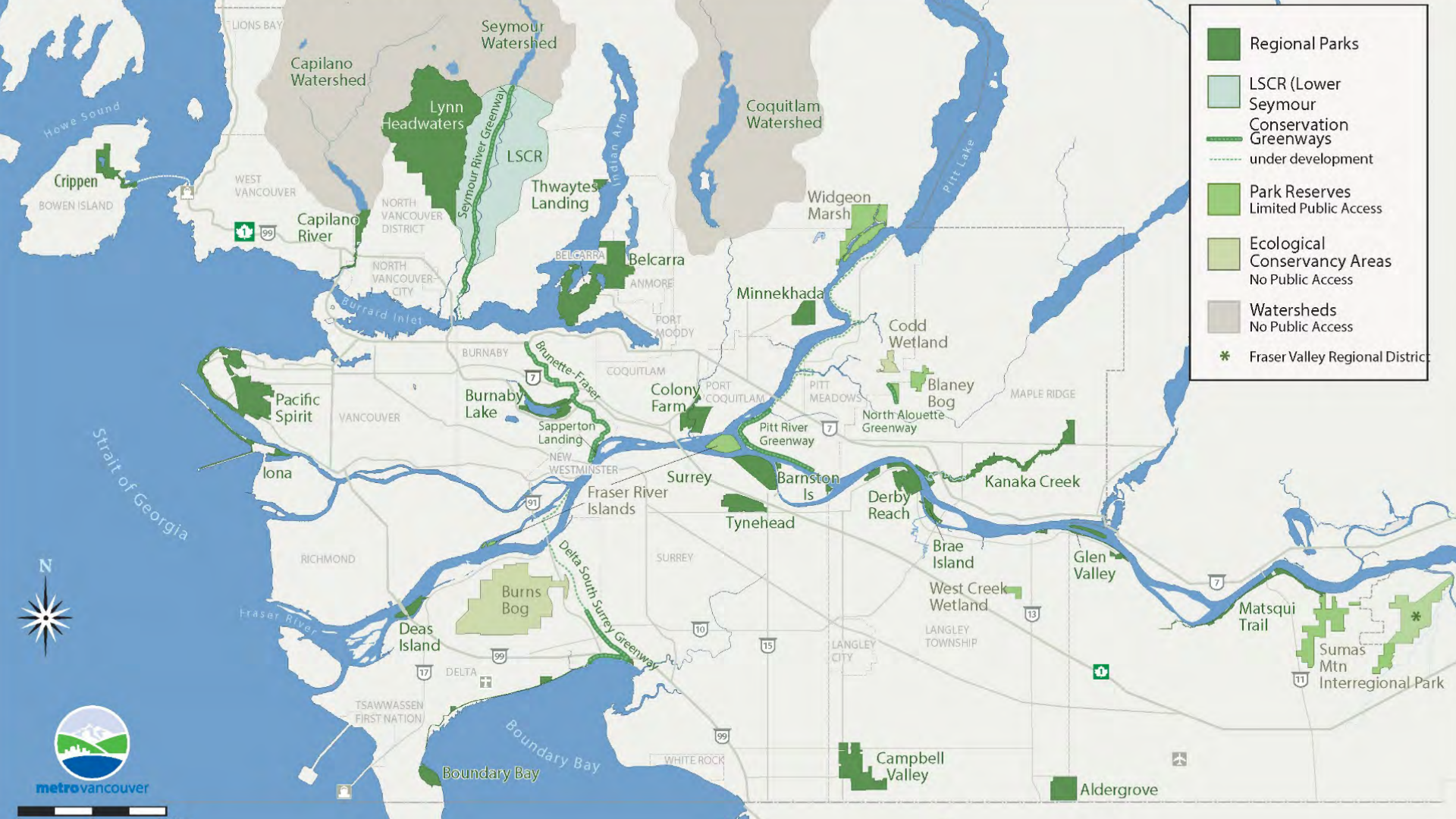


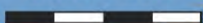


Landscapes of Metro Vancouver – *a connected network*

February 2019



- Regional Parks
- LSCR (Lower Seymour)
- Conservation Greenways
- under development
- Park Reserves Limited Public Access
- Ecological Conservancy Areas No Public Access
- Watersheds No Public Access
- * Fraser Valley Regional District



The map displays the following locations and features:

- Watersheds:** Capilano Watershed, Seymour Watershed, Coquitlam Watershed, Howe Sound, Burrard Inlet, and Boundary Bay.
- Greenways:** Seymour River Greenway, Pitt River Greenway, Brunette-Fraser Greenway, Delta South Surrey Greenway, and North Alouette Greenway.
- Parks and Reserves:** Lynn Headwaters, Pacific Spirit, Crippen, Burnaby Lake, Burnaby Bog, Burns Bog, Minnehada, Widgeon Marsh, Blaney Bog, Barnston Is, Tynehead, Derby Reach, Brae Island, West Creek Wetland, Matsqui Trail, Sumas Mtn Interregional Park, Aldergrove, and Campbell Valley.
- Other Features:** LSCR (Lower Seymour), Codd Wetland, Sapperton Landing, and various municipalities including Vancouver, Burnaby, Surrey, and Langley.

public space

connected green networks

ecosystem services

nature experience



Overview

1 – Regional Context: Flood Plain + Coast + River + Mountains

- Context
- Ecology + geography
- Iconic Landscape Elements
- Regional Growth + Development

2 – Parks of the Region – Role + Mandate + Characteristics + Connections

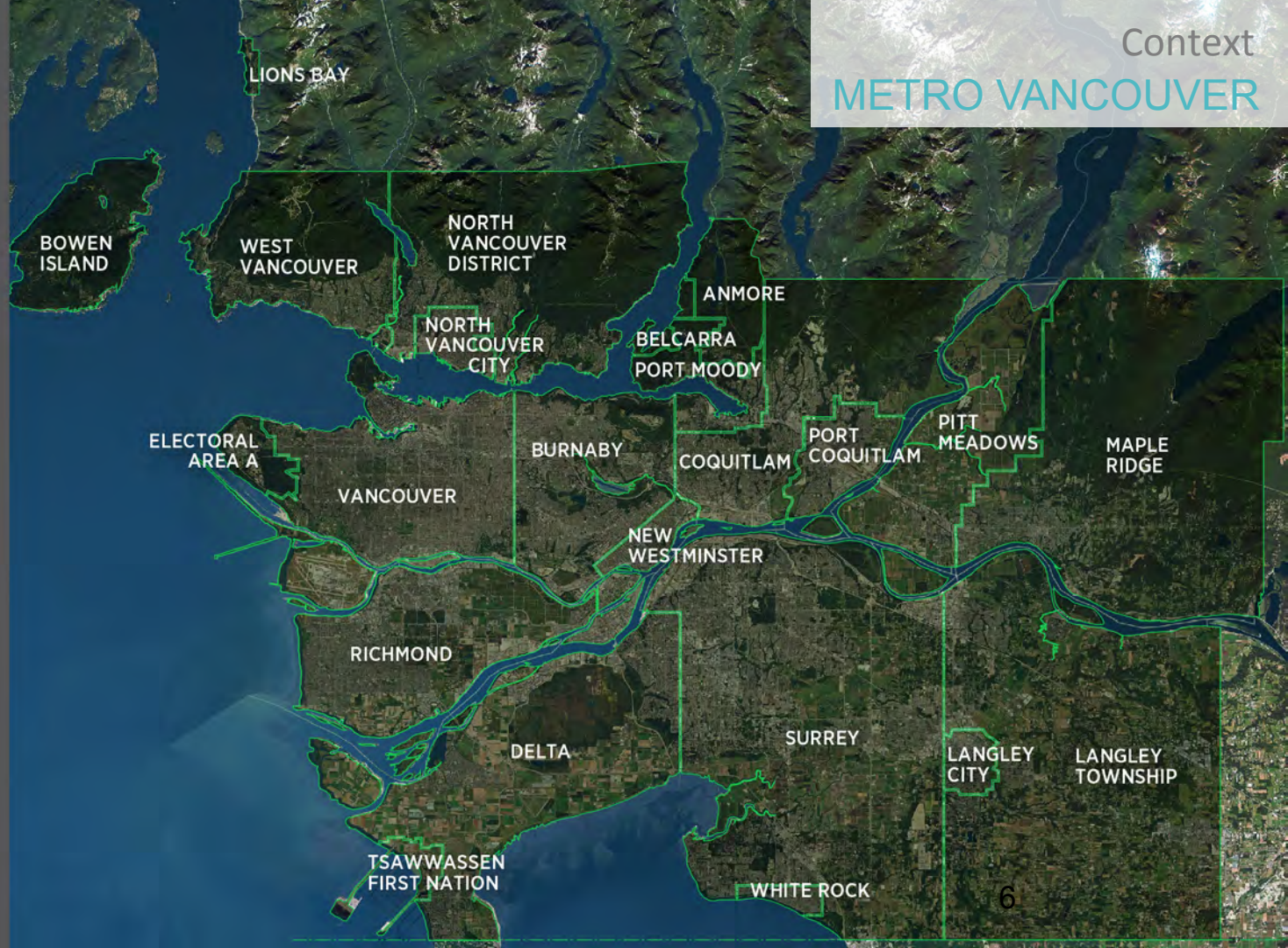
- Parks (*the hubs*)
- Greenways (*the links*)
- Why it matters
- Trends – responding to challenges

1- Regional Context:

Flood Plain + Coast + River + Mountains

Metro Vancouver

- A Federation of 23 municipalities, 1 First Nation
- 2877 square kilometers
- 2.4 million residents



Context
METRO VANCOUVER





Mountains / Hiking

Accessible wilderness

Large Parks

Beaches

Plazas / markets

Seawall (Greenways)

Parks

MOUNTAINS + OCEAN + RIVER + FLOODPLAIN



PACIFIC MARINE ECOZONE



- Canada's tallest trees, the
- Warmest, wettest part of Canada
- Long, deep fiords
- Rugged mountains
- Glaciers
- Incredibly productive forest
- River Deltas

PACIFIC MARINE ECOZONE



Cathedral Grove, Vancouver Island



Joffre Lakes Provincial Park

PACIFIC MARINE ECOZONE

VEGETATION

- Western Red Cedar
- Yellow Cedar
- Hemlock
- Douglas fir
- Hemlock
- Sitka spruce
- Alder
- Big Leaf Maple
- Dogwood
- Ferns
- Salal

Cathedral Grove, Vancouver Island

WILDLIFE

- Black Bear
- Grizzly Bear
- Mountain Lion
- Resident and transient birds
- Seals
- Dolphin
- Whales (resident and transient)
- Salmon

Joffre Lakes Provincial Park

PACIFIC MARINE ECOSYSTEM - RAINFOREST



North Shore Mountains



Capilano Regional Park



Capilano Regional Park



City in a rainforest

ICONIC LANDSCAPES OF METRO VANCOUVER

(Iconic) Landscapes of Vancouver



(Iconic) Landscapes of Vancouver
NORTH SHORE MOUNTAINS

UBC ●

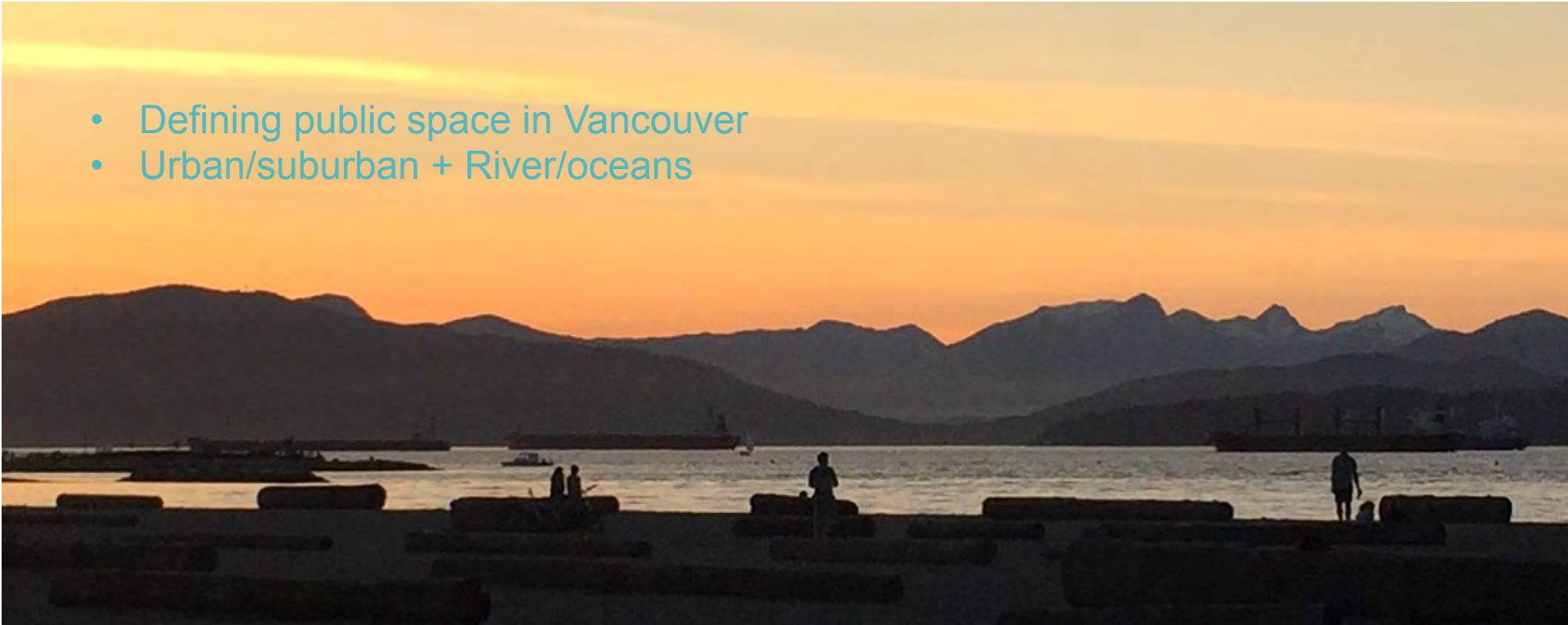
(Iconic) Landscapes of Vancouver
NORTH SHORE MOUNTAINS



