

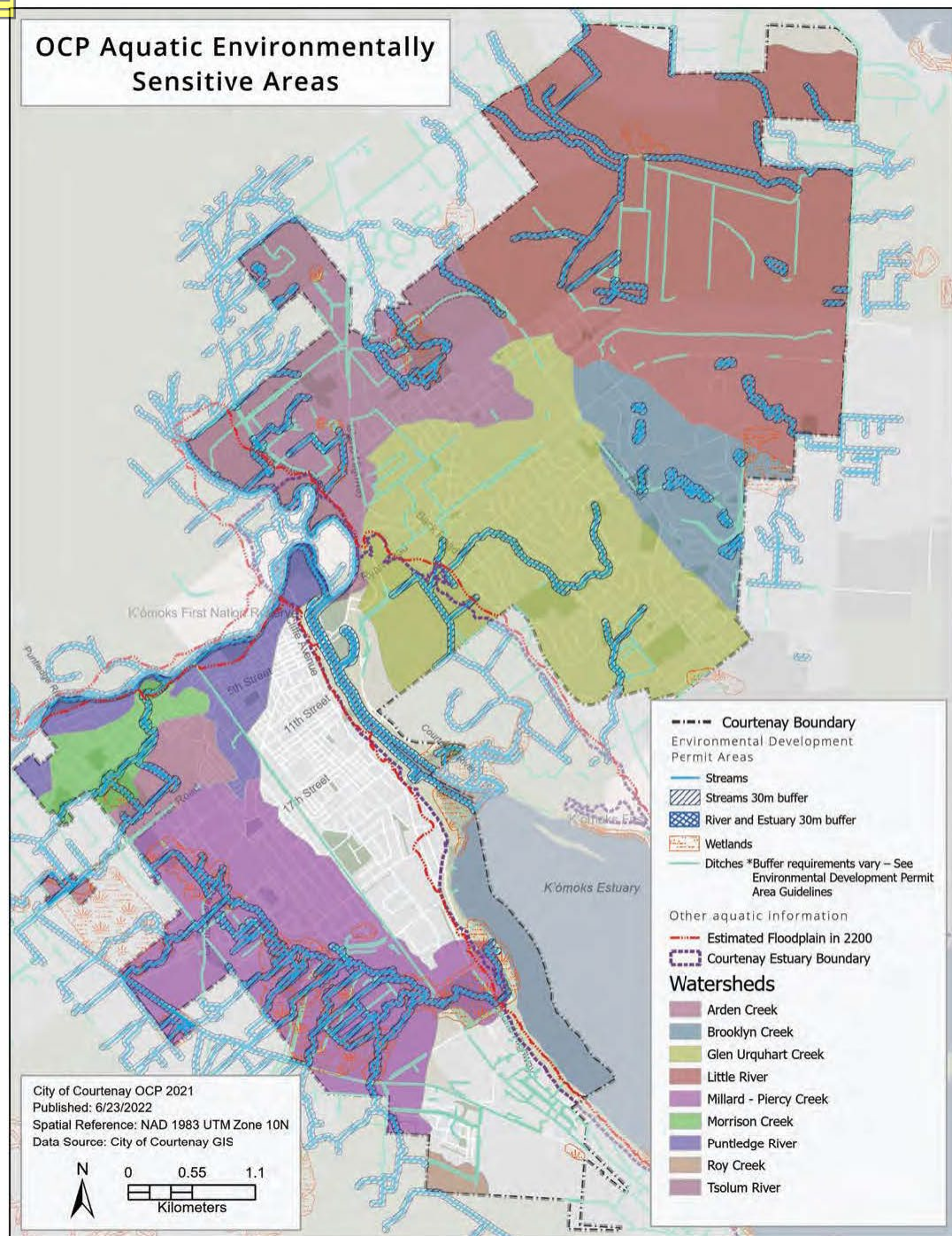
City of Courtenay ESA Mapping, Policies, Future



Nancy Gothard, Manager of Planning, ngotheid@Courtenay.ca

www.Courtenay.ca/OCP

OCP Aquatic Environmentally Sensitive Areas



Environmental Development Permit Areas

- Streams
- Streams 30m buffer
- River and Estuary 30m buffer
- Wetlands
- Ditches *Buffer requirements vary – See Environmental Development Permit Area Guidelines

Other aquatic information

- Estimated Floodplain in 2200
- Courtenay Estuary Boundary

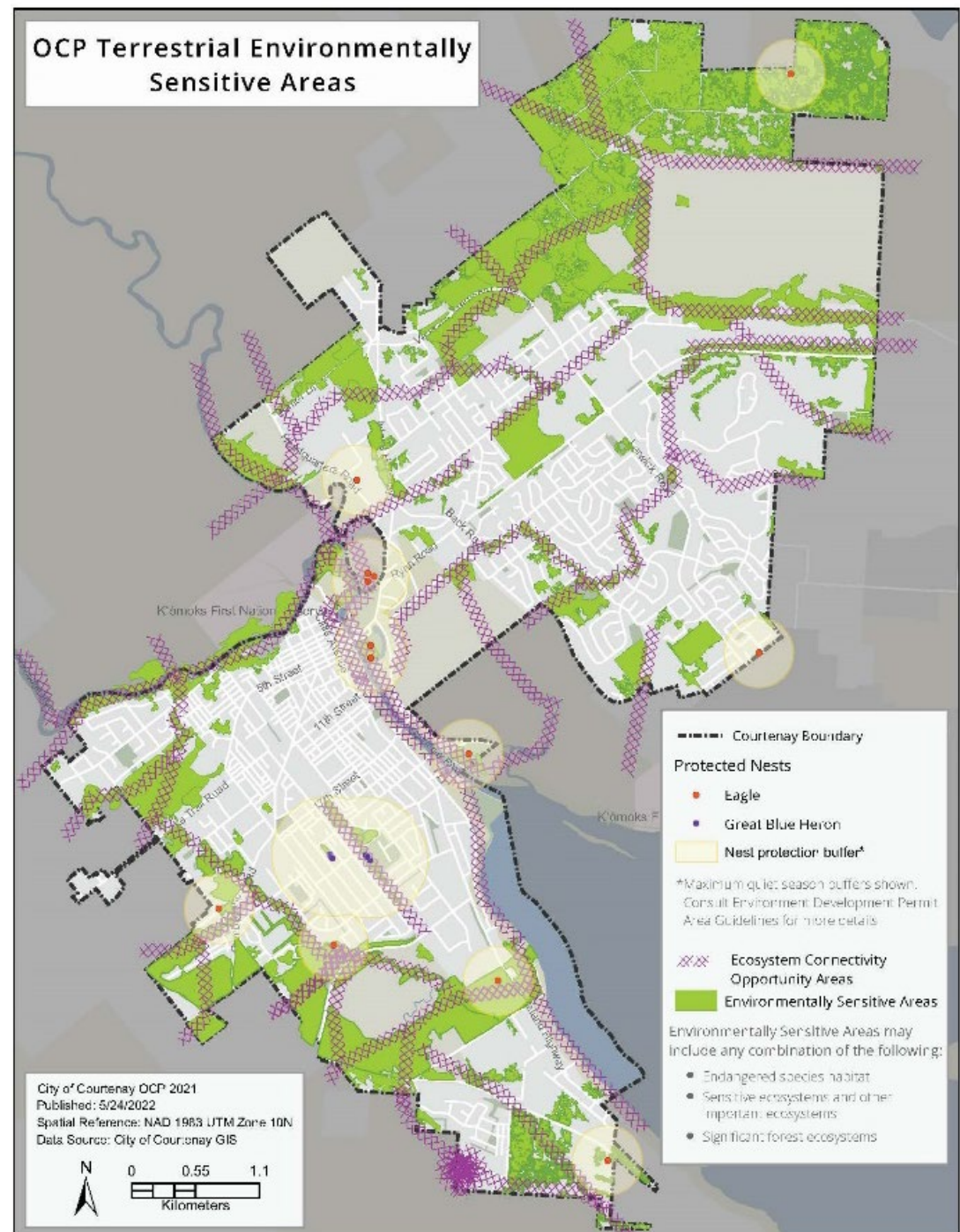
Watersheds

- Arden Creek
- Brooklyn Creek
- Glen Urquhart Creek
- Little River
- Millard - Piercy Creek
- Morrison Creek
- Puntledge River
- Roy Creek
- Tsolum River

