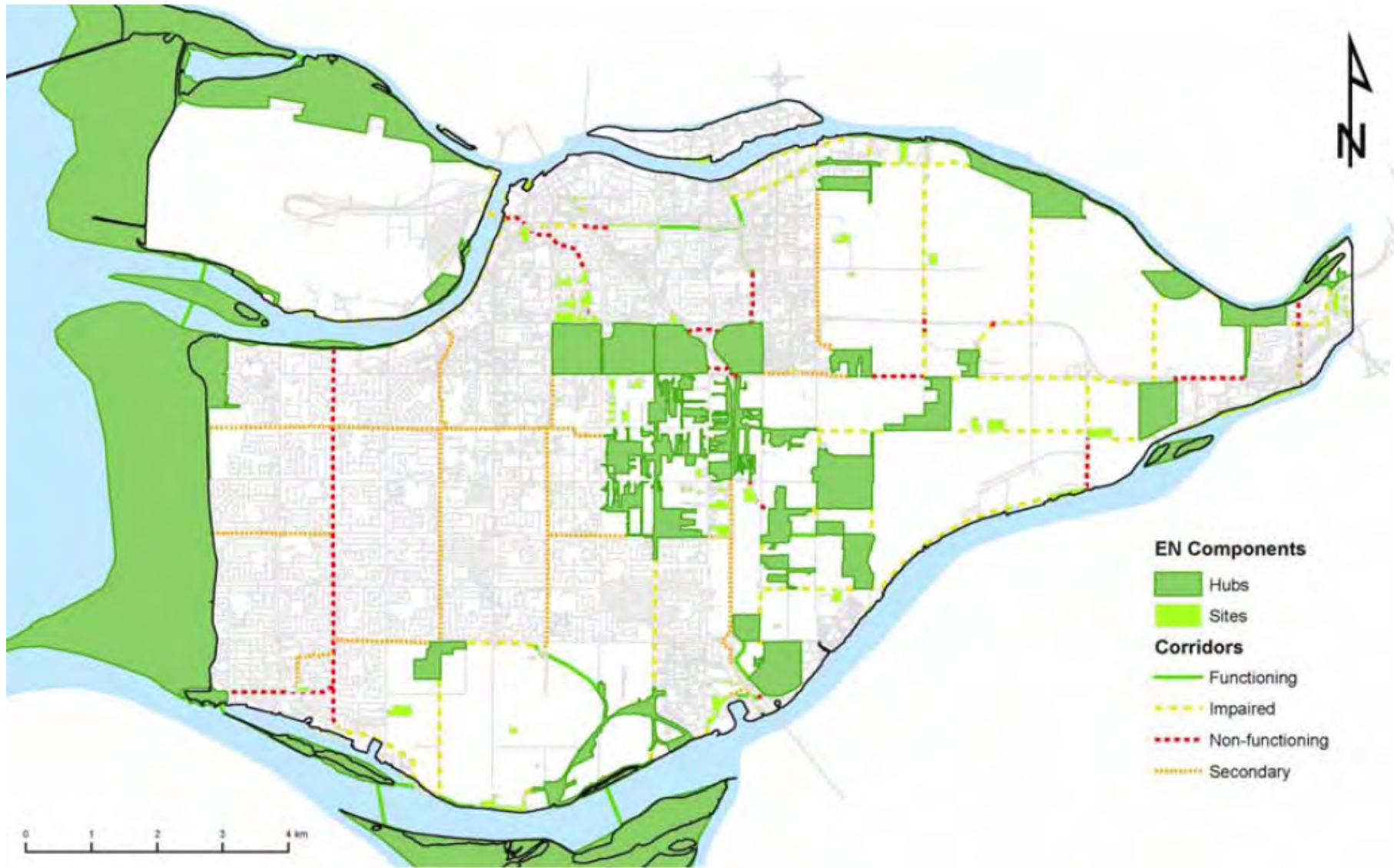
- Absent
- Present



# Green Infrastructure Opportunities



Community	Number of hubs <sup>2</sup>	Total hub area <sup>2</sup> (ha)
City Centre	0	0
Whalley	8	392.6
Fleetwood	5	104.0
Guildford	16	1217.6
Newton	16	561.1
Cloverdale	13	359.7
South Surrey	42	1908.6
<b>City of Surrey</b>	<b>88</b>	<b>4854.3</b>