- Wilderness 'at your doorstep'
- 100s km of hiking trails
- World class hiking
- Metro Vancouver's water supply
- Protected as park/watershed
- 3 ski resorts



- Defining public space in Vancouver
- Urban/suburban + River/oceans



(Iconic) Landscapes of Vancouver
BEACHES



(Iconic) Landscapes of Vancouver
BEACHES



(Iconic) Landscapes of Vancouver
FRASER RIVER

UBC





(Iconic) Landscapes of Vancouver
FRASER RIVER

- 1375 km long
- Basin drains a 1/3 of BC and is home to 2.4 million people
- First Nations have lived, travelled and traded along the river for thousands of years
- Designated a Canadian Heritage River to honor its rich cultural and natural history
- Economic activity within the basin accounts for 80% of provincial, 10% of national GDP
- largest salmon producing river along the Pacific Coast and is one of three rivers in BC in which white sturgeon spawn
- Great diversity of parks opportunities (local, regional, provincial and national)

(Iconic) Landscapes of Vancouver
FRASER RIVER



Fraser River, looking west along Matsqui Trail Regional Park to Sumas Mountain



Fraser River Delta, Richmond



Pier Park, New Westminster

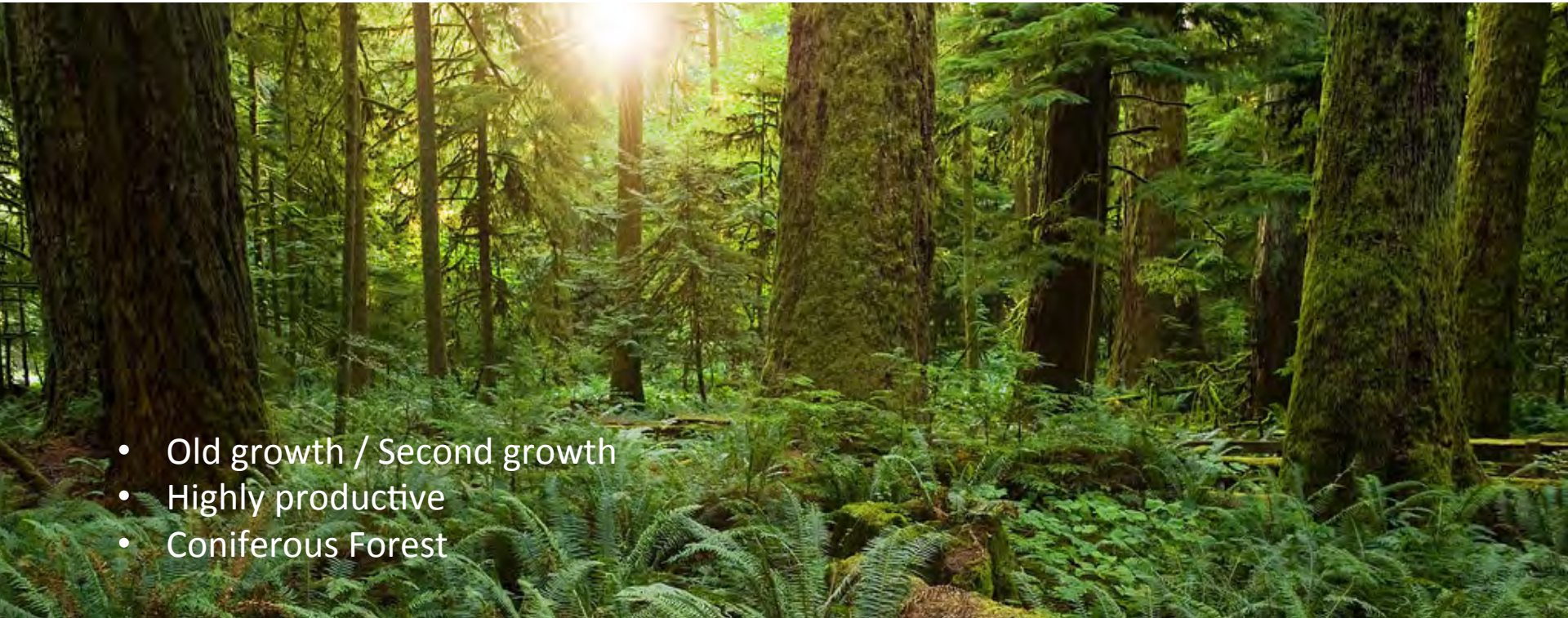


Fraser River, Chilliwack



Fraser River, Chilliwack

(Iconic) Landscapes of Vancouver
CONIFEROUS FOREST



- Old growth / Second growth
- Highly productive
- Coniferous Forest

(Iconic) Landscapes of Vancouver
WETLANDS



Burns Bog

ACCESSIBLE WILDERNESS

Metro Vancouver Parks + Greenways
ACCESSIBLE WILDERNESS







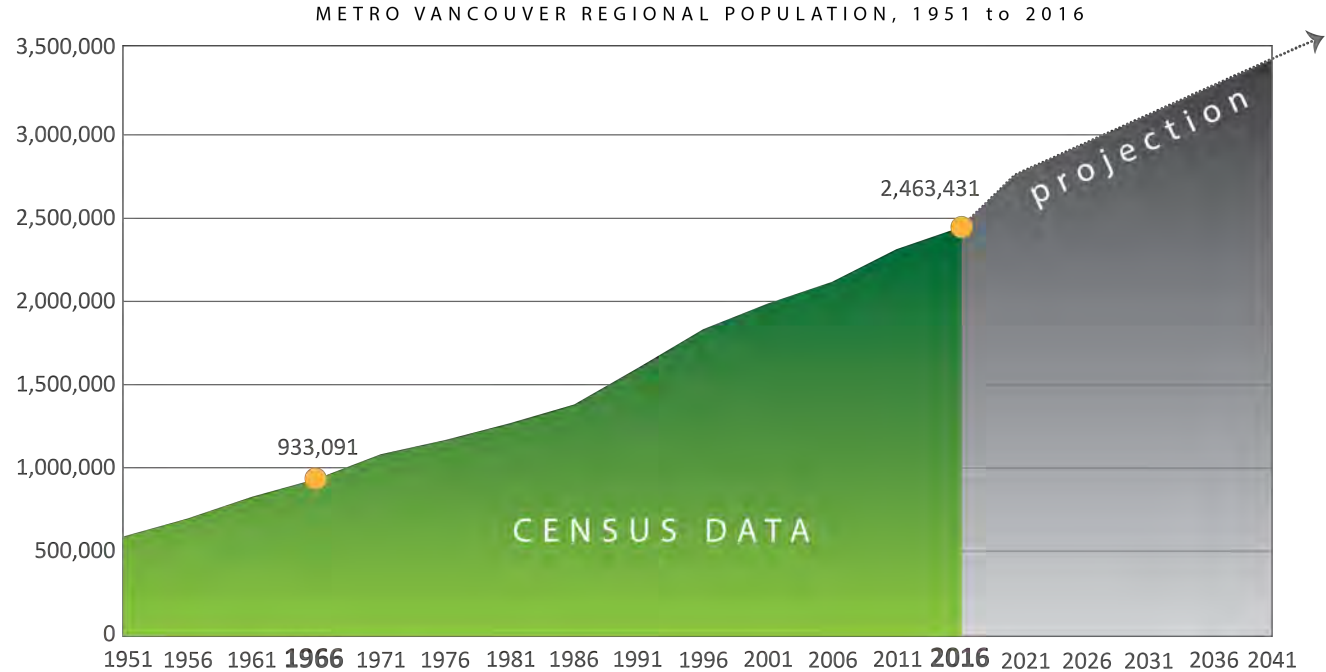
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PLANNING + LANDUSE

- Regional Growth Strategy
- Land Use
- Livability
- Growth



- 3.4 million residents by 2040
- 35,000 new people a year
- Over 50% of provincial population
- Growth Driven by immigration



DENSITY - GROWING UP - NOT OUT

Competing, legitimate, land uses on a constrained land base.....



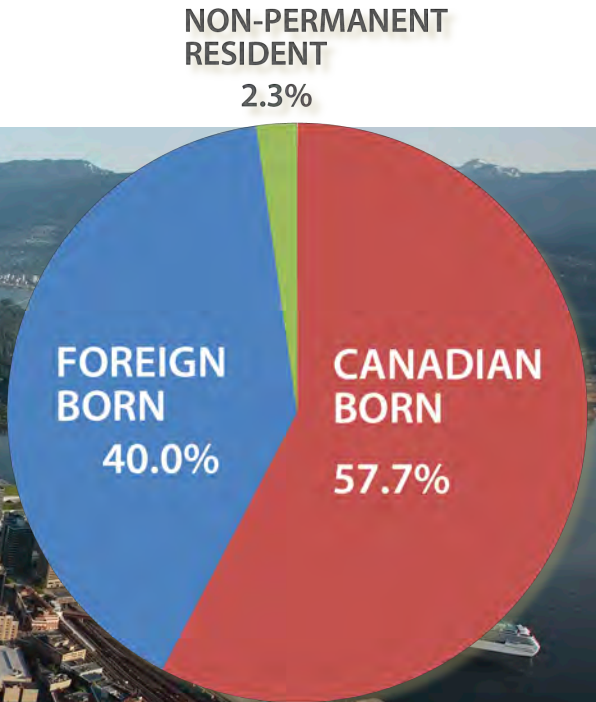
...by 2040 all development will happen by redevelopment

DENSITY - GROWING UP - NOT OUT

- Metro Vancouver –
80% densification
- Toronto –
50% densification
- Calgary –
25% densification



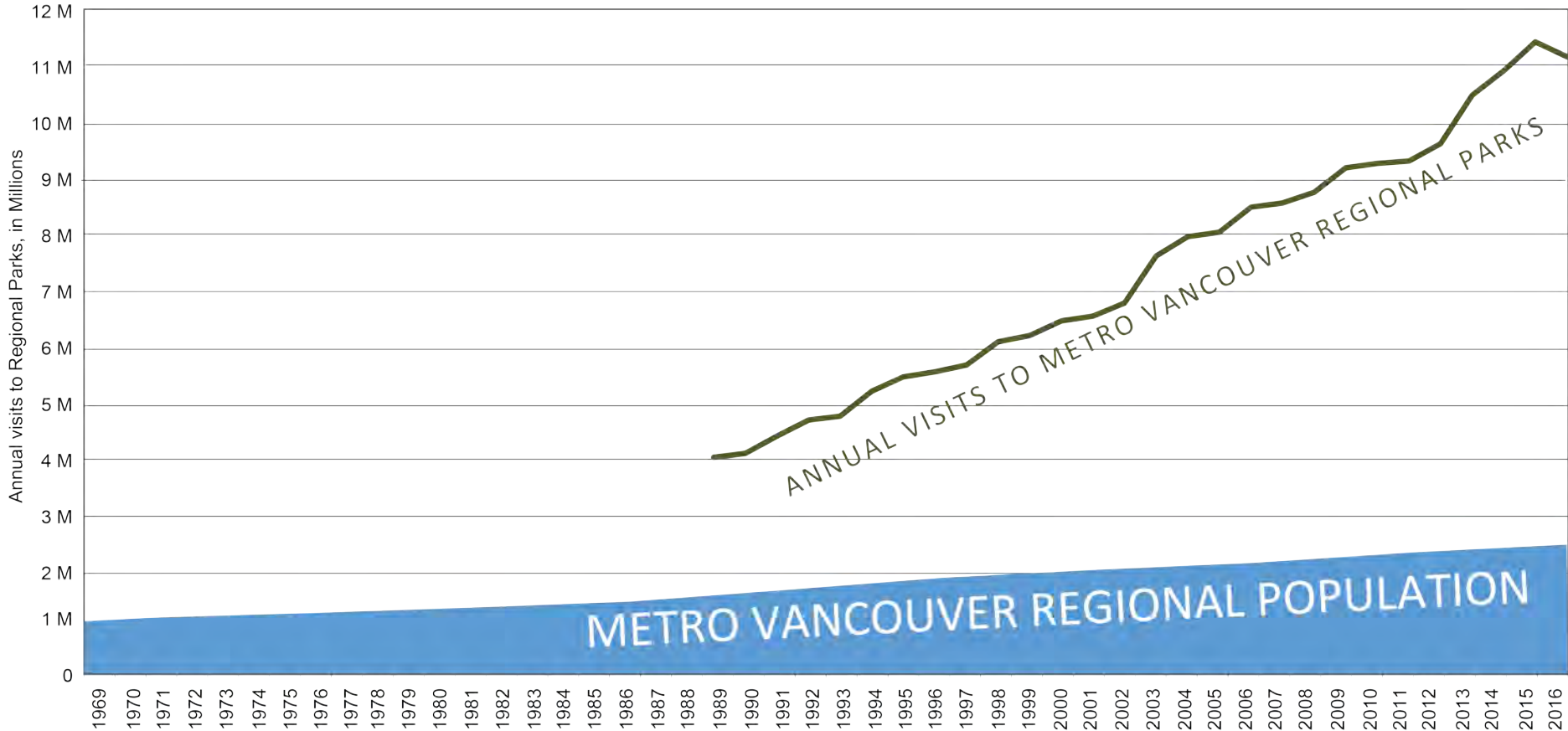
- Culturally diverse
- Decreasing family size
- Smaller homes





