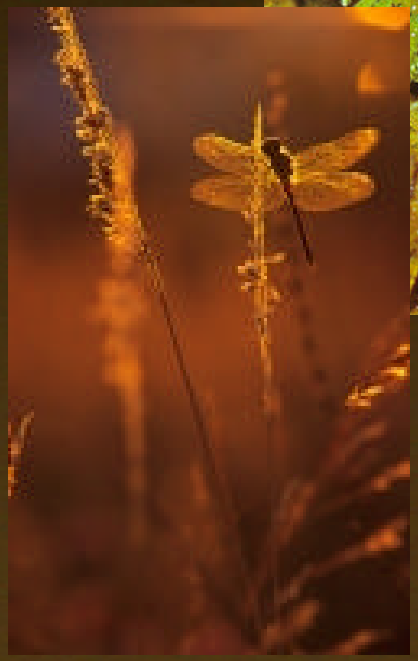
Setting Direction for Conserving British Columbia's Biodiversity

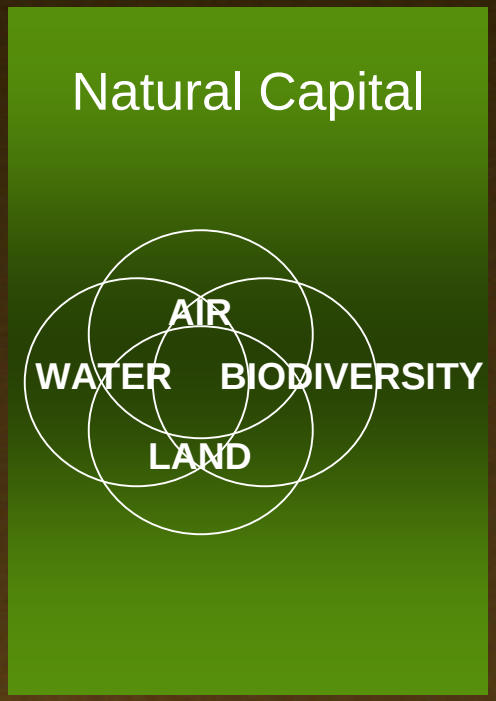
September 26, 2008

What is Biodiversity?

…all living things and the elements and processes that sustain them…



Benefits of Biodiversity



ECOSYSTEM OUTPUTS & BENEFITS

Goods:

- wood and fibers
- food
- fuel
- genetic resources
- pharmaceuticals
- drinking water
- minerals

Services:

- climate regulation
- water purification
- waste treatment
- erosion control
- pest and disease control
- pollination
- soil formation
- photosynthesis

BC Biodiversity

Vision

British Columbia is a spectacular place with healthy, natural and diverse ecosystems that sustain and enrich the lives of all.

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Goals of Biodiversity BC

1. Conserve the Elements of Biodiversity

To maintain the diversity of genes, species and ecosystems, prevent elements of biodiversity from becoming at risk and contribute to global efforts for biodiversity conservation.

Goals of Biodiversity BC

2. **Increase Awareness of the Importance of Biodiversity and Respect for the Natural Environment**

   To increase awareness and understanding about the importance and value of biodiversity and encourage British Columbians to take action on conserving biodiversity.