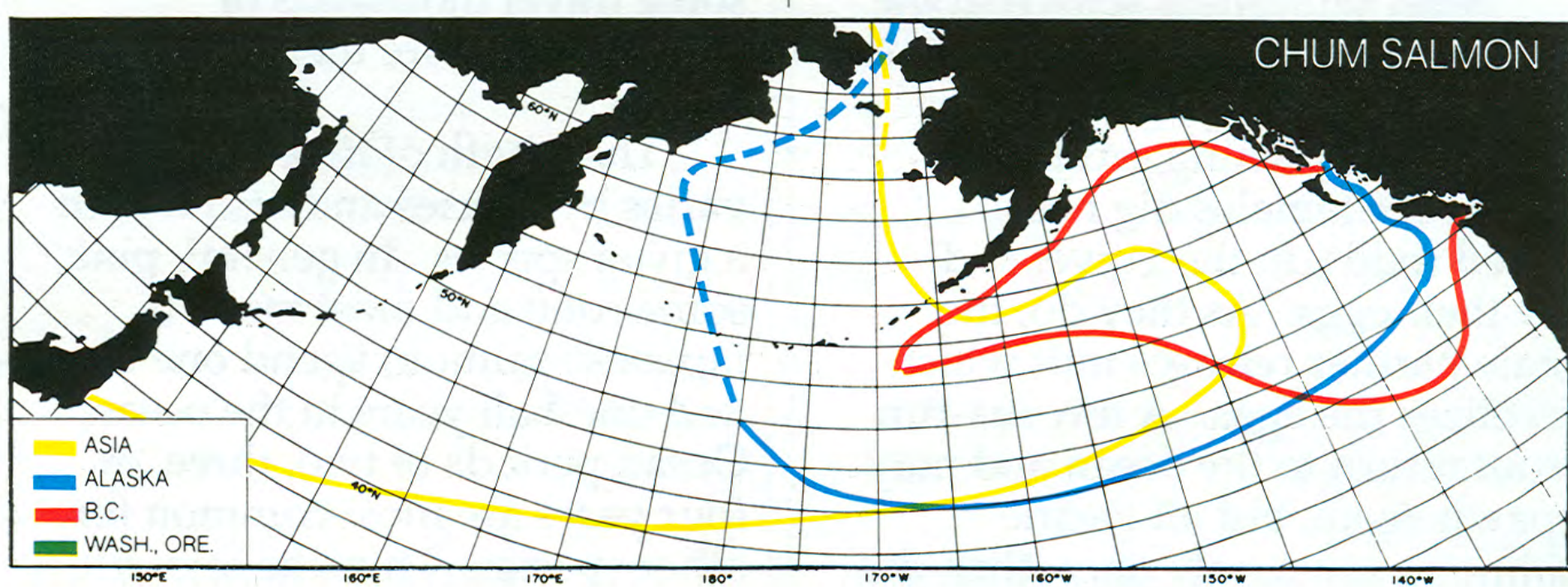


# Larger Patterns

Chum salmon spawning in Still Creek

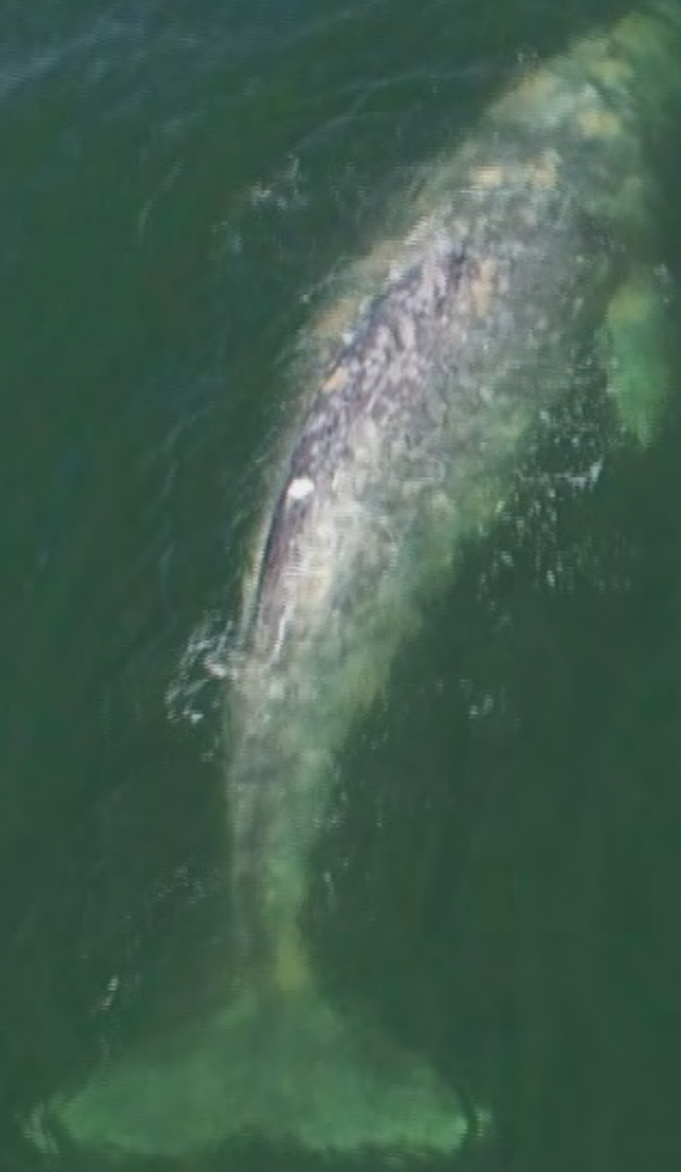


# CHUM SALMON



Still Creek Chum Salmon

# Grey whale in English Bay

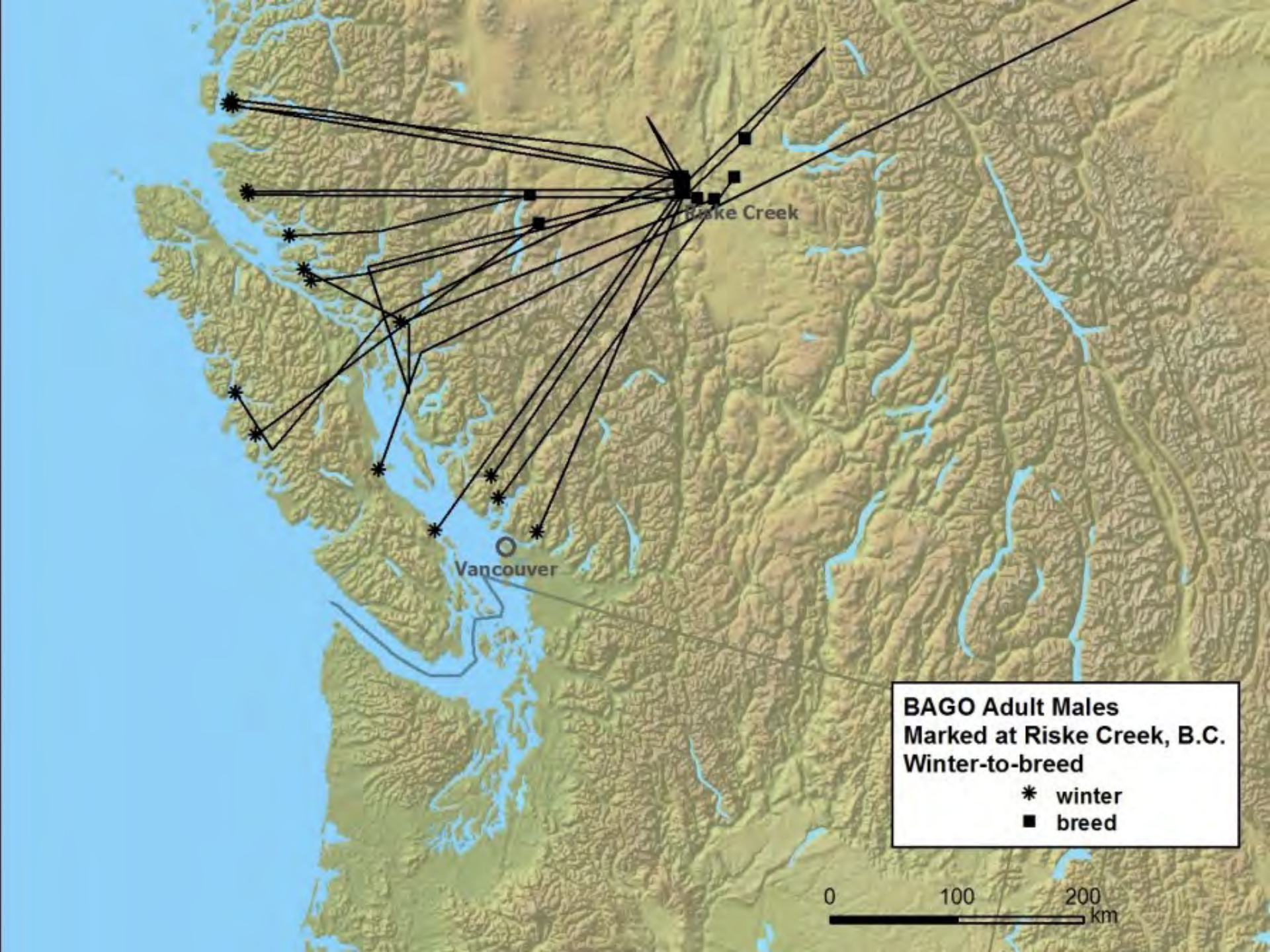






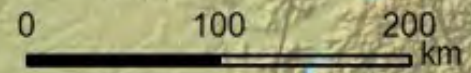
Overwintering seaducks in English Bay





**BAGO Adult Males  
Marked at Riske Creek, B.C.  
Winter-to-breed**