Source: 2013-2015 Panel Surveys, excluding recreational trips

Planning + Landuse
PEOPLE IN PARKS





Adopted by the
Greater Vancouver Regional District Board
on July 29, 2011
Updated to October 30, 2015



Create a Compact Urban Area



Support a Sustainable Economy



Protect the Environment and
Respond to Climate Change

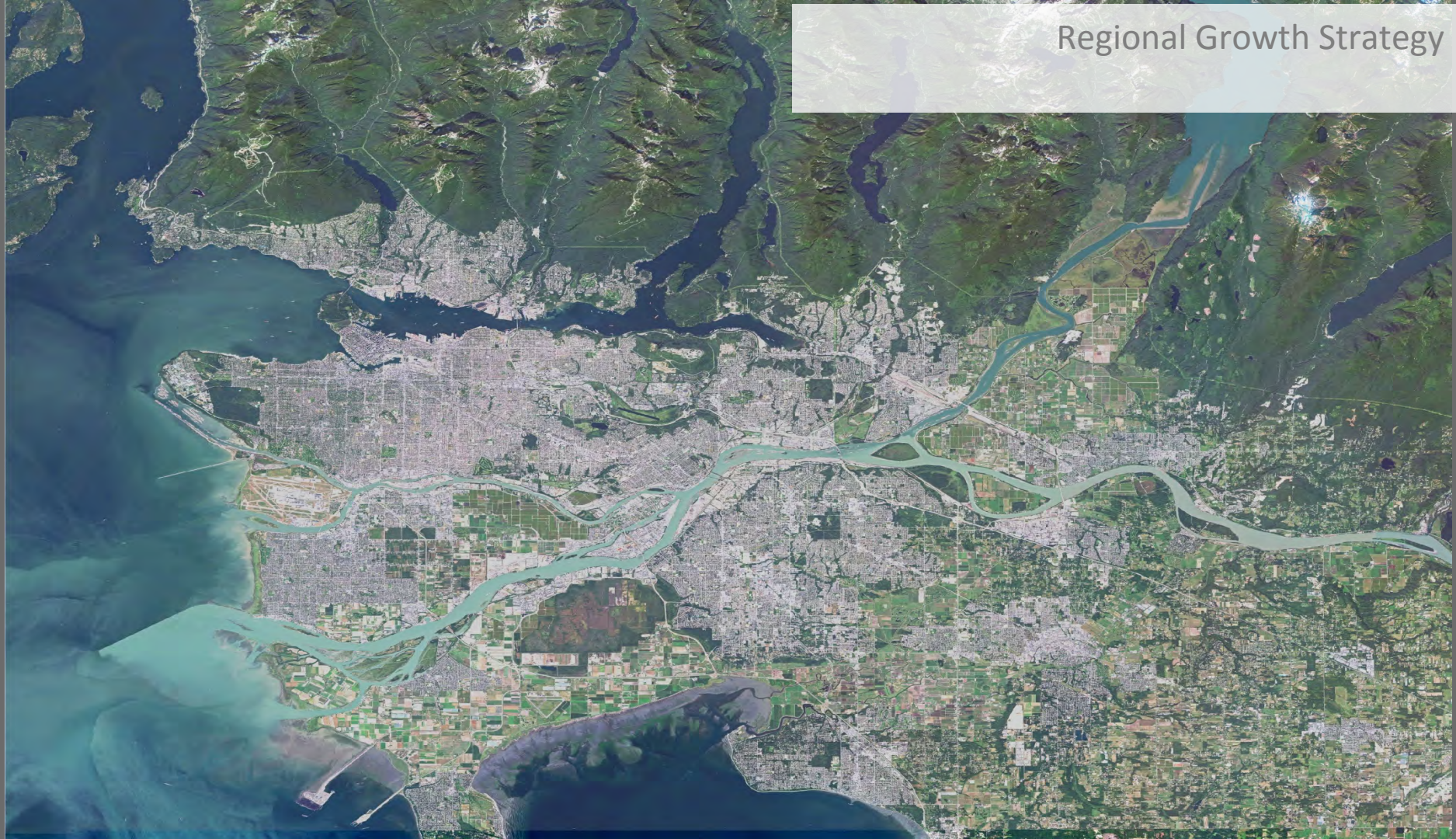


Create Complete Communities

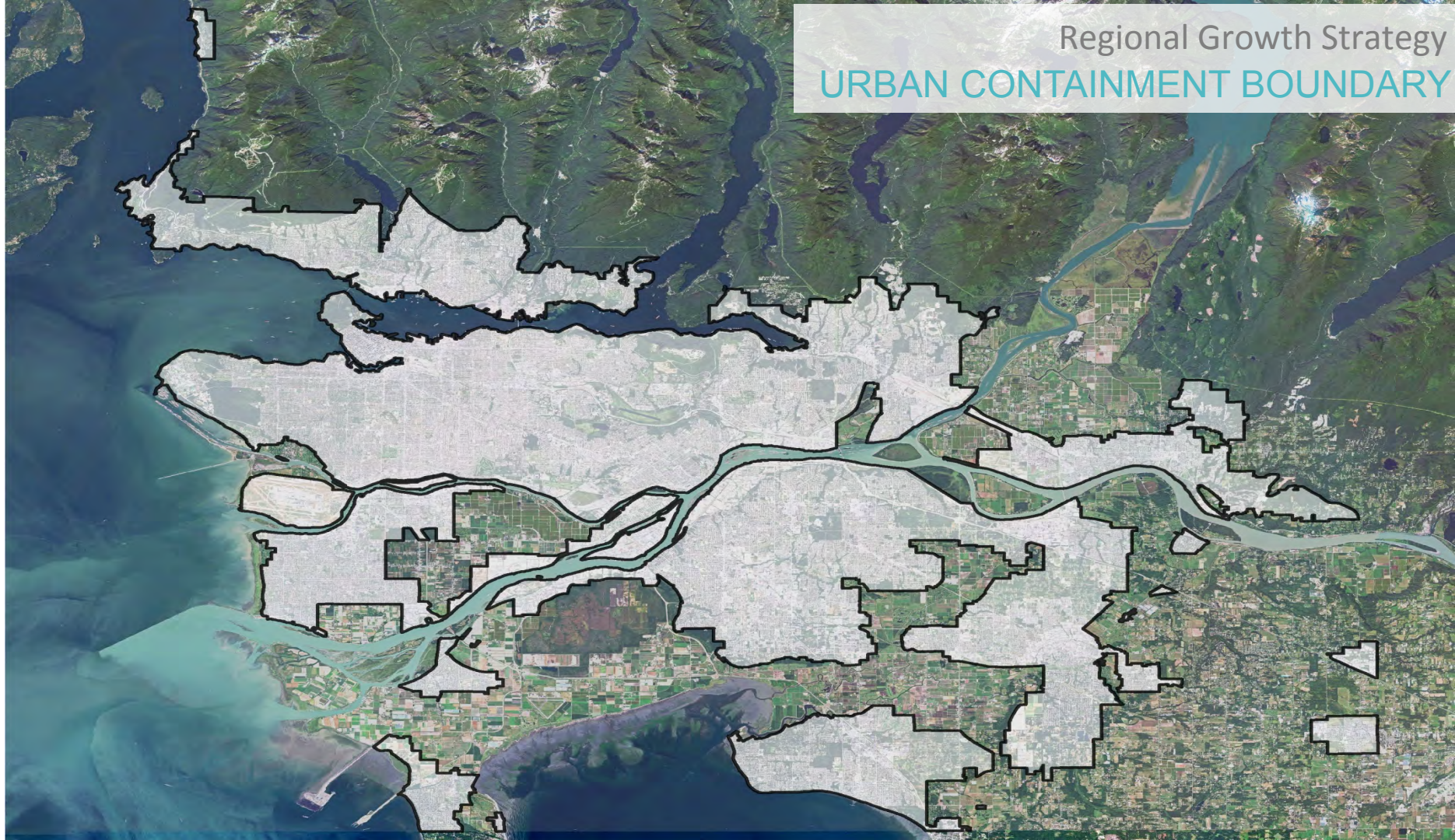


Support Sustainable Transportation

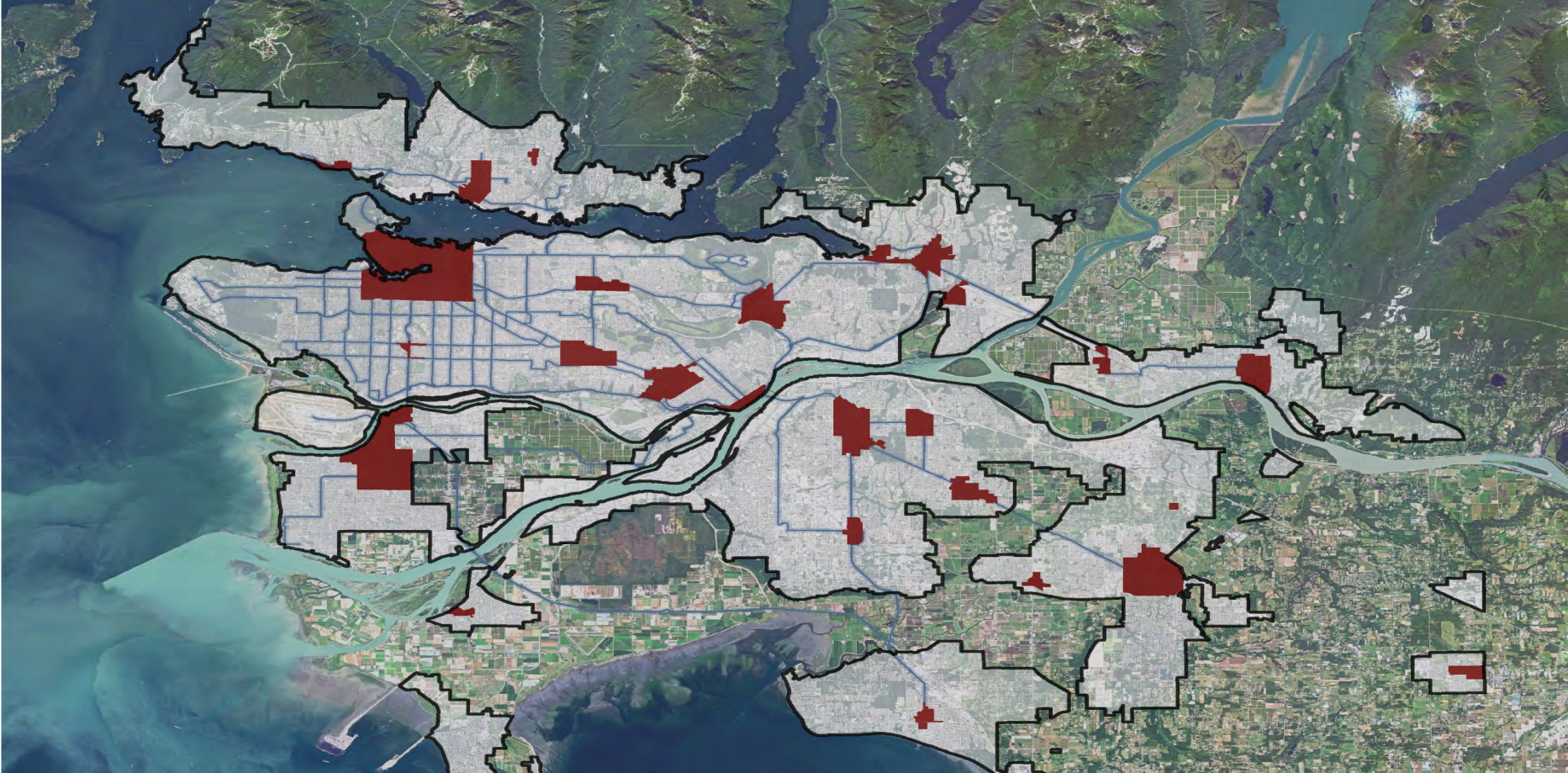
Regional Growth Strategy



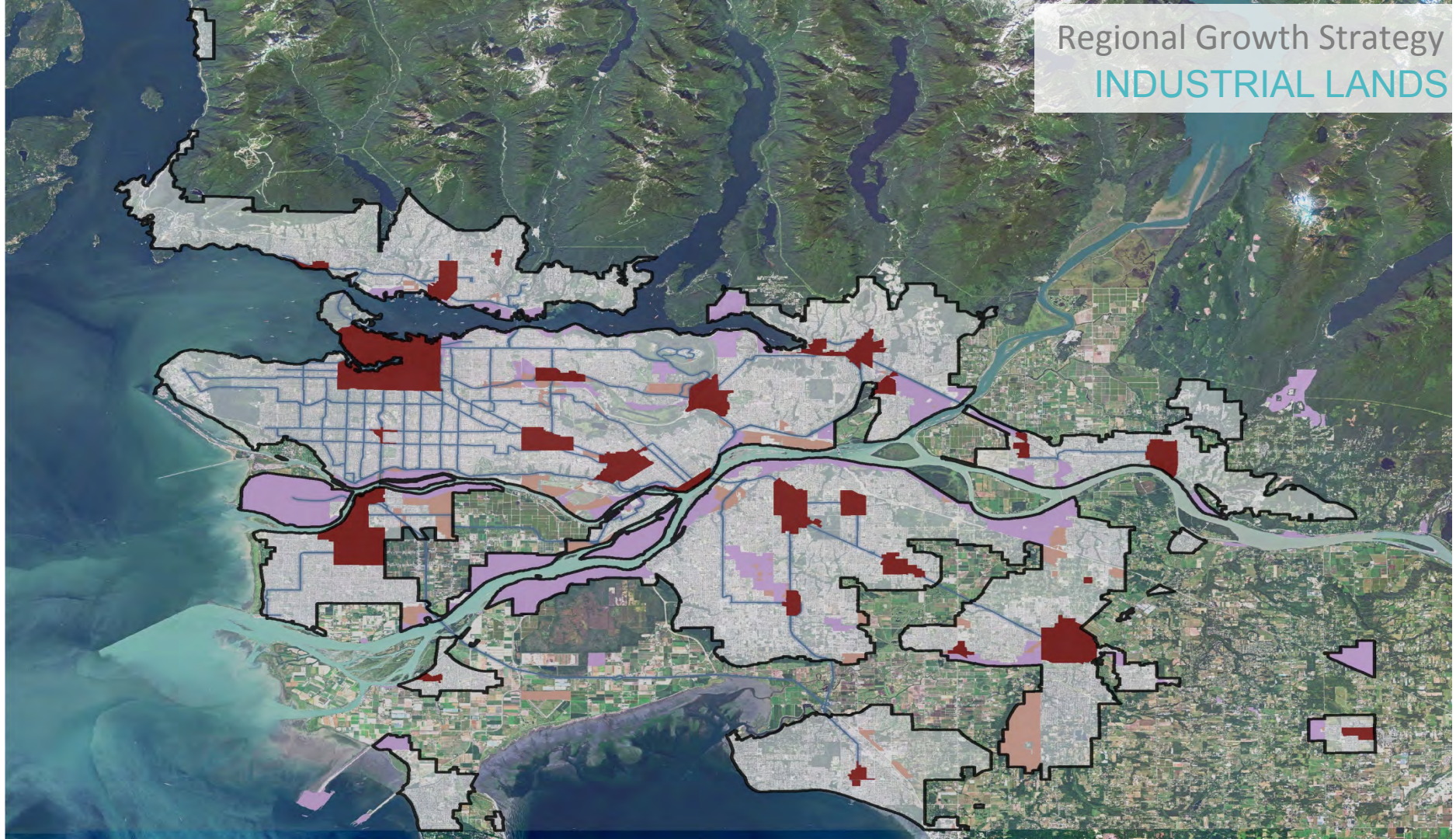
Regional Growth Strategy
URBAN CONTAINMENT BOUNDARY