City of Courtenay OCP 2021
 Published: 6/23/2022
 Spatial Reference: NAD 1983 UTM Zone 10N
 Data Source: City of Courtenay GIS

N
 0 0.55 1.1
 Kilometers

OCP Terrestrial Environmentally Sensitive Areas



Environmental Development Permit Areas

- Streams
- Streams 30m buffer
- River and Estuary 30m buffer
- Wetlands
- Ditches *Buffer requirements vary – See Environmental Development Permit Area Guidelines

Other aquatic information

- Estimated Floodplain in 2200
- Courtenay Estuary Boundary

Watersheds

- Arden Creek
- Brooklyn Creek
- Glen Urquhart Creek
- Little River
- Millard - Piercy Creek
- Morrison Creek
- Puntledge River
- Roy Creek
- Tsolum River

Protected Nests

- Eagle
- Great Blue Heron
- Nest protection buffer*

*Maximum quiet season buffers shown. Consult Environmental Development Permit Area Guidelines for more details.

Ecosystem Connectivity Opportunity Areas

- Environmentally Sensitive Areas

Environmentally Sensitive Areas may include any combination of the following:

- Endangered species habitat
- Sensitive ecosystems and other important ecosystems
- Significant forest ecosystems

City of Courtenay OCP 2021
 Published: 5/24/2022
 Spatial Reference: NAD 1983 UTM Zone 10N
 Data Source: City of Courtenay GIS

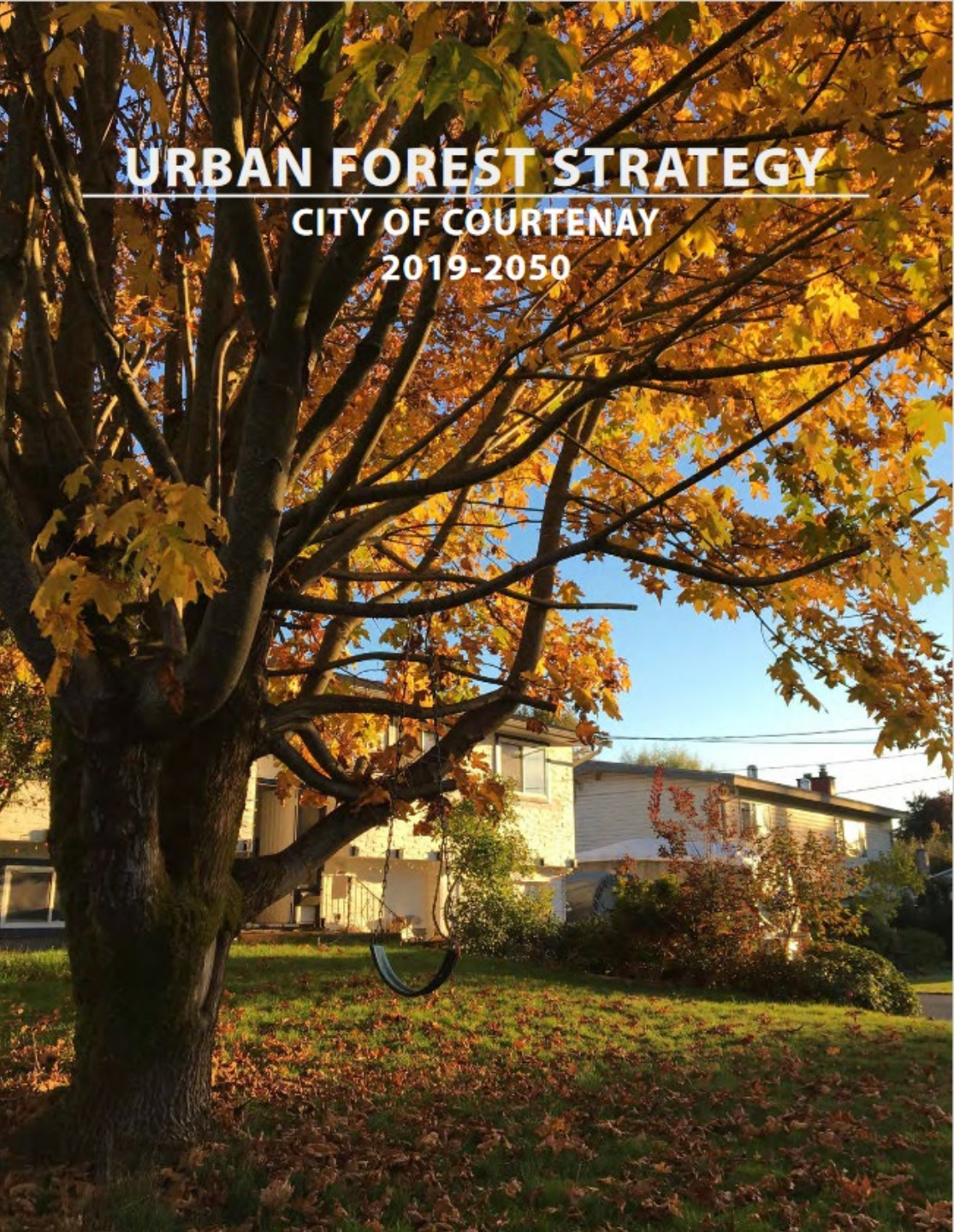
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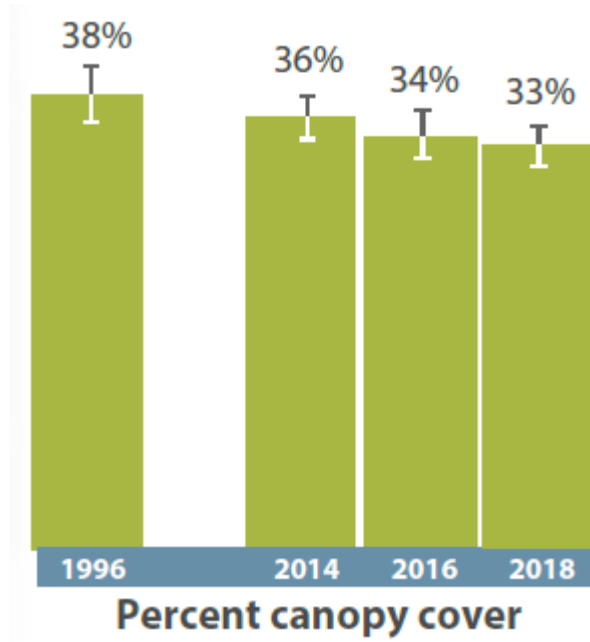
Map data inputs

- SEI (Late 90s/early 00s, and update in 2014)
- SARA Morrison Creek Lamprey Action and Recovery Plans
- CDC data occurrences
- Raptor/Heron nest data (Ministry, WiTS)
- Urban Forest Strategy LiDAR canopy and species analysis

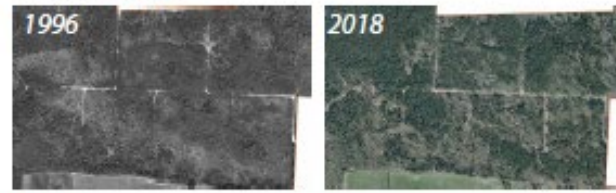
Destroyed features were removed from mapping