Goals of Biodiversity BC

3. Provide Tools and Incentives to Enable Biodiversity Conservation

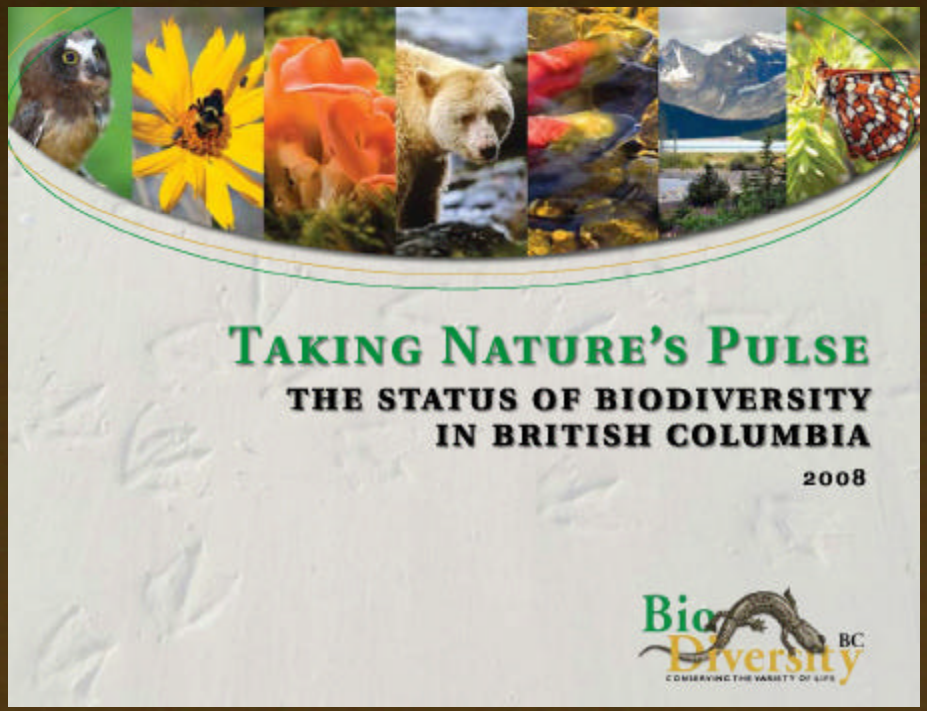
To provide tools and incentives to enable governments (including First Nations), industry, conservation organizations and citizens to improve conservation of British Columbia's biodiversity.

Status Report

Taking Nature's Pulse: The Status of Biodiversity in British Columbia

"As a state of biodiversity report it is as good as any I have seen around the world."