Regional Growth Strategy
URBAN CENTERS + TRANSIT NETWORK

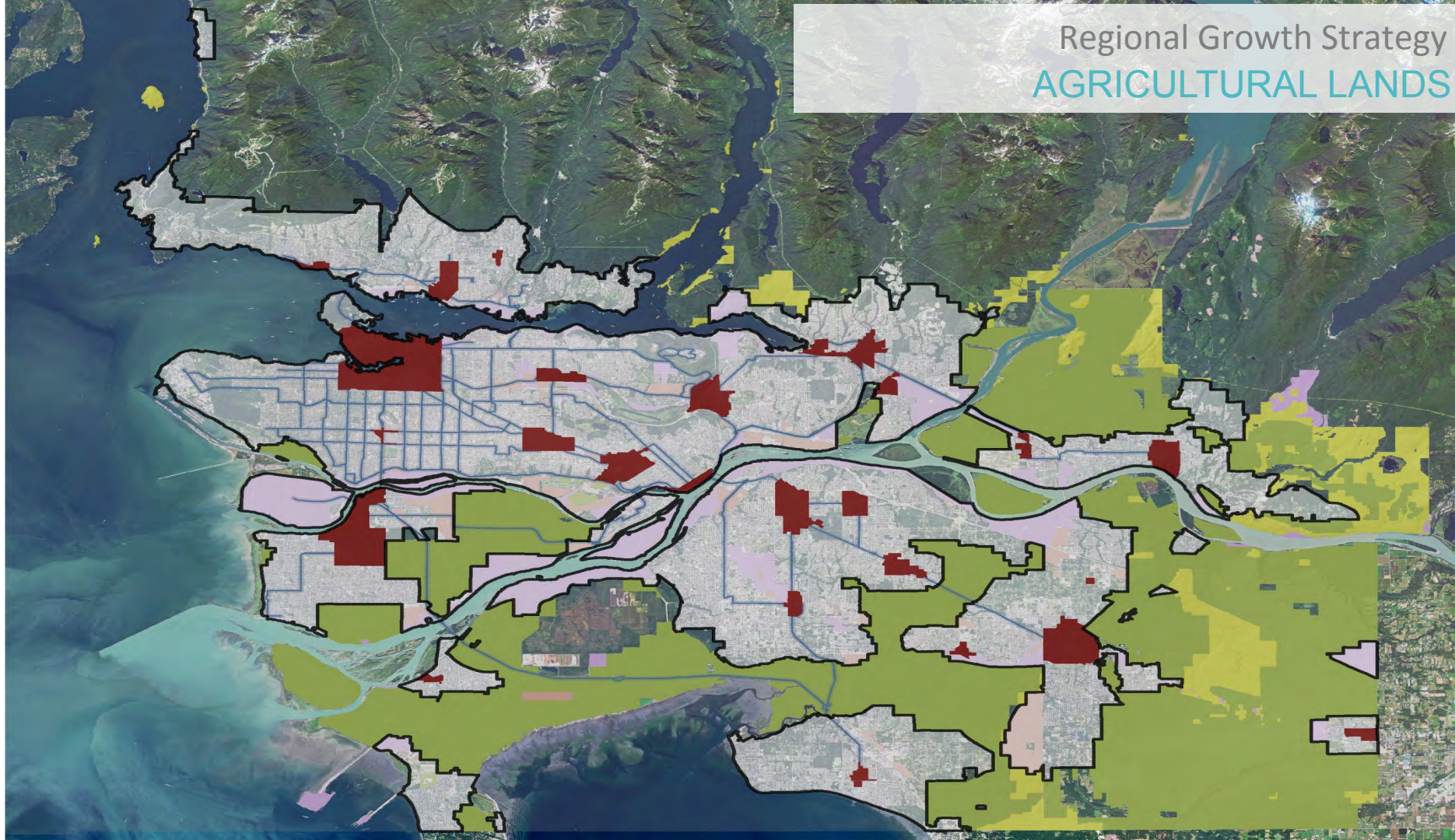


Regional Growth Strategy INDUSTRIAL LANDS

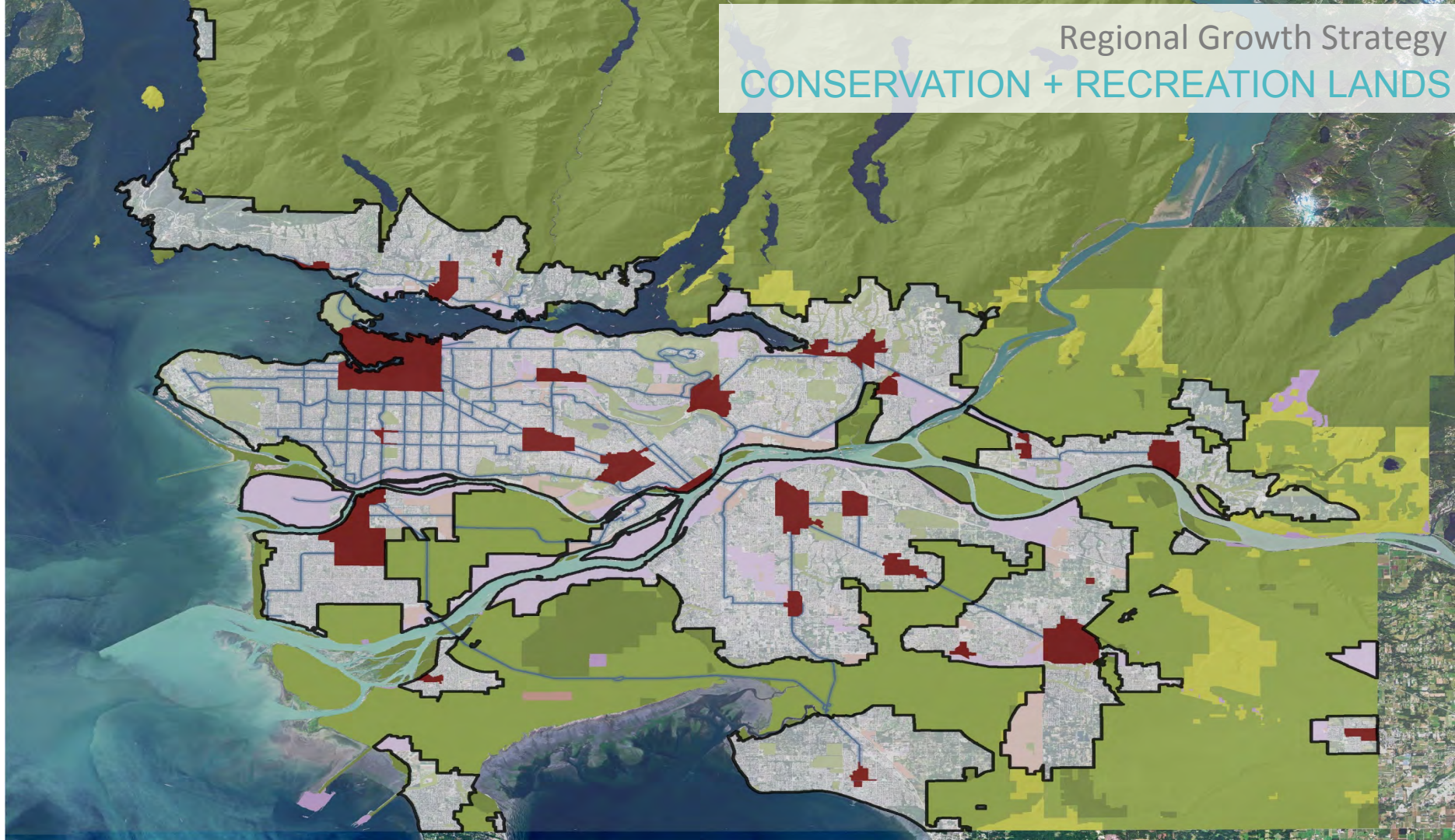


Regional Growth Strategy

AGRICULTURAL LANDS

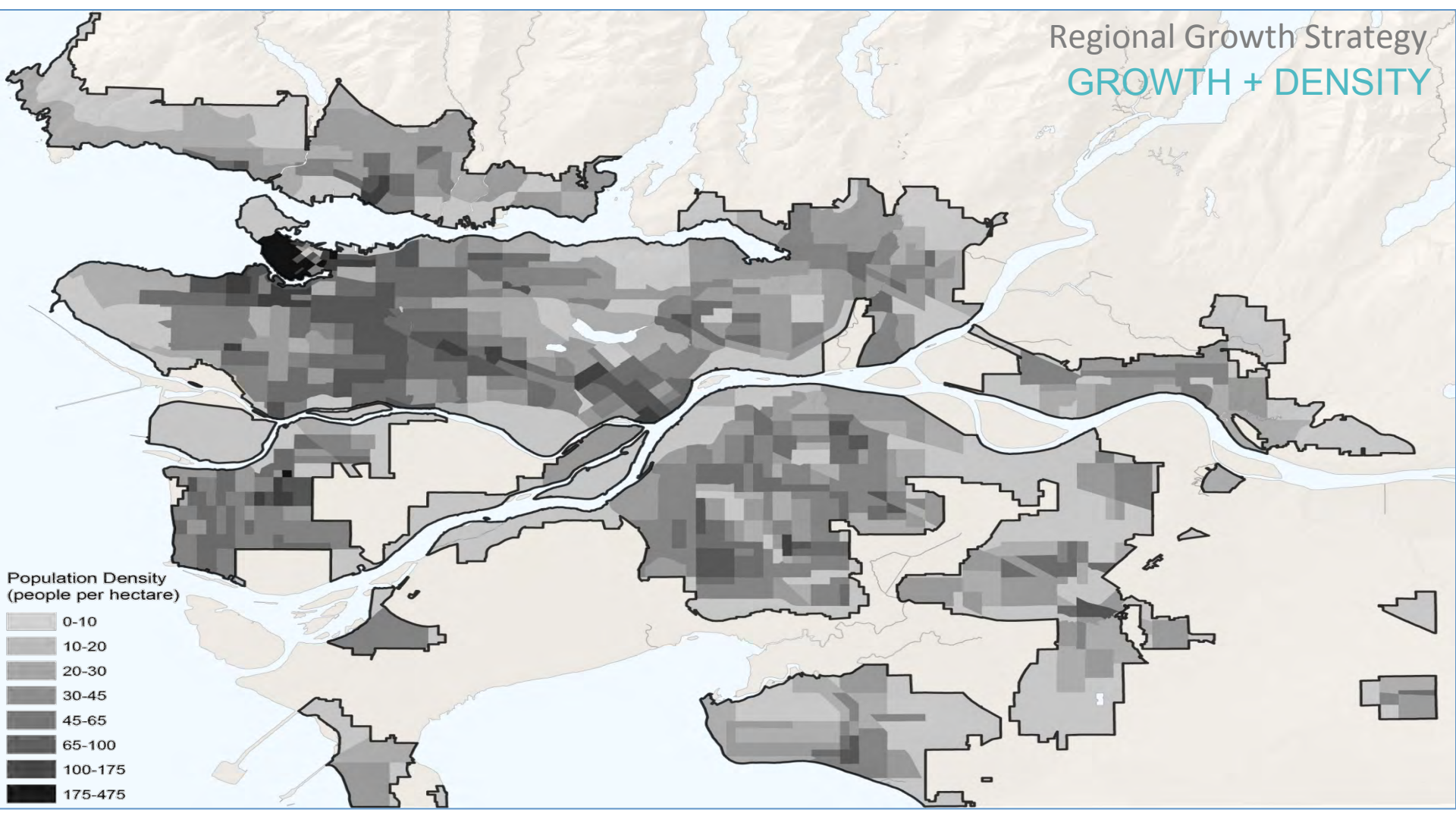


Regional Growth Strategy
CONSERVATION + RECREATION LANDS



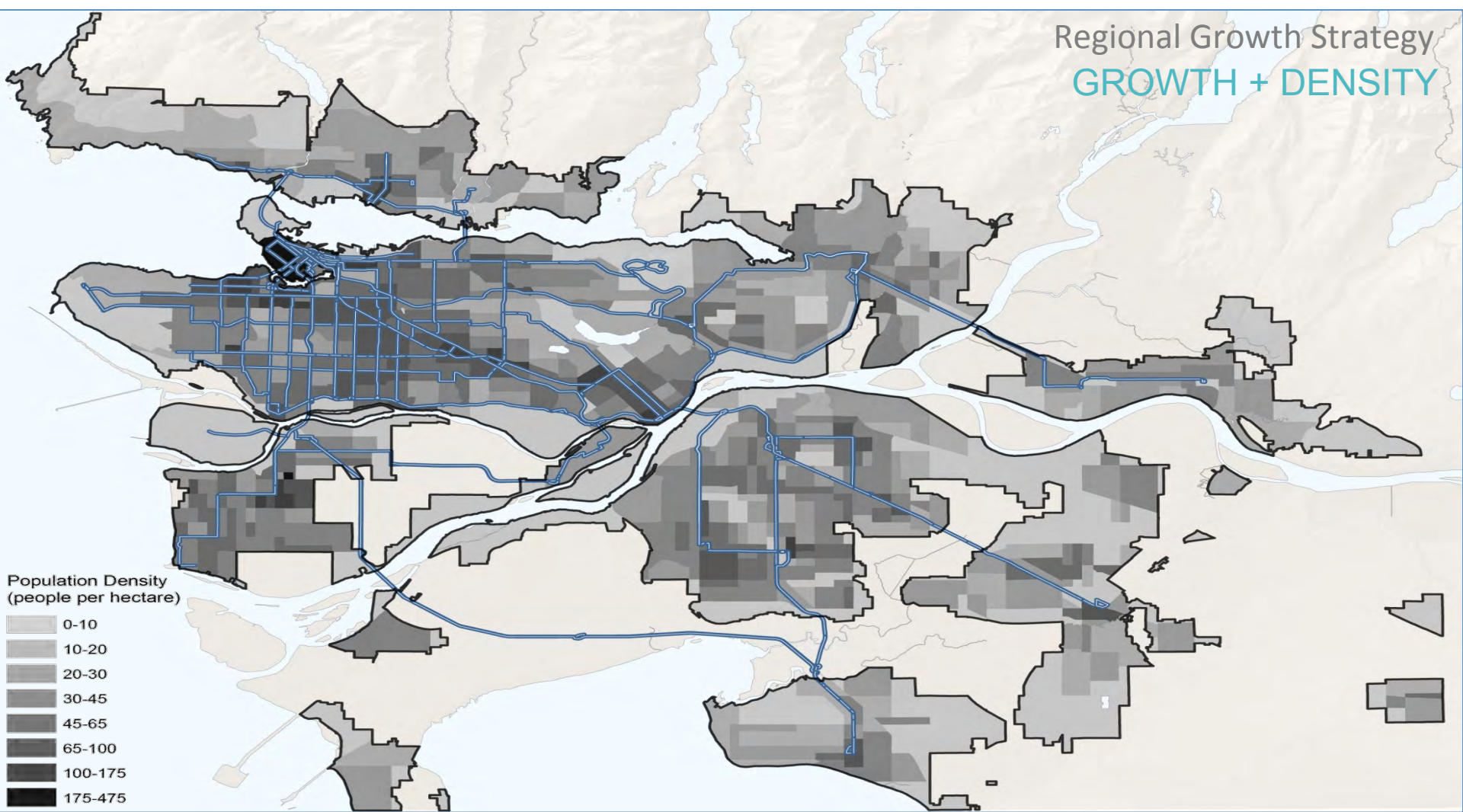
Regional Growth Strategy