Changing forest canopy

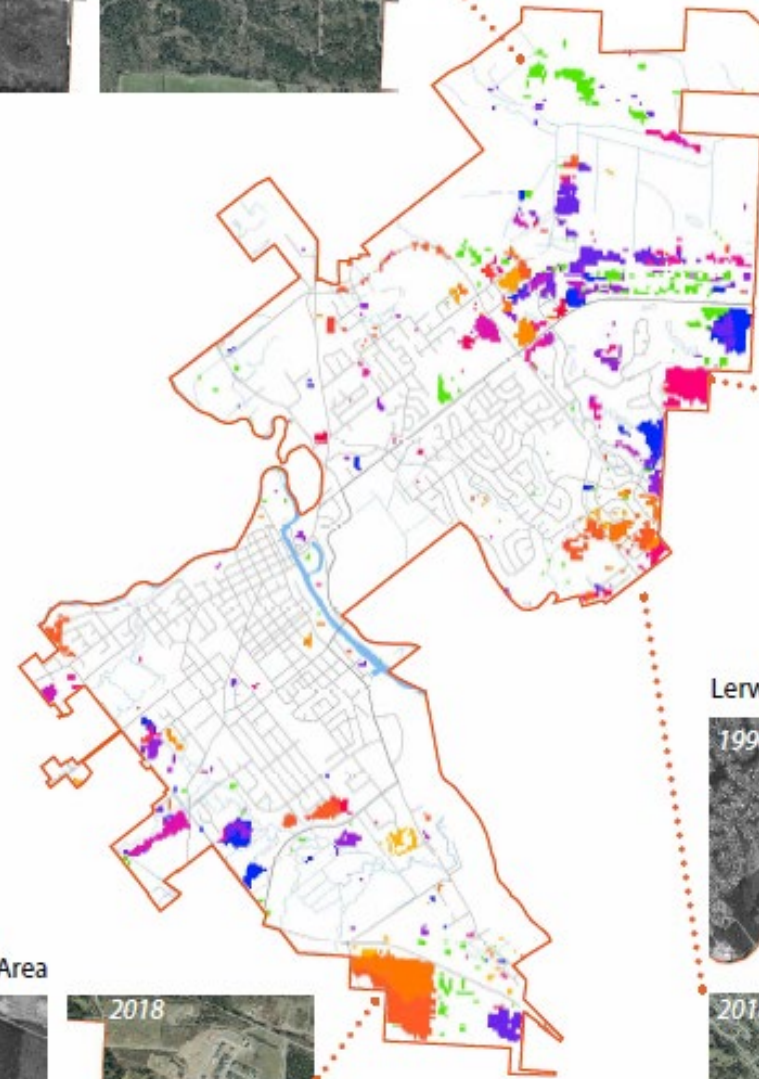
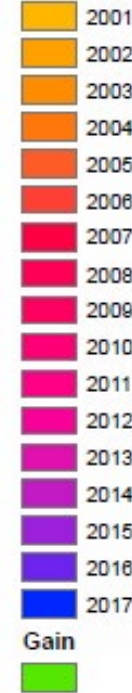