- \* winter
- breed



# Biodiversity Projects in the City of Vancouver



Habitat Island in False Creek

# Jericho Park Shoreline











Pollinator Projects

Supporting pollinators in parks





Community involvement in park stewardship



Rainwater management in Creekway Park



Beavers colonizing Hinge Park wetland

# Still Creek Restoration (Nootka St)



# Tatlow Creek Daylighting

*English Bay*



Bluff Protection

Shallow Stream Ravine

Riparian Corridor

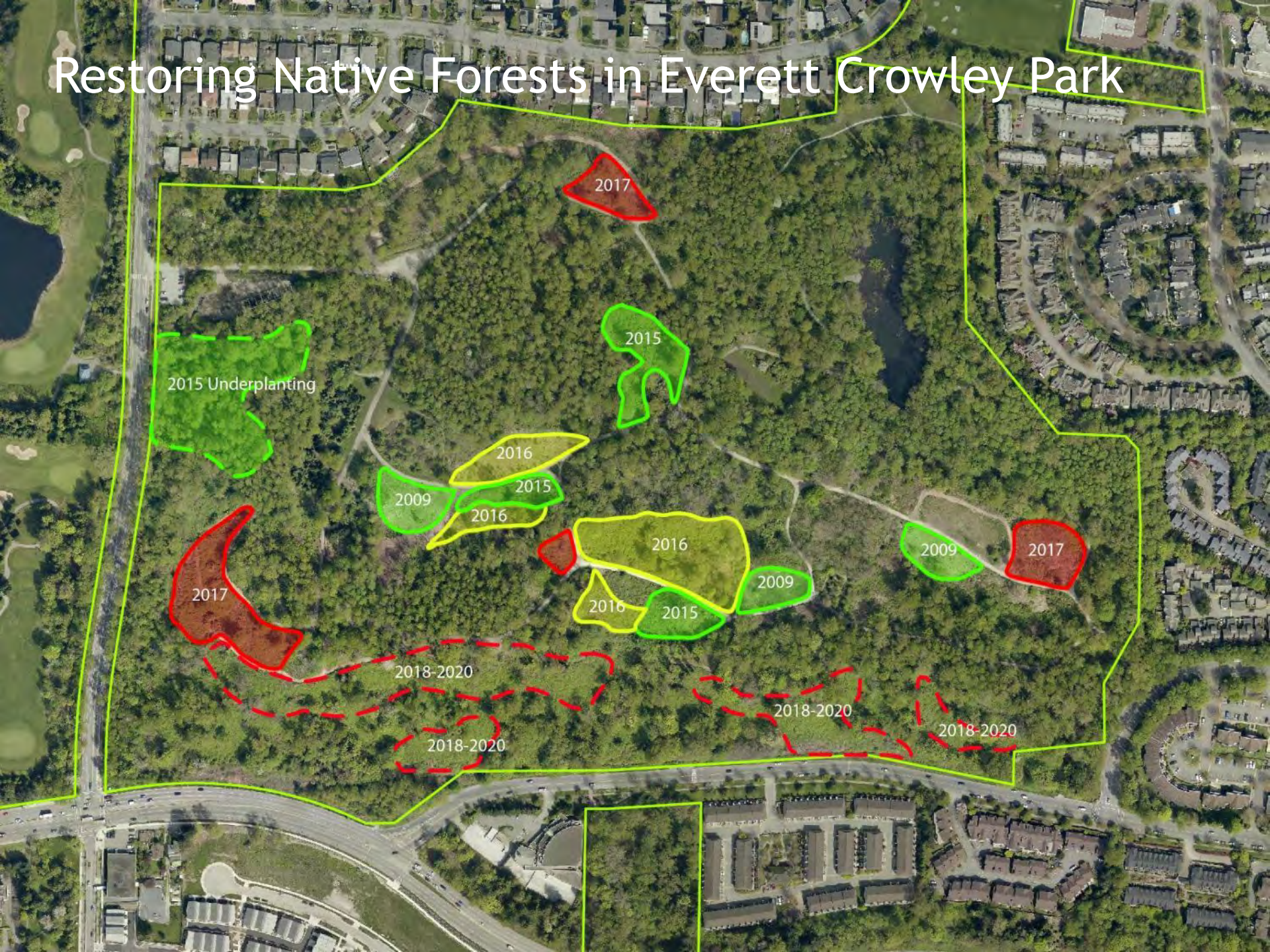
Wetland

# Building the Ecological Network





# Restoring Native Forests in Everett Crowley Park





Replanting native forests in Everett Crowley Park

# Ceperley Meadows Wetland



Deciduous Riparian Forest

Lost Lagoon

Wetland: marsh and pond

Second Beach

200 m

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