GROWTH + DENSITY



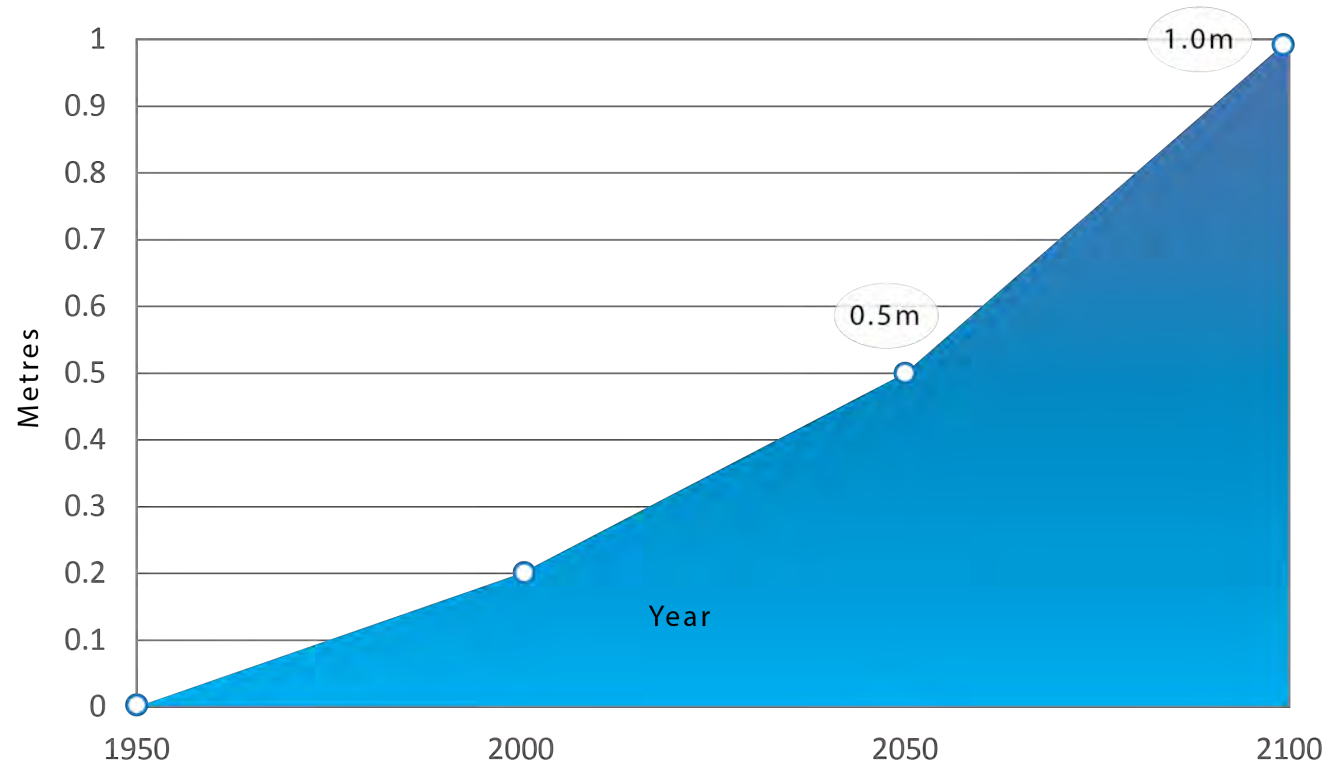
Regional Growth Strategy

GROWTH + DENSITY



THE UNKNOWNNS

Predicted sea level rise, 1950-2100

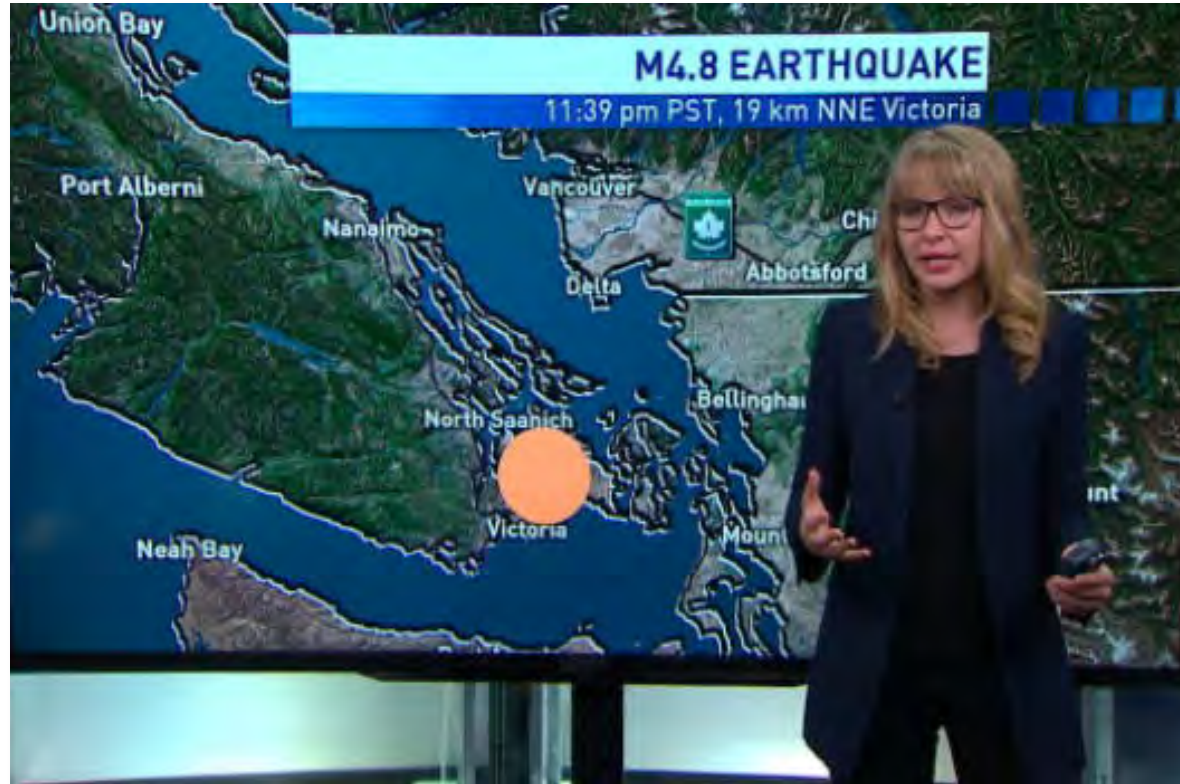


- Climate change
- Sea level rise
- Earthquake

- Warmer temperatures
- A decrease in snowpack
- Hotter summers
- More (extreme) precipitation in fall, winter, and spring
- More intense extreme events