Block 71 Area



Areas of Canopy Change 2000-2017

Loss year



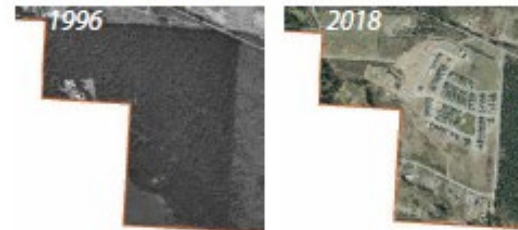
Ryan Road Area



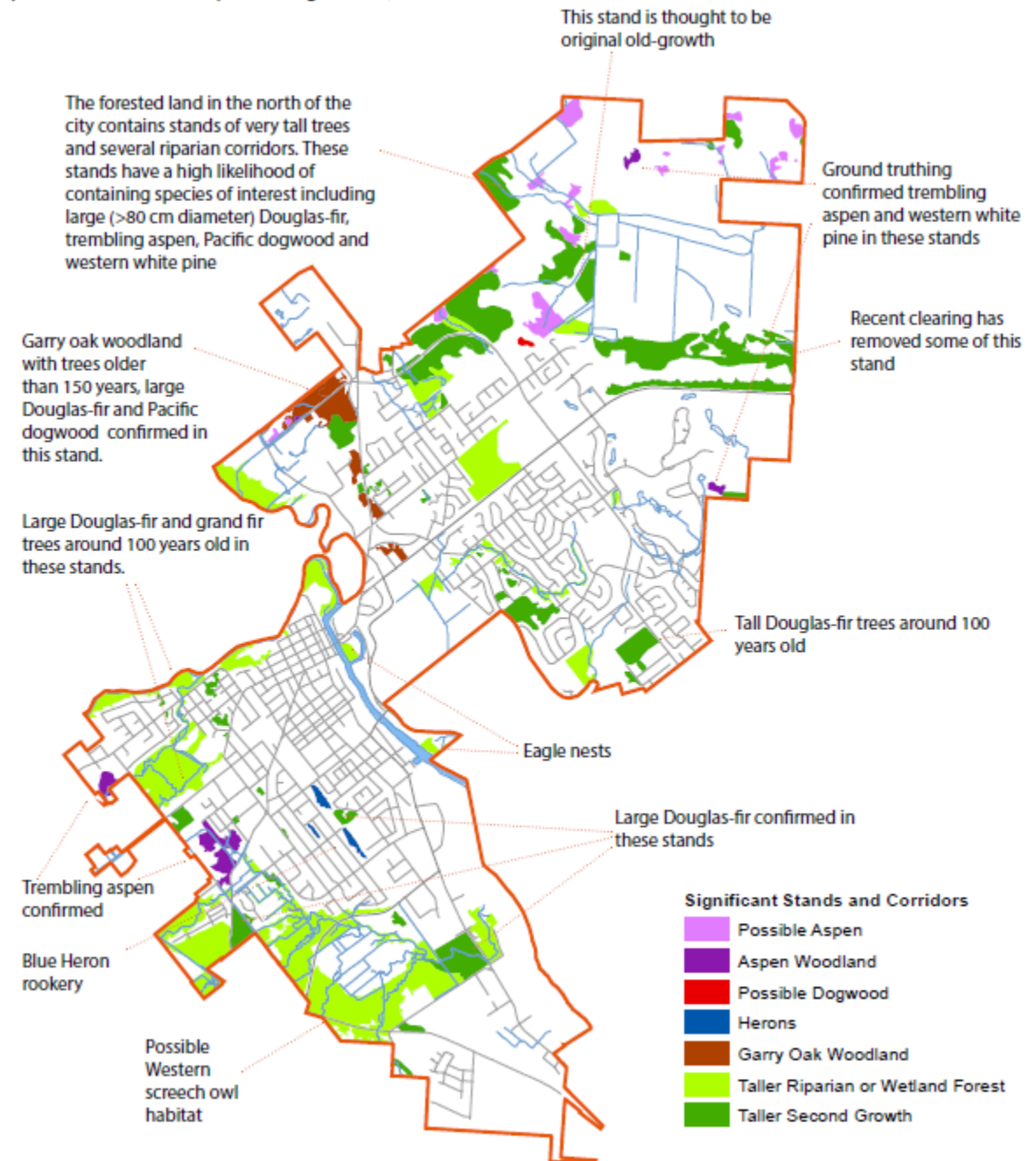
Lerwick Road Area



Buckstone Road Area



Significant stands

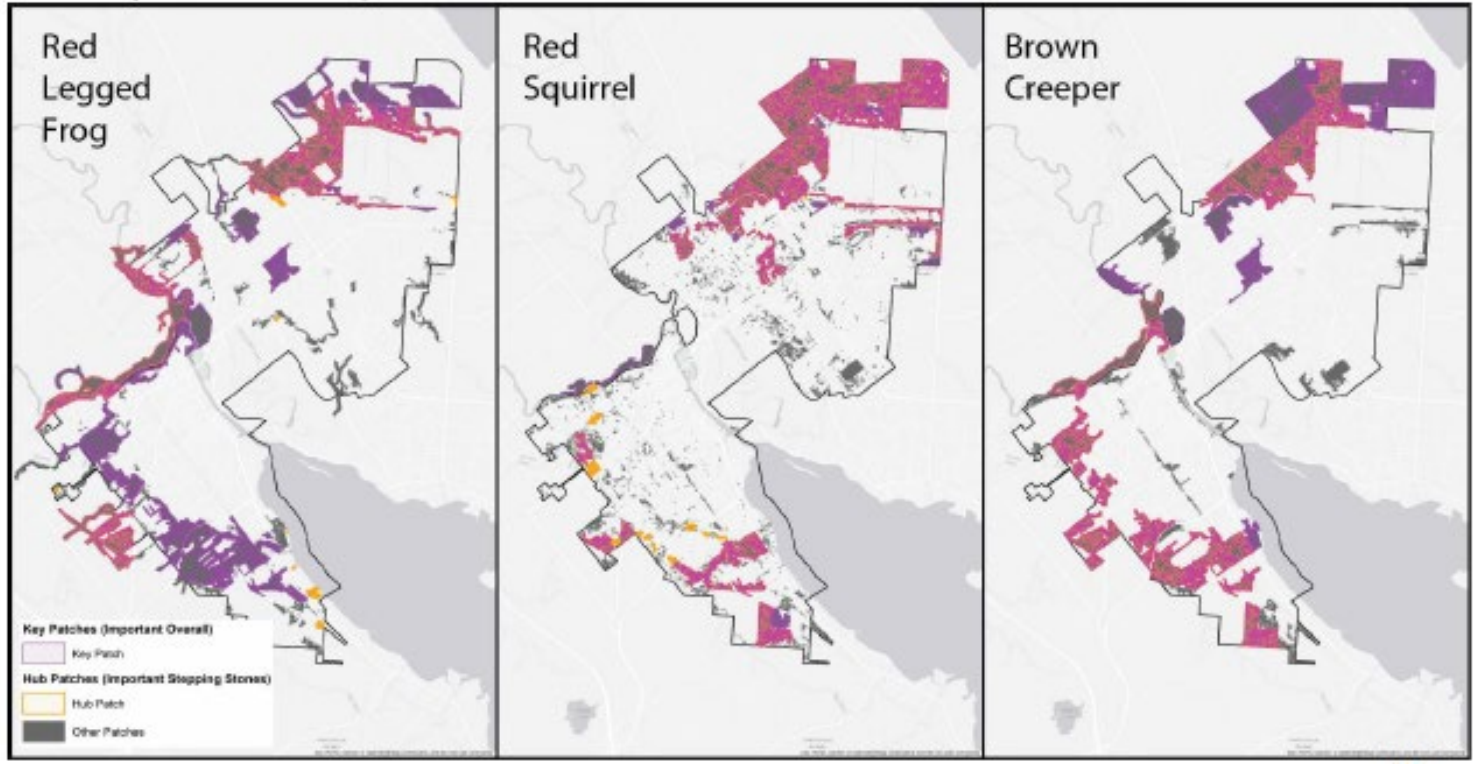




Where are remaining habitat corridors?



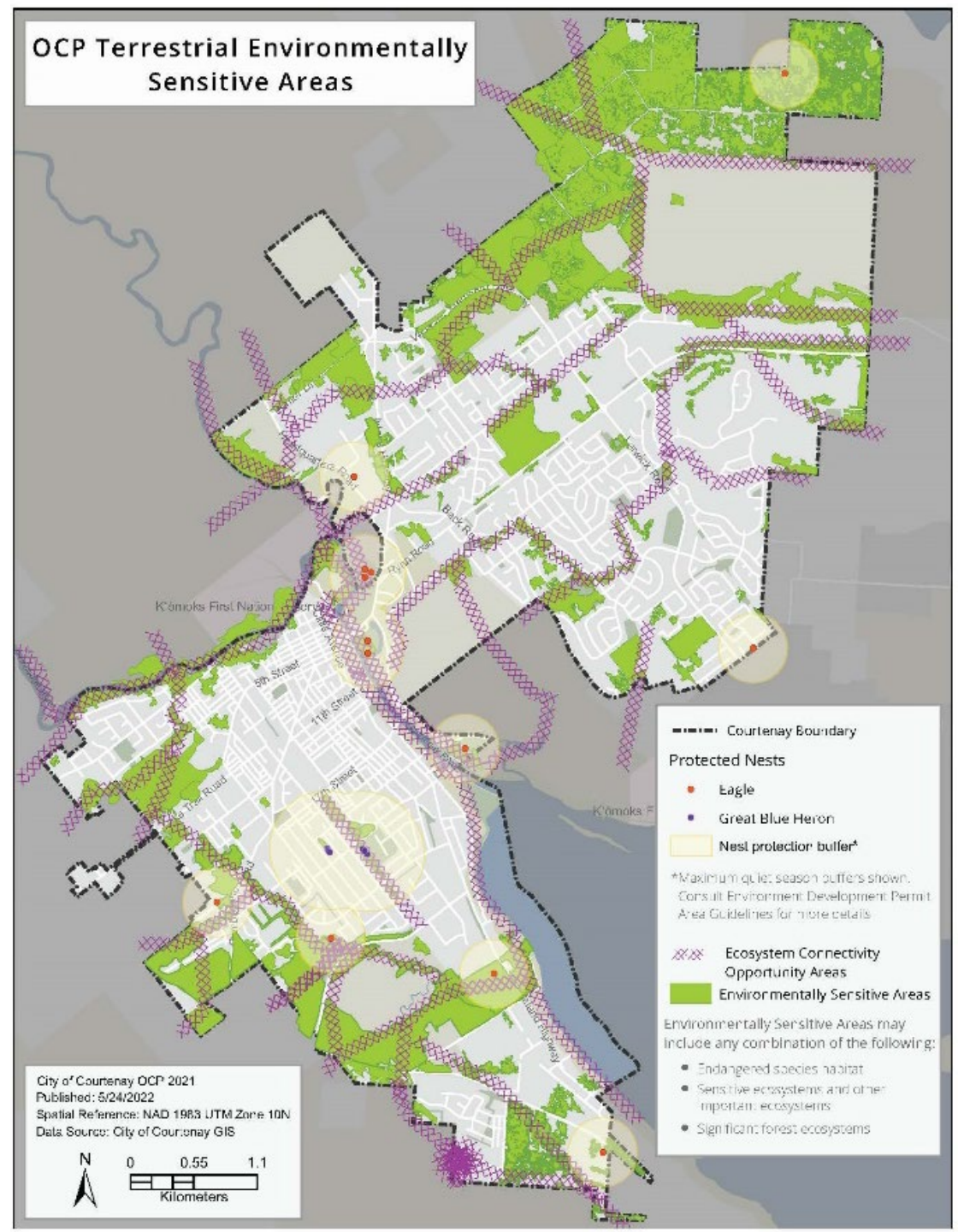