Dr. Hugh Possingham,
University of Queensland



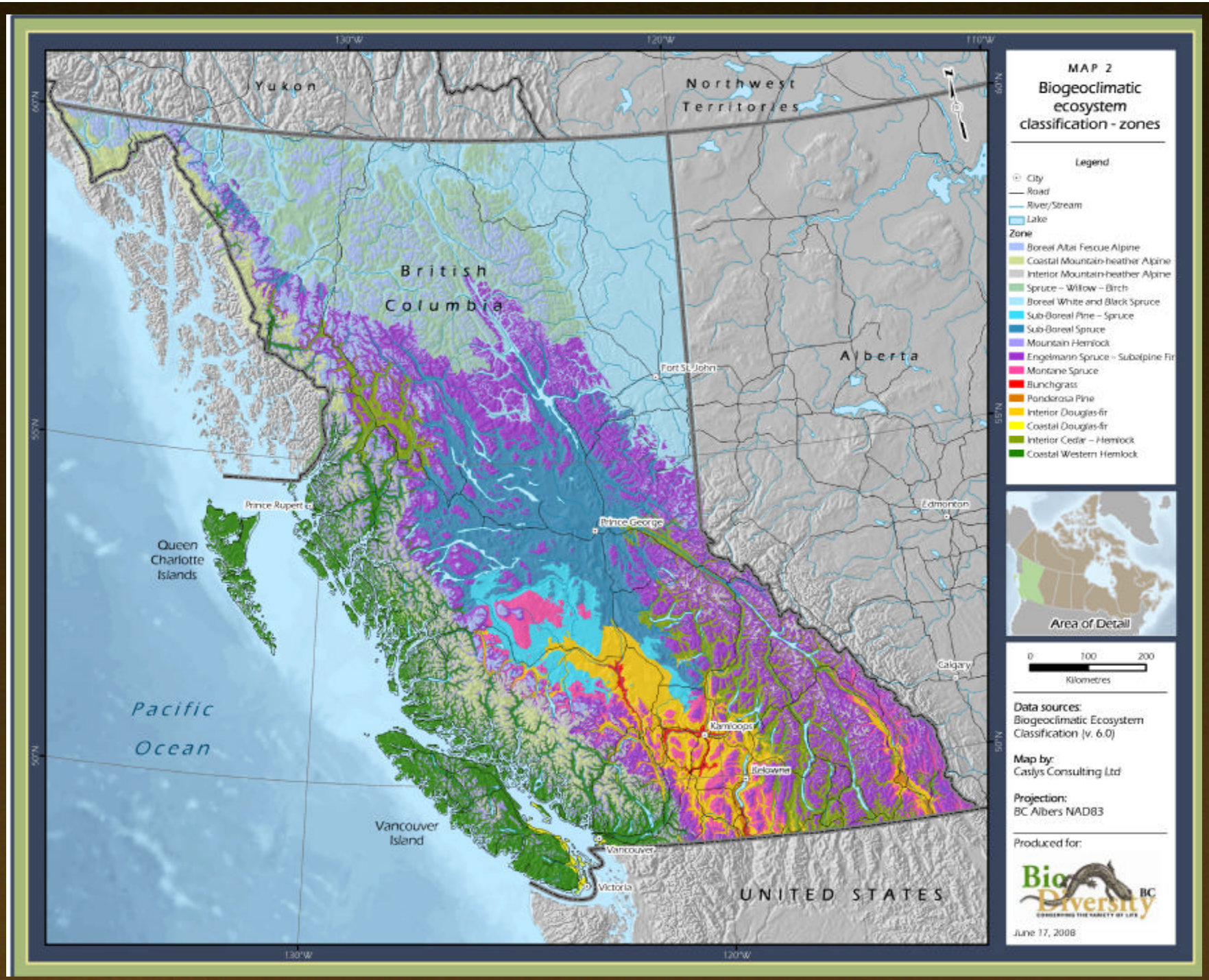
Status Report Major Findings

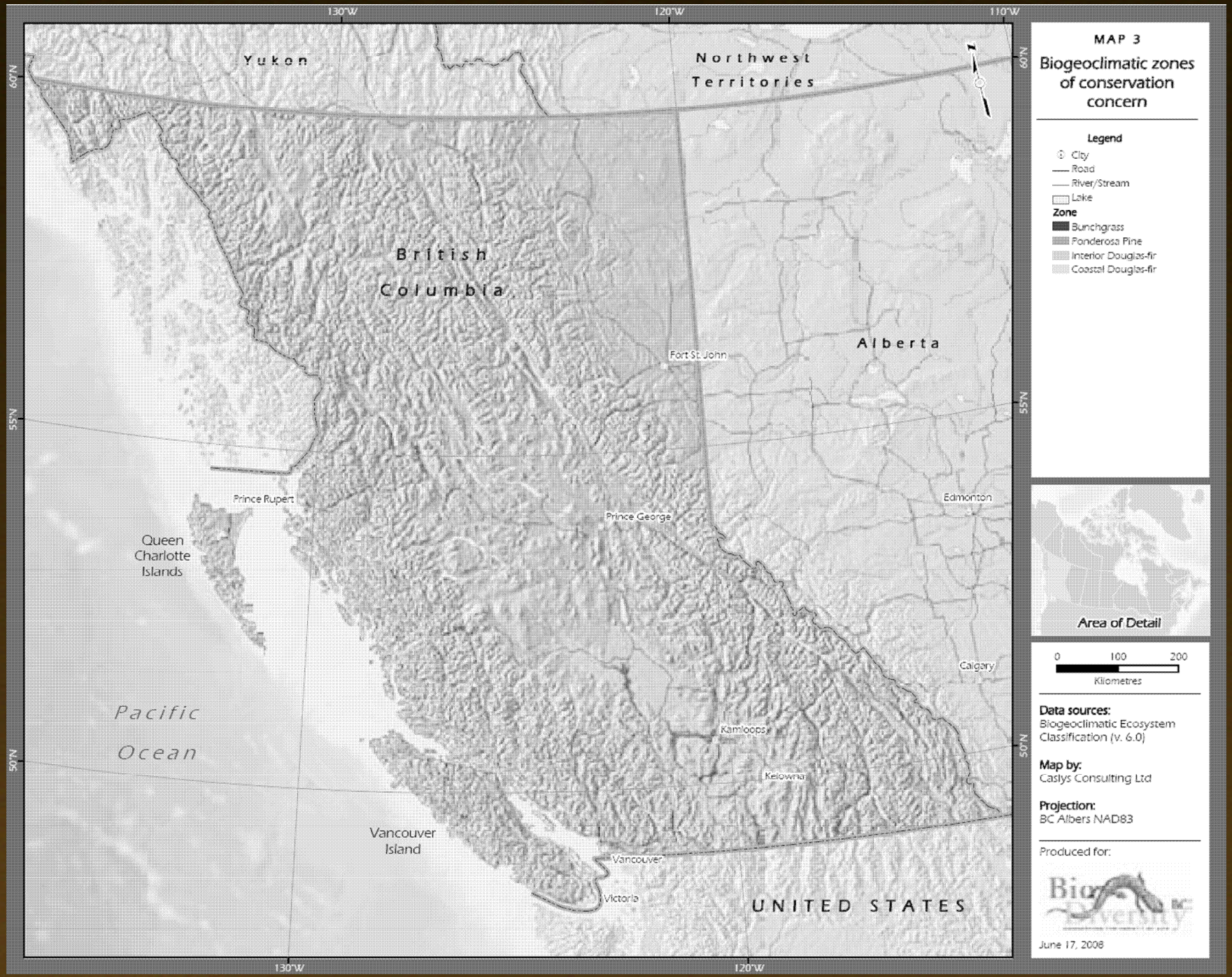
B.C.'s biodiversity is globally significant because of its variety and integrity, but without immediate action it is vulnerable to rapid deterioration, especially in light of climate change