1 in 3 chance of
magnitude 9 earthquake
in the next 50 years



WHAT DOES THIS MEAN FOR PARKS + GREENSPACE + PUBLIC SPACE

WHAT WE KNOW

- Vibrant and growing region
- World class landscapes, parks and conservation areas and recreational opportunities
- 2.4 million population, with 1 000 000 more people over 20 years
- Growing up, not out (densification)
- More density, more transit, less cars
- More people, limited land
- The unknowns

WHAT DOES THIS MEAN FOR PARKS + GREENSPACE + PUBLIC SPACE

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WHAT IT MEANS FOR PARKS AND GREENSPACE

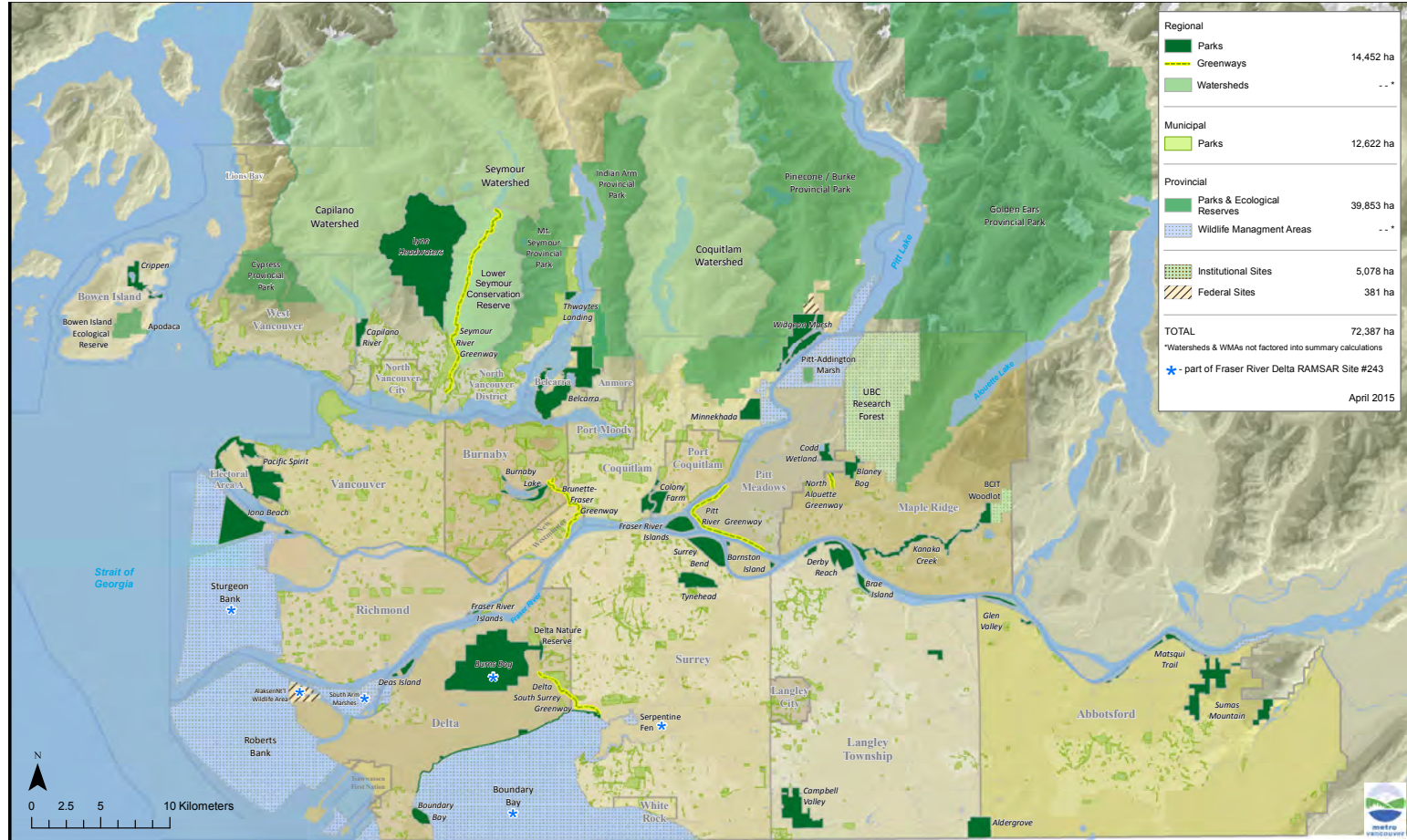
- More people in parks
- People are using parks differently
- Need for more parks
- Need for higher quality park and open space
- Increased pressure on parks and greensapce
- Need for nature close to home
- Need for a diversity of parks (wild to urban)
- Need for Ecological services (*clean air, food, recreation, water, etc.*)
- Need for More resilient parks and greenways

2 – Parks & greenways of the Region:

Role + Mandate + Characteristics + Connections

Metro Vancouver Parks + Greenways

AN INCREDIBLE + GROWING NETWORK



1. Made up of a large number of entities, components or parts
2. Contain a dense web of casual connections among components
3. Exhibit interdependence among components
4. Are not self-contained
5. Have a high degree of synergy among components – the whole is more than the sum of the parts
6. Are non-linear

Metro Vancouver Parks + Greenways
PARK PROVIDERS - ROLE

Park Type	Role
Municipal parks (24 municipalities)	provide facilities and opportunities for sports, leisure activities and cultural programs.
Regional parks (1 regional district)	protect a system of natural and significant landscapes and provide opportunities for outdoor recreation, nature study and stewardship.
Provincial / National Parks (1 province / 1 Nation)	protect nationally and internationally significant natural and cultural features and provide access to outdoor experiences.

PARK PROVIDERS – FEATURES + CHARACTERISTICS

Park Type	Typical Features and Characteristics
Municipal parks	<ul style="list-style-type: none">•Tot lots / sports fields / playgrounds•Community centers and pools•Community programming•Serves a neighborhood / several neighborhoods / municipality
Regional parks	<ul style="list-style-type: none">•Nature focused facilities (trails, picnic areas)•Landscapes and features of regional interest•Nature based programming and resource management•Serves a regional population
Provincial parks	<ul style="list-style-type: none">•Backcountry access / trails / camping•Conservation focused – include wilderness/remote areas•Includes landscapes of nation and international significance•Serves a provincial / national population

PARK PROVIDERS - ROLE

City

Recreation

Protection

Wilderness



Municipal Parks

Regional Parks

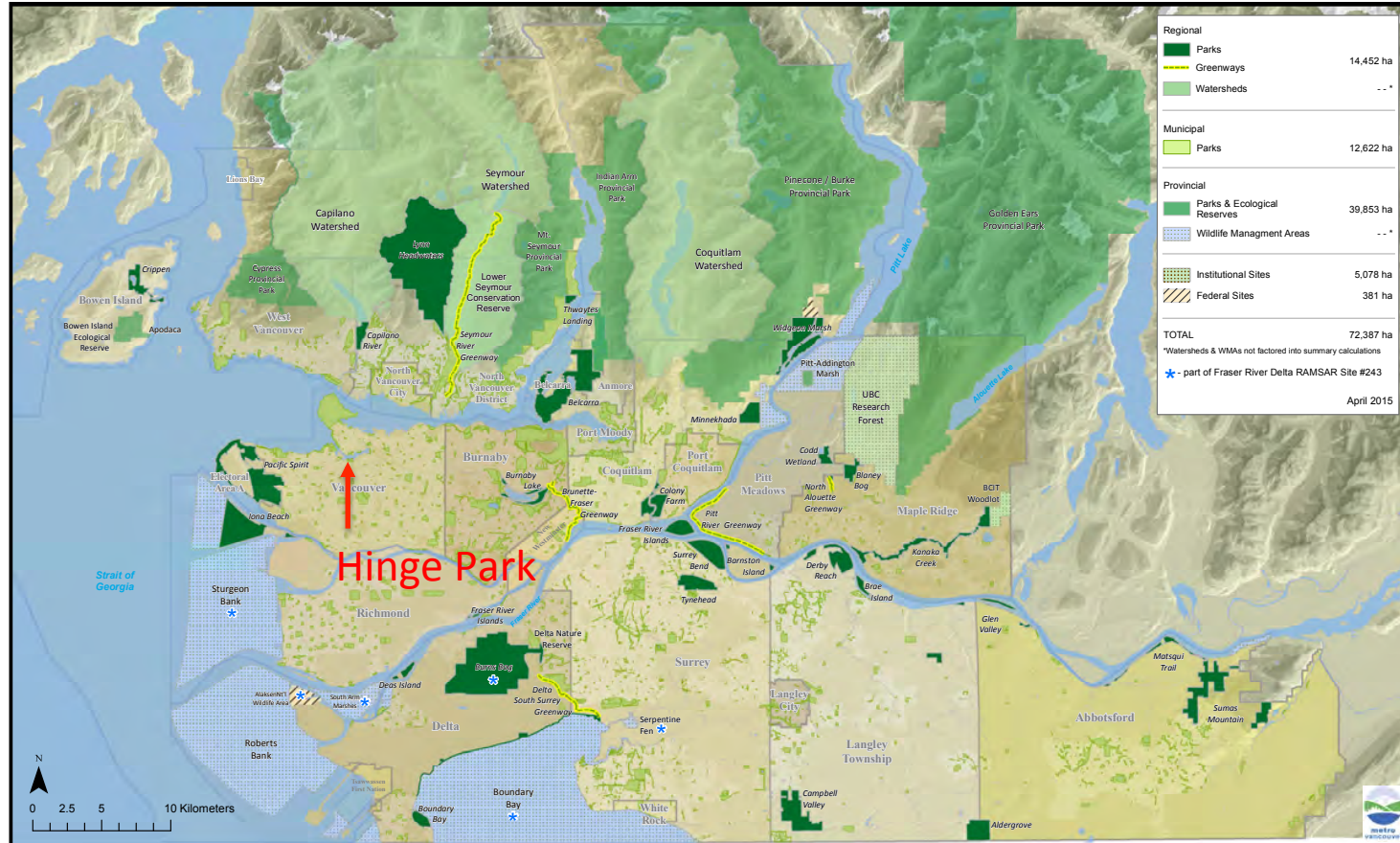
National Parks

Metro Vancouver Parks + Greenways

A NETWORK



CASE STUDY – HINGE PARK (CITY OF VANCOUVER)



CASE STUDY – HINGE PARK (CITY OF VANCOUVER)

Size: 1 hectare

Elements : playground, dog off leash area, lawn areas, storm water management habitat ponds