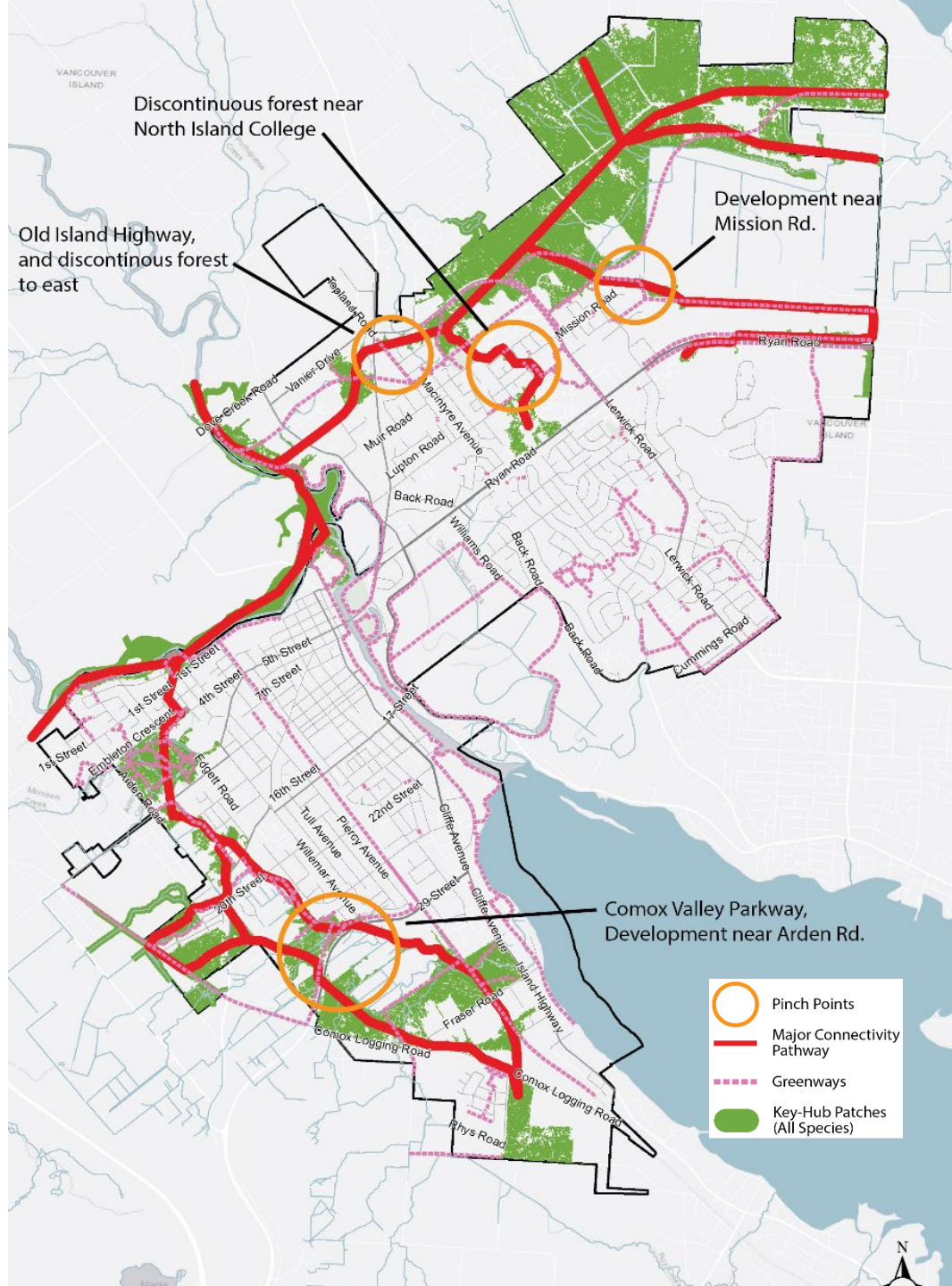
These three maps show forest areas that the red-legged frog, Red Squirrel and Brown Creeper are expected to utilize, respectively. The most important patches for connectivity are highlighted. The map on the following page shows the most likely pathways of movement through the landscape based on these analyses.