Some Major Findings –

Ecosystem Diversity

- 4 of 16 BEC zones of conservation concern
- 50% plus of 611 ecological communities of conservation concern
- Significant areas of wetlands converted or degraded
- Low elevation grassland communities are the rarest land cover type in B.C.


MAP 2
Biogeoclimatic ecosystem classification - zones
Legend
City
Road
River/Stream
Lake
Zone
Boreal Altai Fescue Alpine
Coastal Mountain-heather Alpine
Interior Mountain-heather Alpine
Spruce – Willow – Birch
Boreal White and Black Spruce
Sub-Boreal Pine – Spruce
Sub-Boreal Spruce
Mountain Hemlock
Engelmann Spruce – Subalpine Fir
Montane Spruce
Bunchgrass
Ponderosa Pine
Interior Douglas-fir
Coastal Douglas-fir
Interior Cedar – Hemlock
Coastal Western Hemlock
Area of Detail
0 100 200
Kilometres
Data sources:
Biogeoclimatic Ecosystem Classification (v. 6.0)
Map by:
Caslys Consulting Ltd
Projection:
BC Albers NAD83
Produced for:
June 17, 2008
Yukon
Northwest Territories
British Columbia
Alberta
Fort St. John
Prince Rupert
Prince George
Edmonton
Calgary
Queen Charlotte Islands
Pacific Ocean
Kamloops
Kelowna
Vancouver Island
Vancouver
Victoria
UNITED STATES
130°W
120°W
110°W
60°N
55°N
50°N