Character: post industrial urban park along the seawall

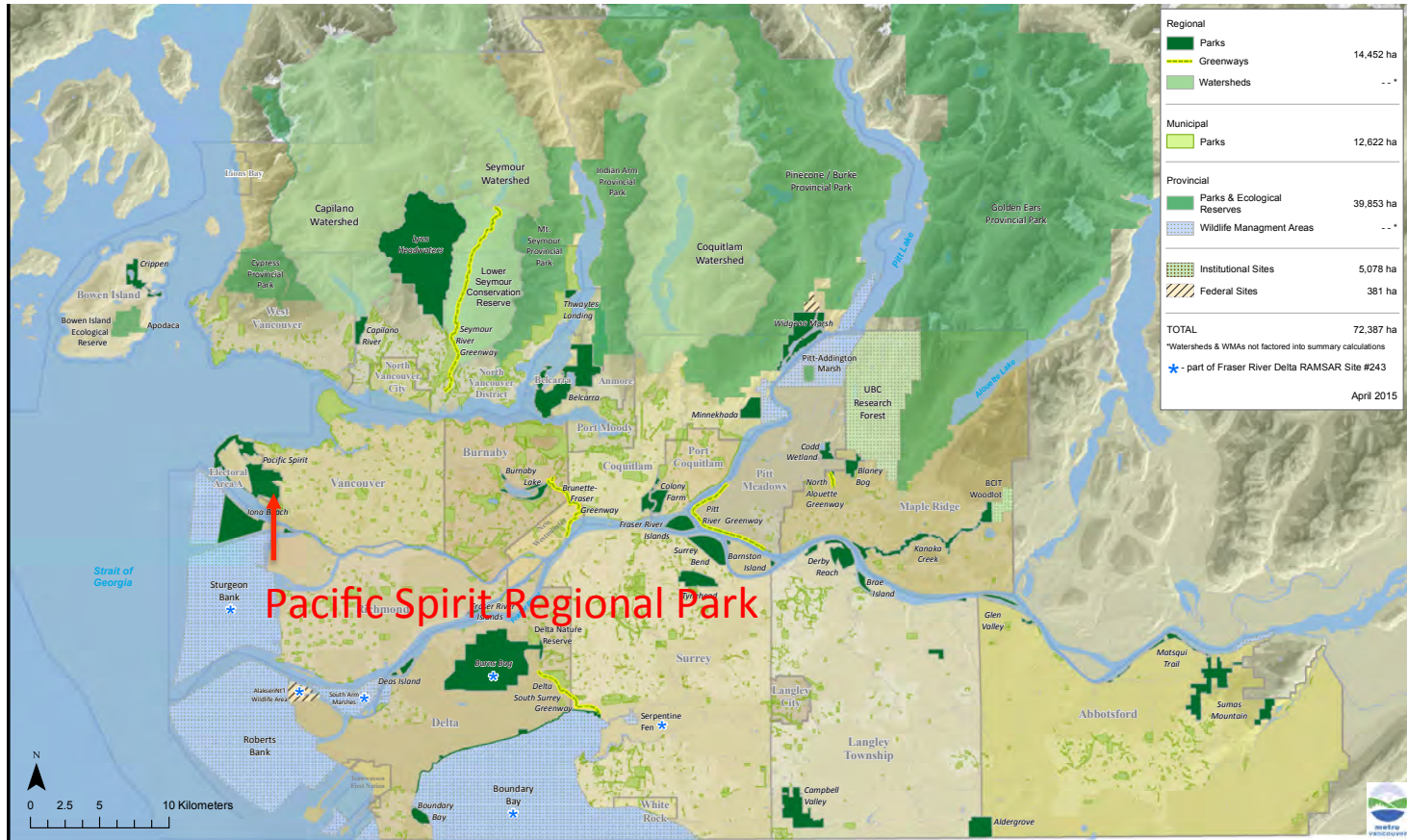


Hinge Park (City of Vancouver)

Municipal Parks
CASE STUDY – HINGE PARK (CITY OF VANCOUVER)



Regional Parks CASE STUDY – PACIFIC SPIRIT REGIONAL PARK



CASE STUDY – PACIFIC SPIRIT REGIONAL PARK

Size: 870 hectare

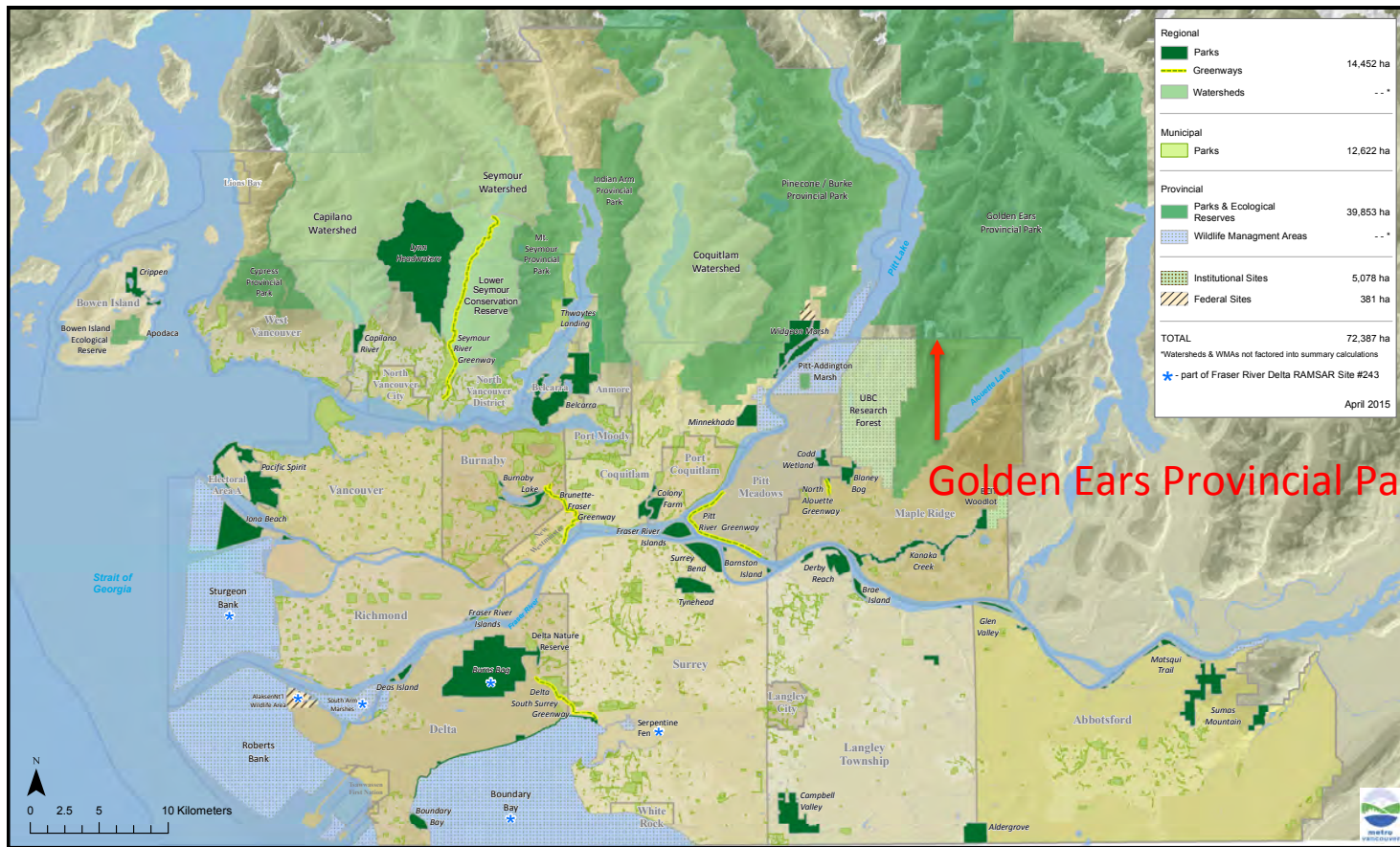
Elements : large forested area, bog, gravel hiking trails, natural beaches