Connectivity Model Parameters	<i>Certhia Americana – Brown Creeper</i>
Median Dispersal Distance	88 m
Max Dispersal Distance	2110 m
Min Patch Size	2.3 ha
Land cover types	mature coniferous, deciduous or mixed forests trees >35cm dbh open to closed canopy
Dispersal Road Limited?	no
Dispersal Water Limited?	no

Connectivity Model Parameters	<i>Tamiasciurus hudsonicus- Red Squirrel</i>
Median Dispersal Distance	100 m
Max Dispersal Distance	1 km
Min Patch Size	0.02 ha
Land cover types	mature coniferous forest
Dispersal Road Limited?	no
Dispersal Water Limited?	no

Connectivity Model Parameters	<i>Rana aurora – Red legged frog</i>
Median Dispersal Distance	100 m
Max Dispersal Distance	2.5 km
Min Patch Size	<0.1 ha
Land cover types	mature moist forest marshes ponds ditches springs streambanks
	*Note: this species seasonally migrates from breeding areas (wetlands) to upland (moist) forest areas as per dispersal distances above.
Dispersal Road Limited?	yes
Dispersal Water Limited?	no









Local Governments can not do this work alone

Natural Connections Sustain Biodiversity

The purpose of the natural areas network is to maintain biodiversity by protecting remaining sensitive ecosystems and core habitats for species at risk, and functionally linking these areas on the landscape. The goal is to support ecosystem processes and the health and survival of plant and animal species and populations, using connectivity conservation science. This long-term integrated approach requires the rehabilitation of natural connections between important habitats and sensitive ecosystems, allowing for the movement of species and genetic material. It aims to address the needs of species with broad scale conservation requirements, as well as those with more localized requirements.

Priority Ecological Areas - Lands

COMOX VALLEY
CONSERVATION STRATEGY
COMMUNITY PARTNERSHIP

1:100,000

Reference Map: 92F 14, 15, 11, 10, 6, 7
Map Datum: NAD 83
UTM Zone: UTM 10
Sector Draft: Project Watershed Society
Date: August, 2012

NATURE Without Borders

Second Edition, 2013

Comox Valley Conservation Strategy

Produced in Collaboration with the CVCS Community Partnership
by Lynda Fyfe, Juniper Environmental Services











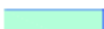





Additional EDPA Guidelines

- EIA for any property that shows an ESA or any property > 1 acre
 - Includes if property was previously disturbed
 - Can require an EDP for restoration purposes only
- RP Bios to evaluate for connectivity in their EIAs*
- 30m buffer on RAPR streams**
- Potential nesting and perch trees for raptors along estuary and within vicinity of nests



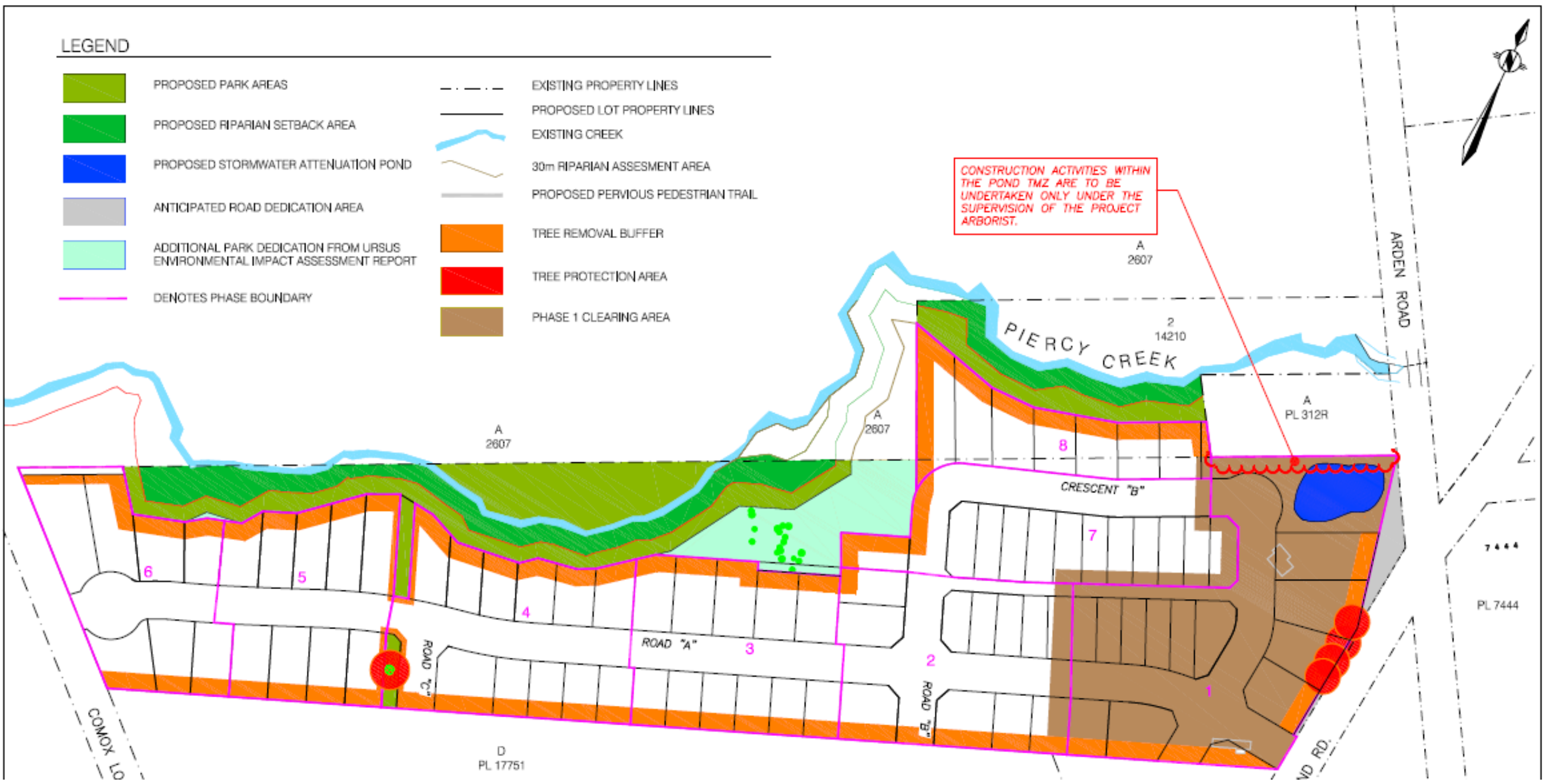
Legend	
	Fish Obstruction
	Garry Oak
	Eagle Nest Tree
	MDI In line Wetland
	Stream SPEA (10 m)
	Wetland SPEA (15-30 m)
	RAFA Nest Tree Buffer
	Proposed Culvert
	Proposed Channel
	Existing Pipe
	Existing Driveway
	Garry Oak CRA
	Wetland (to be removed)
	Flooded Field
	BC ParcelMap

LEGEND

- | | | | |
|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------|
|  | PROPOSED PARK AREAS |  | EXISTING PROPERTY LINES |
|  | PROPOSED RIPARIAN SETBACK AREA |  | PROPOSED LOT PROPERTY LINES |
|  | PROPOSED STORMWATER ATTENUATION POND |  | EXISTING CREEK |
|  | ANTICIPATED ROAD DEDICATION AREA |  | 30m RIPARIAN ASSESMENT AREA |
|  | ADDITIONAL PARK DEDICATION FROM URSUS ENVIRONMENTAL IMPACT ASSESSMENT REPORT |  | PROPOSED PERVIOUS PEDESTRIAN TRAIL |
|  | DENOTES PHASE BOUNDARY |  | TREE REMOVAL BUFFER |
| | |  | TREE PROTECTION AREA |
| | |  | PHASE 1 CLEARING AREA |



CONSTRUCTION ACTIVITIES WITHIN THE POND TMZ ARE TO BE UNDERTAKEN ONLY UNDER THE SUPERVISION OF THE PROJECT ARBORIST.



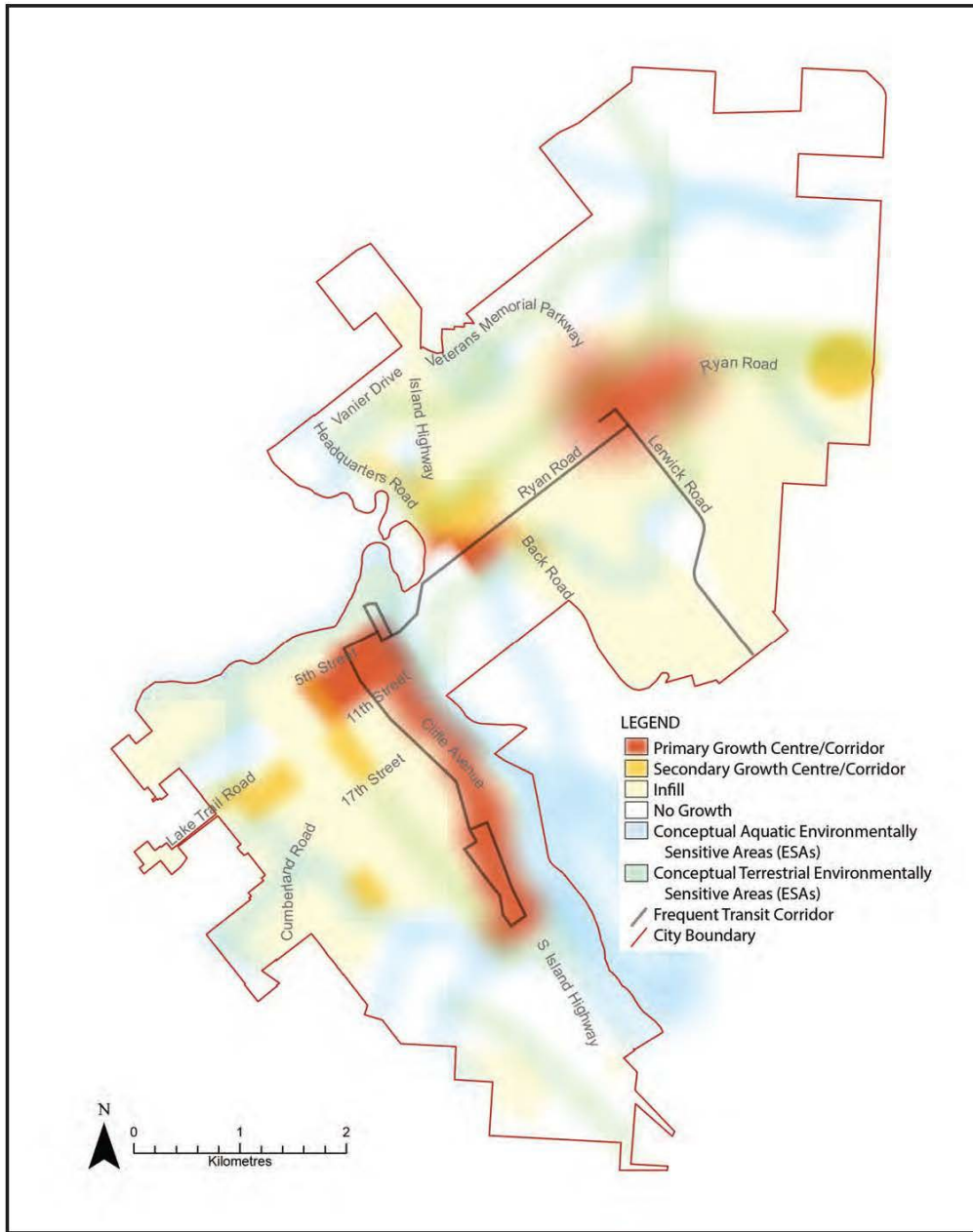


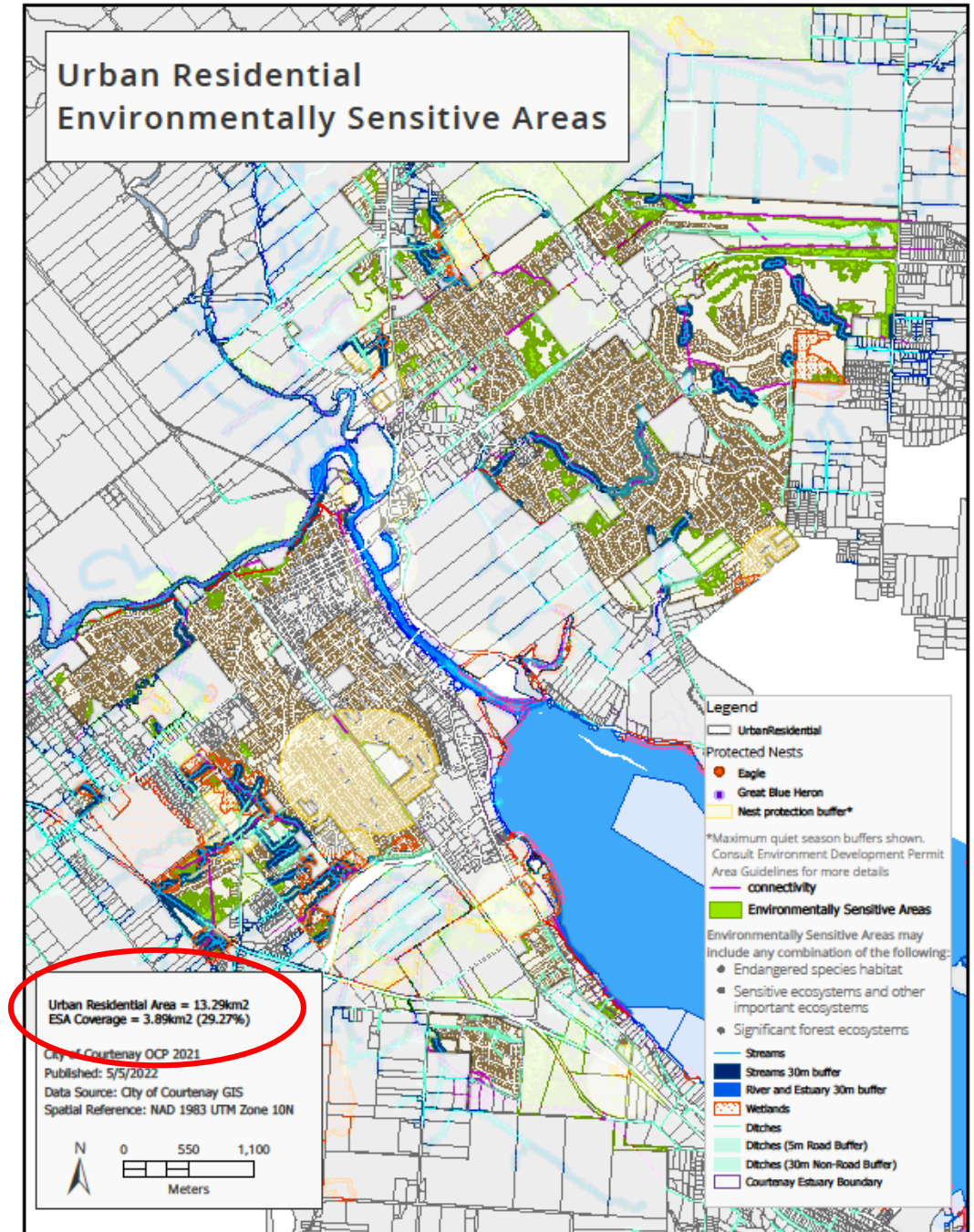
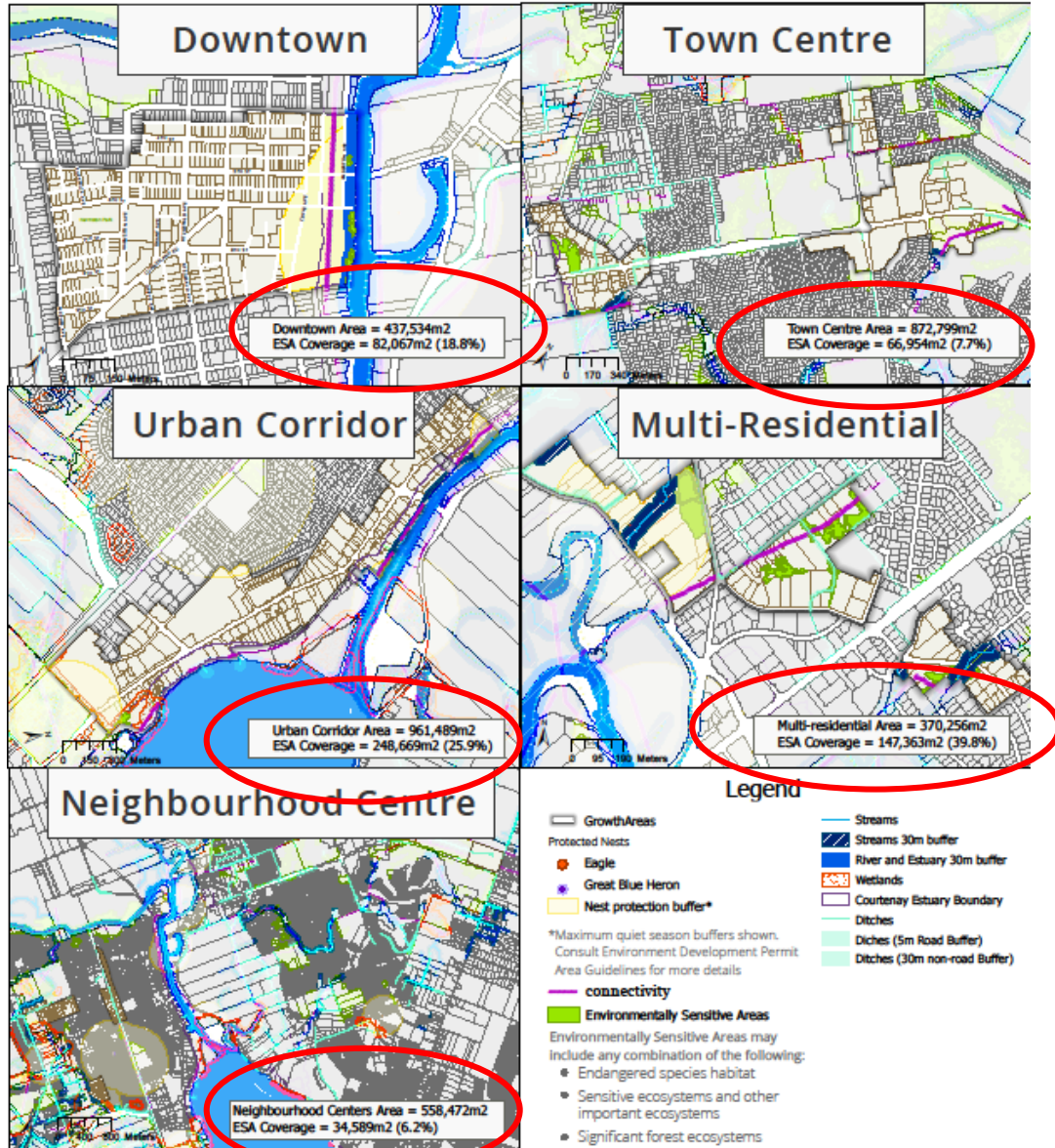
Figure B-1 Urban Framework Growth Concept