Character: natural, forested



Provincial Parks

CASE STUDY – GOLDEN EARS PROVINCIAL PARK



CASE STUDY – GOLDEN EARS PROVINCIAL PARK

Size: 60 900 hectare

Elements : mountains, lakes, streams, hiking trails, camping

Character: Large natural area, wilderness

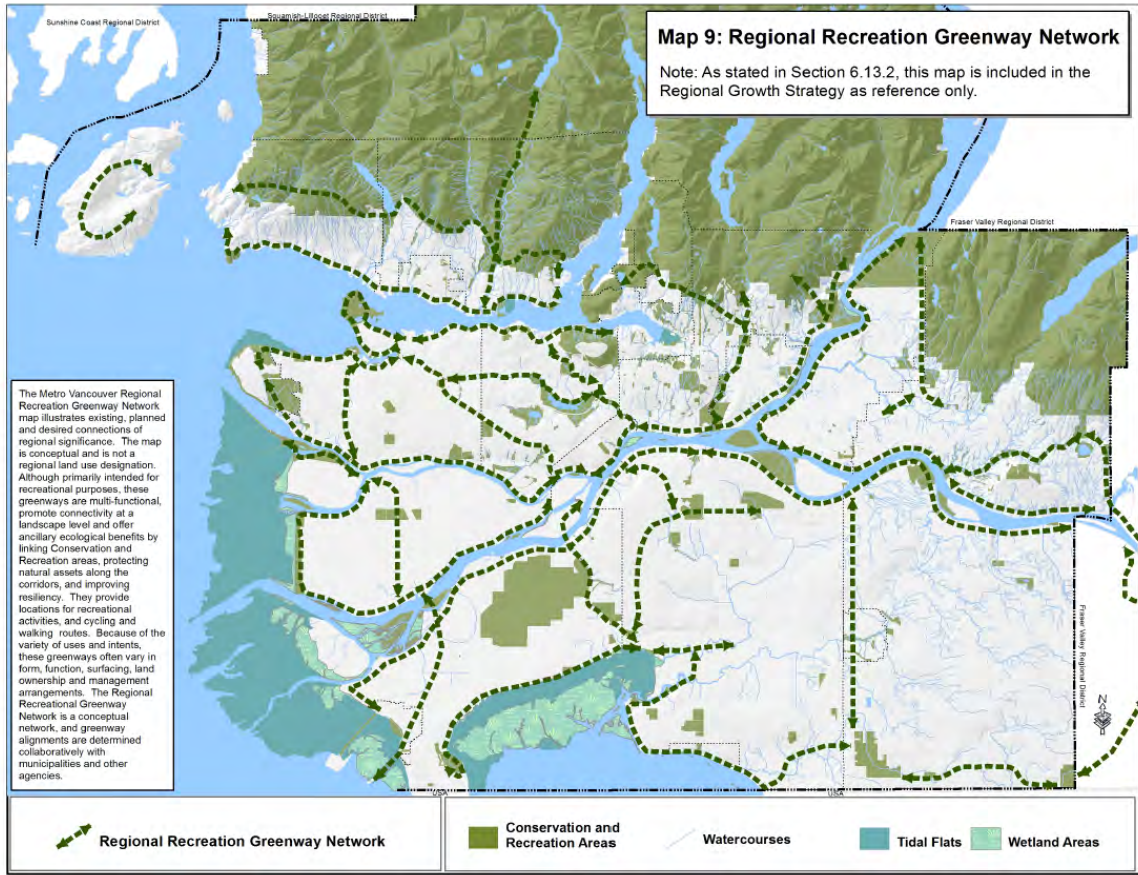


CASE STUDY – GOLDEN EARS PROVINCIAL PARK

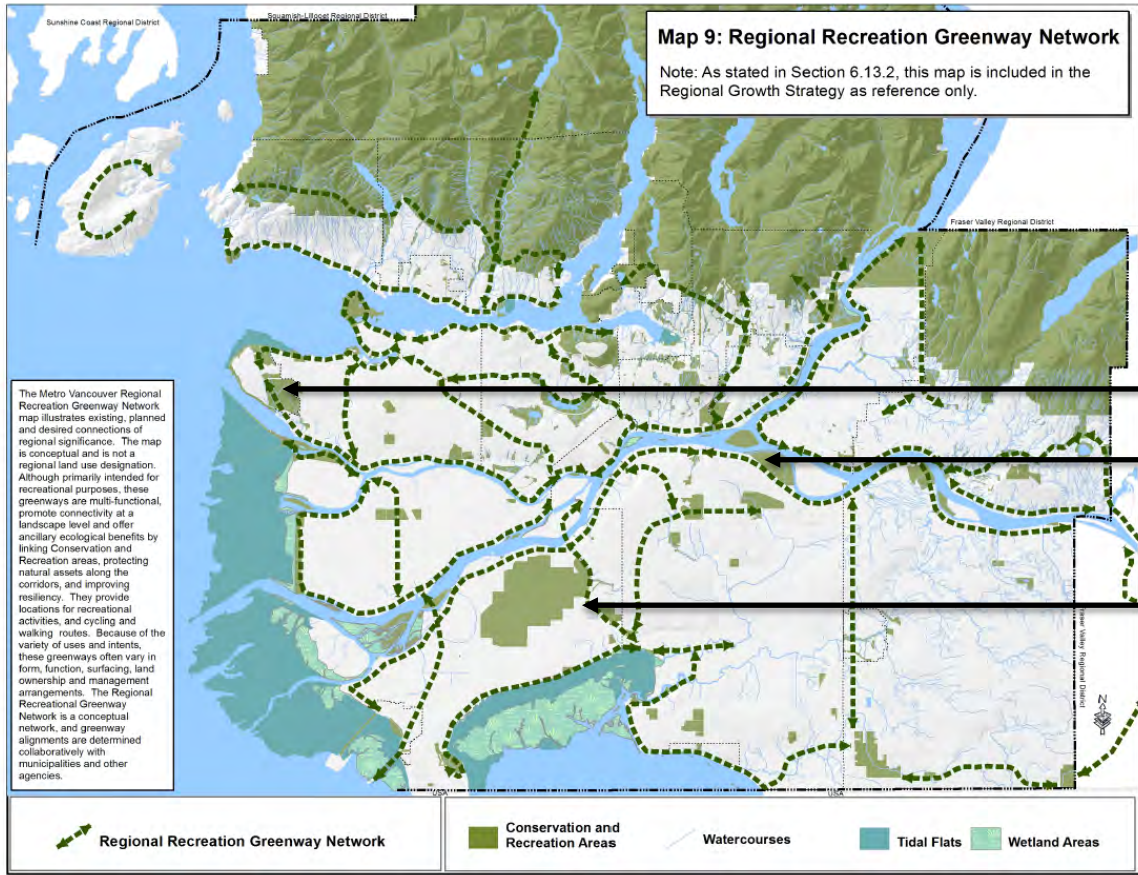


GREENWAYS OF THE REGION

Greenways A CONNECTED NETWORK

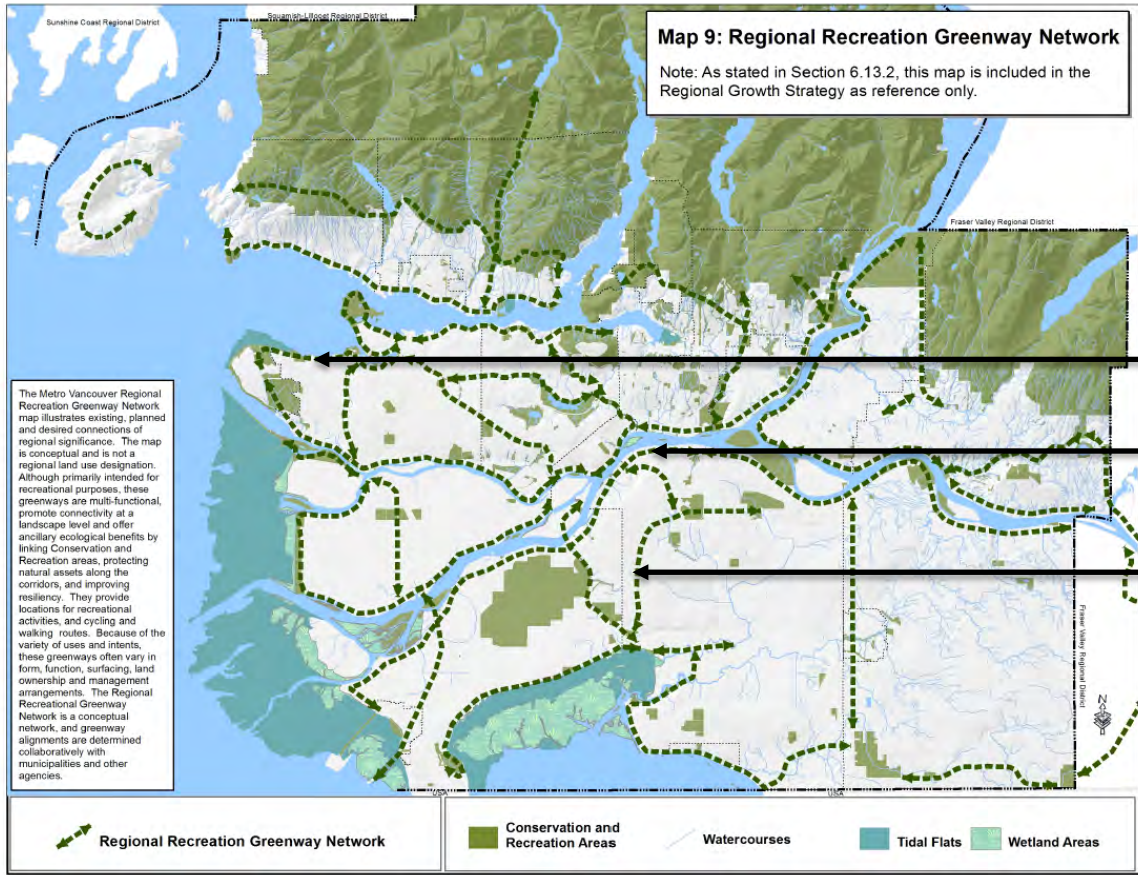


Greenways A CONNECTED NETWORK



Hubs
(ecological /
recreational /
residential)

Greenways A CONNECTED NETWORK



Links
(ecological /
recreational)

1. Benefits are maximize working at large special scales
2. Continuous corridors are better than fragmented ones
3. Wider corridors are better than narrow ones
4. Structurally diverse corridors are better than those with simple structures
5. Two or more corridor connections between patches are better than one
6. Natural connectivity should be maintained or restored

*“ a linear open space established along either a natural corridor, such as a riverfront, stream valley, or ridgeline, or overland along a railroad right-of-way converted to recreational use, a canal, scenic road or other route. **It is a natural or landscaped course for pedestrian or bicycle passage; an open-space connector linking parks, nature reserves, cultural features, or historic sites with each other and with populated areas”***

-Charles Little, Greenways for America (1990)

Greenway Type	Typical Features and Characteristics
Municipal Greenways	<ul style="list-style-type: none">• Urban• Within 1 municipality• Often paved, sometimes 'on road'
Regional Greenway	<ul style="list-style-type: none">• More natural• Longer• Between two municipalities

MUNICIPAL GREENWAYS – CITY OF VANCOUVER



- Bikeways and greenways overlap
- Greenways connect neighborhoods, parks, people, destinations
- Bicycle and pedestrian use
- Include landscaped areas, public art, drinking fountains

MUNICIPAL GREENWAYS – CITY OF VANCOUVER

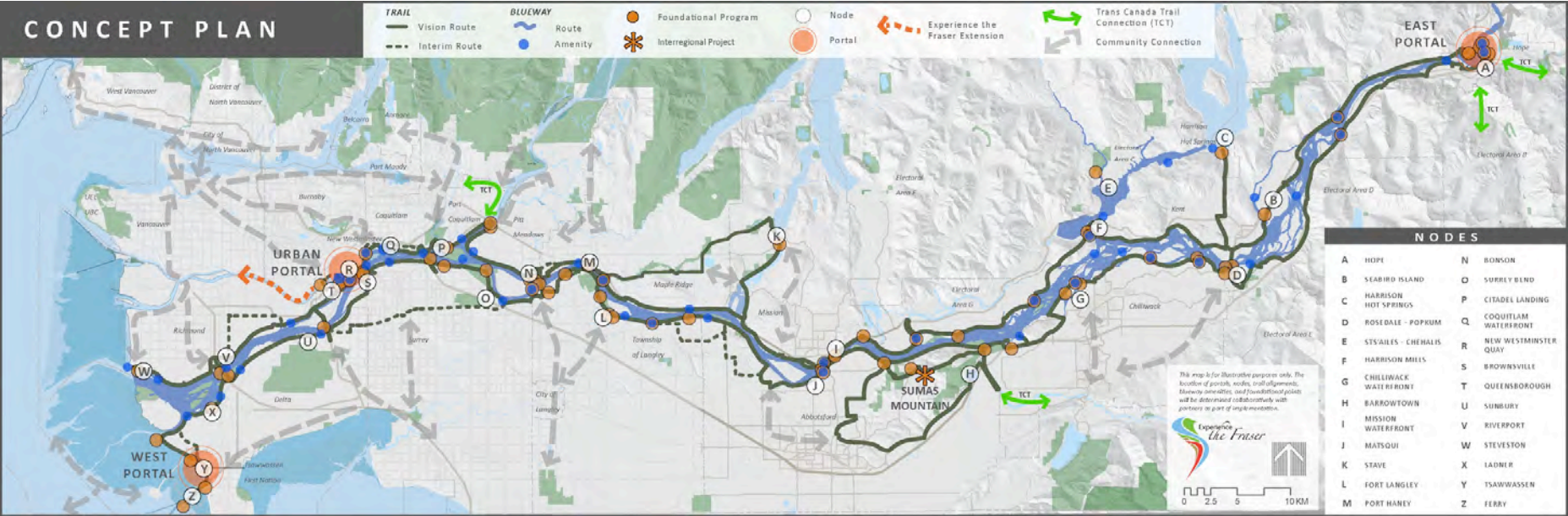


Seaside Greenway

Greenways
MUNICIPAL GREENWAYS



REGIONAL GREENWAY – EXPERIENCE THE FRASER



- 300km + network of trail
- Extends through 20+ municipalities
- Is associated with a major ecological feature

REGIONAL GREENWAY – EXPERIENCE THE FRASER



REGIONAL GREENWAY – EXPERIENCE THE FRASER



Derby

Fraser

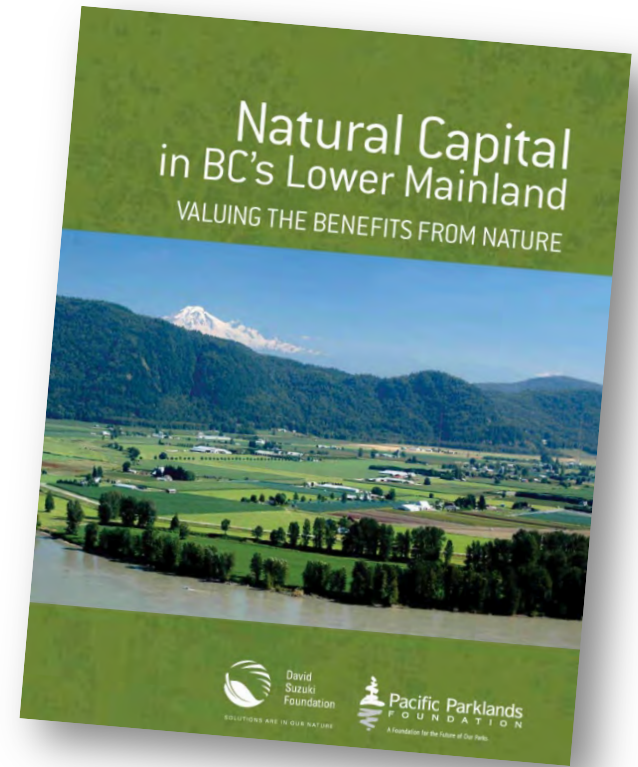
Fraser

VALUE.

Why parks and greenspace matter now more than ever

“Metro Vancouver natural landscapes which provide **\$5.6 billion of ecosystem services every year**”

-David Suzuki Foundation-



Ecosystem Services

- Clean air
- Water
- Climate regulation
- Flood protection
- Waste treatment
- Food
- Pollination
- Recreation
- Health and wellness
(emotional and physical)
- Stormwater management
- Fertile soil
- Play



Ecosystem Services

A young girl with blonde hair is smiling and holding a large, multi-lobed leaf that is transitioning from green to yellow. The background is a blurred green forest. In the top right corner, there is a white box containing the text 'Conclusion' and 'HEALTHY PARKS HEALTHY PEOPLE'. In the bottom left corner, there is a quote in white text. In the bottom right corner, there is a citation in white text.

Conclusion

HEALTHY PARKS HEALTHY PEOPLE

“Children who experience high levels of contact with nature are reported to have higher levels of self-worth and higher cognitive function.”

Conclusion
BIOPHILIA

(**bio** = *life*; **philia** = *love*).

HEALTHY PARKS HEALTHY PEOPLE

- Access and proximity to safe high quality parks results in **increased physical activity levels and improved health outcomes, including mental health.**
- people living near more green space reported **less mental distress**, even after adjusting for income, education, and employment
- those who can see trees and grass have been shown to **recover faster** in hospitals, **perform better in school**, and even display **less violent** behavior in neighborhoods where it's common
- Parks foster **social connections** that are vital to community cohesion and contribute to social wellbeing
- Time in nature **reduces stress hormones, heart rate and blood pressure**
- Contact with nature through parks can enhance **spiritual health** (meaning in life) which underpins all other aspects of health
- For children, accessible and safe parks foster active play, which is associated with **physical, cognitive and social benefits**
- For adolescents, parks improve **mental and social health** during what is often a tumultuous time of life
- Park use is linked to **physical and psychological health benefits** among adults, especially older adults

LOOKING AHEAD

Building resilience for the future

Resilience

resilience
rəˈzɪljəns/
noun

1. the capacity to recover quickly from difficulties; toughness.
2. an ability to recover from or **adjust** easily **to** misfortune or **change**.

Building Resilience – core questions

1. How do you ensure residents **value and connect with nature** in a rapidly growing region?
2. How do you **protect ecological integrity** of natural areas in a rapidly growing region?
3. How do you **preserve a meaningful and authentic nature experience** in a rapidly growing region?

- Build New Parks
- Make it easier to access parks
- Improve the ecology of existing parks
- Engage people in the parks
- Protect existing parks/natural areas
- Repurpose old infrastructure
- Consider 'flexible' landscapes
- First Nations



Street-Park





Existing



Future

Solutions
BUILDING RESILIENCE



Existing



Future

Solutions
BUILDING RESILIENCE



Existing



Future

Coal
infrastructure



Transportation
infrastructure



Petroleum
infrastructure



Landfill



Towards 2067

Repurposed
Waste
Infrastructure



Towards 2067

- 320 ha
- Metro Vancouver Zero Waste Goal
- Will close in 2037
- Located next to Burns Bog
- Serves 1.1 million residents
- 500 000 tonnes of waste a year



Towards
2067

Repurposed
Carbon
Infrastructure



Towards 2067

- 80 ha
- Coal – carbon
- Roberts Bank – salmon, orca and migratory bird habitat



QUESTIONS?