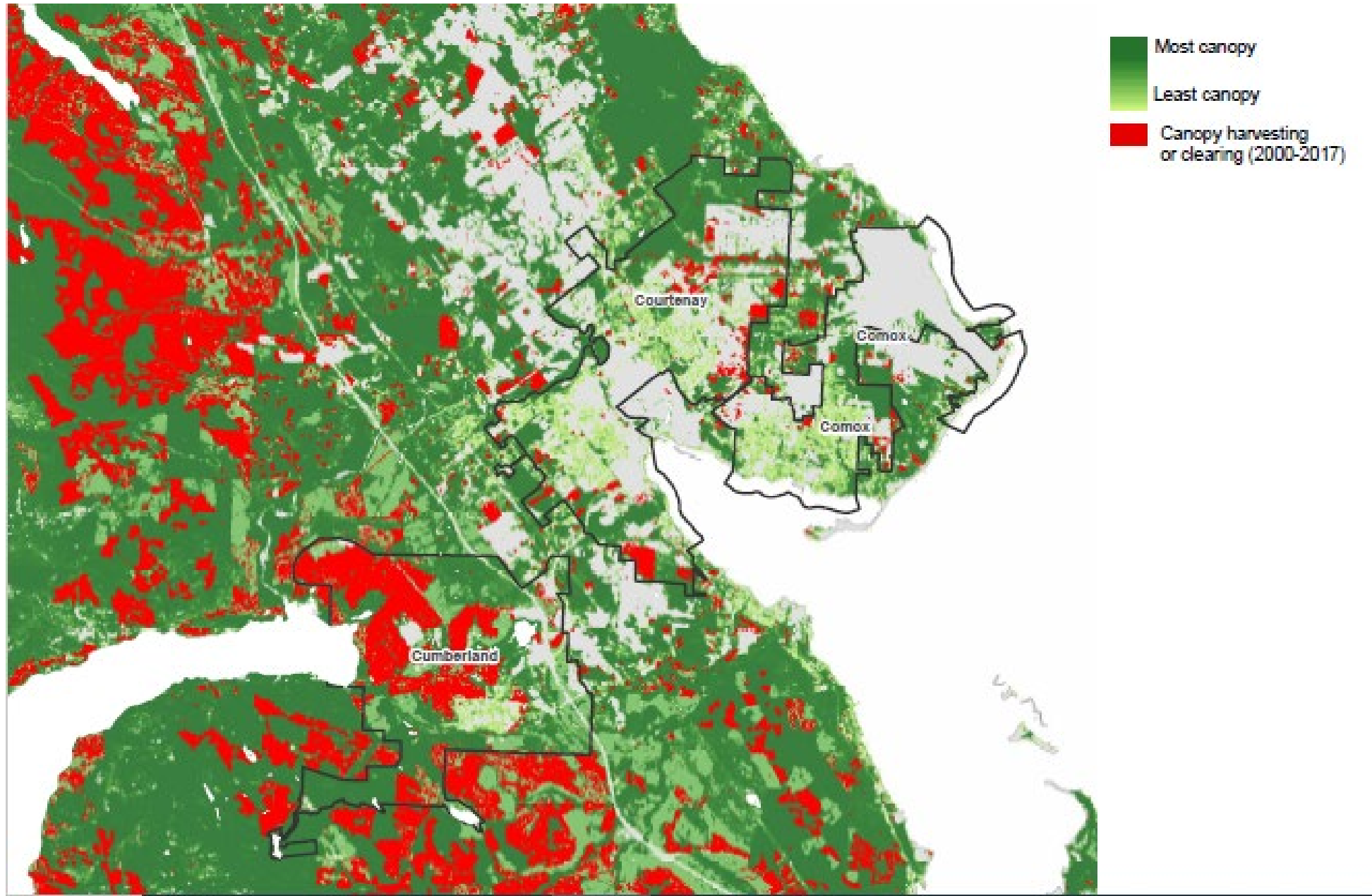


LAND USE OBJECTIVES

1. Community growth is located away from hazardous lands, agricultural lands, and *Environmentally Sensitive Areas*
2. The majority of community growth is strategically guided into growth centres to create more *10-minute neighbourhoods*
3. Moderate *infill* development occurs across the entire city outside of growth centres
4. Sub-area planning provides more direction on growth
5. Municipal infrastructure planning and investments align with the urban framework concept
6. New growth takes place within the existing city boundary

Environmentally Sensitive Areas by Growth Sector

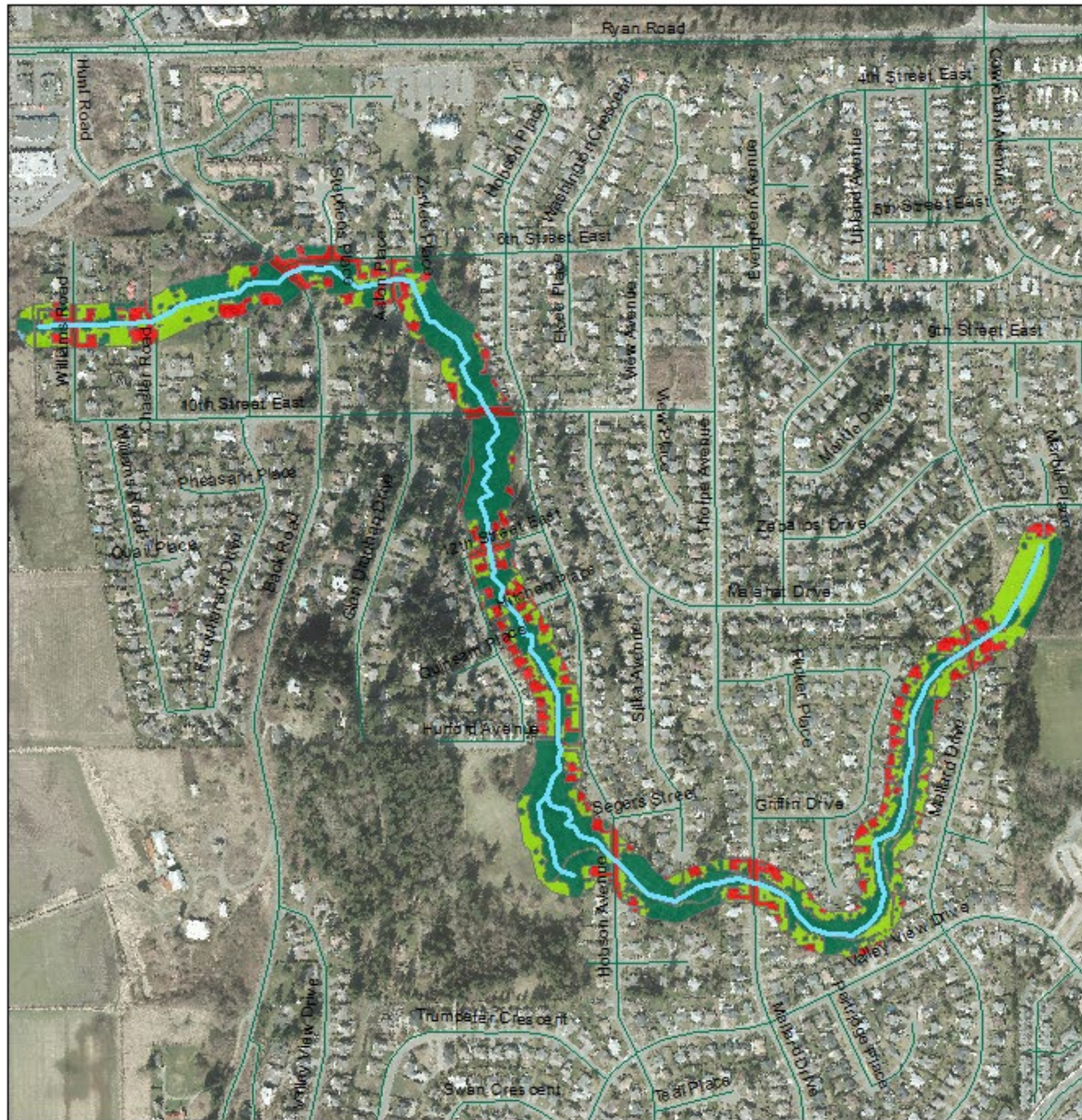




Always more to look at...

Morrison Creek - 30m visualization layered with SARA Critical Habitat setbacks

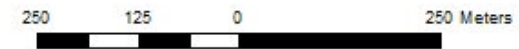
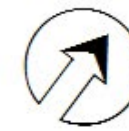




Riparian Forest Integrity Analysis for Glen Urquhart Creek

Surface Cover within 30 m Riparian Corridor

- Canopy Cover: 46.67%
- Impervious: 20.62%
- Open Channel: 1.70%
- Pervious: 31.02%



Identifies opportunities for restoration... as redevelopment occurs. 50-100 year timeline.





"Our street has lots of trees because it's an older one. The trees are what attracted us to this neighbourhood." - Survey respondent

"Plant trees along Ryan road from Back Road up to North Island College to screen traffic, noise and pollution." - Survey respondent

"Corridors of trees should be maintained or planted between neighbourhoods to create distinct character" - Survey respondent

"With strategic tree planting we have an opportunity to dramatically improve Courtenay's main entrance points and thoroughfares." - Survey respondent

"The existing urban forests on public lands should be nurtured and grown." - Survey respondent

"We could use more trees on streets running east-west. I walk a lot and they are very hot in the summer." - Survey respondent

"I think most streets and parks in Courtenay could use a lot more tree cover." - Survey respondent

Downtown

(4) While small canopied, the street trees downtown are valued for their contribution to the street scape. Residents also noted they appreciate the views on 5th Street of either the forested east Courtenay (shown here) or the glacier. Photo credit: Craig Carson.

Greenway

(5 - left) Part of the Riverway Greenway and adjacent to Millard Creek Park, the apartments at Anfield Road demonstrate what an urban-nature interface can achieve.

Redwoods

(6 - right) Redwoods, not native to BC, are scattered throughout a number of west Courtenay properties, a legacy from a resident who brought seeds up from California decades ago.



"What I value most about the urban forest is a quiet shady area to walk daily." - Survey respondent