MAP 3

Biogeoclimatic zones of conservation concern

Legend

- City
- Road
- River/Stream
- Lake

Zone

- Bunchgrass
- Ponderosa Pine
- Interior Douglas-fir
- Coastal Douglas-fir

0 100 200

Kilometres

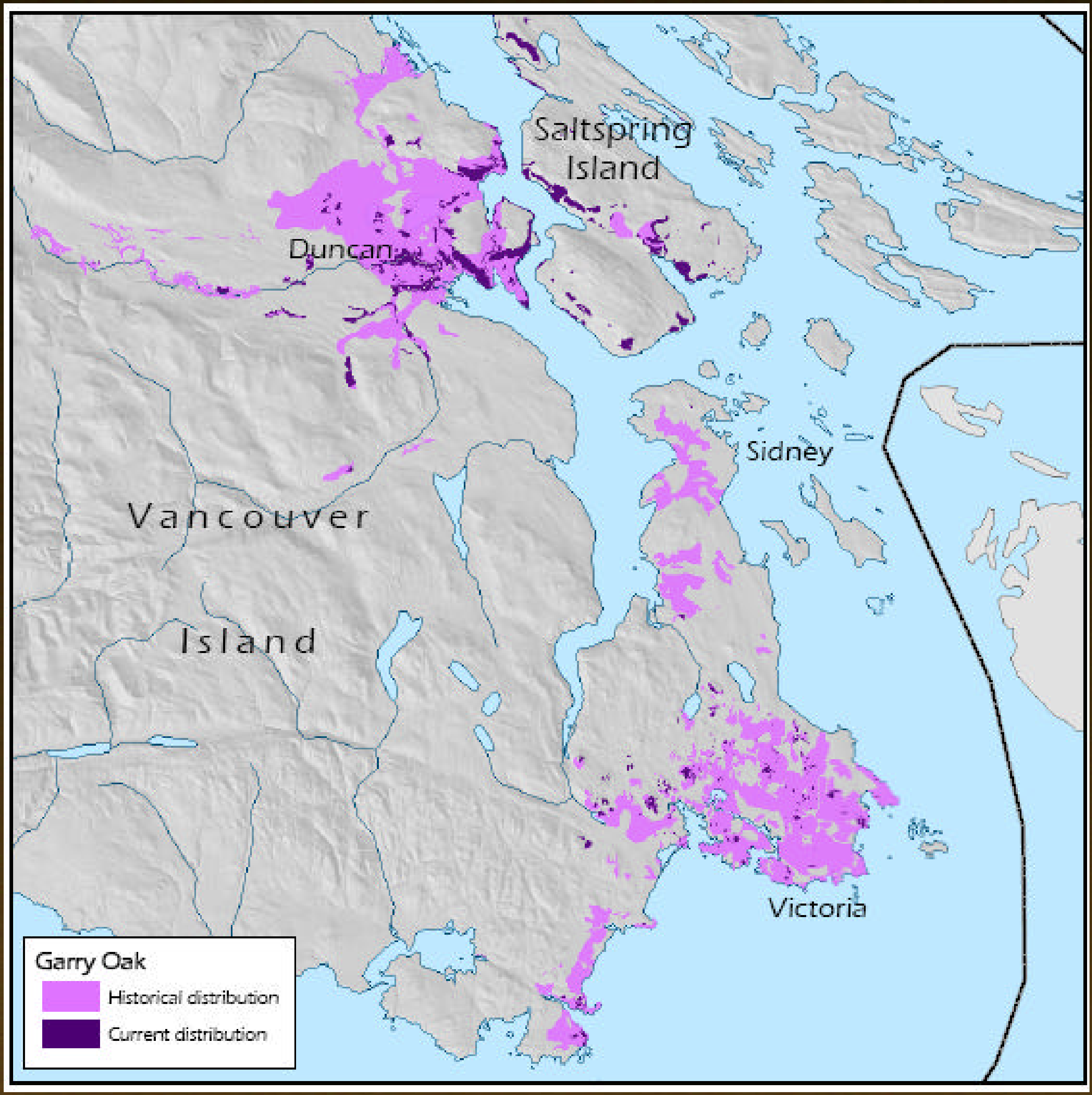
Data sources:
Biogeoclimatic Ecosystem Classification (v. 6.0)

Map by:
Caslys Consulting Ltd

Projection:
BC Albers NAD83

Produced for:

June 17, 2008



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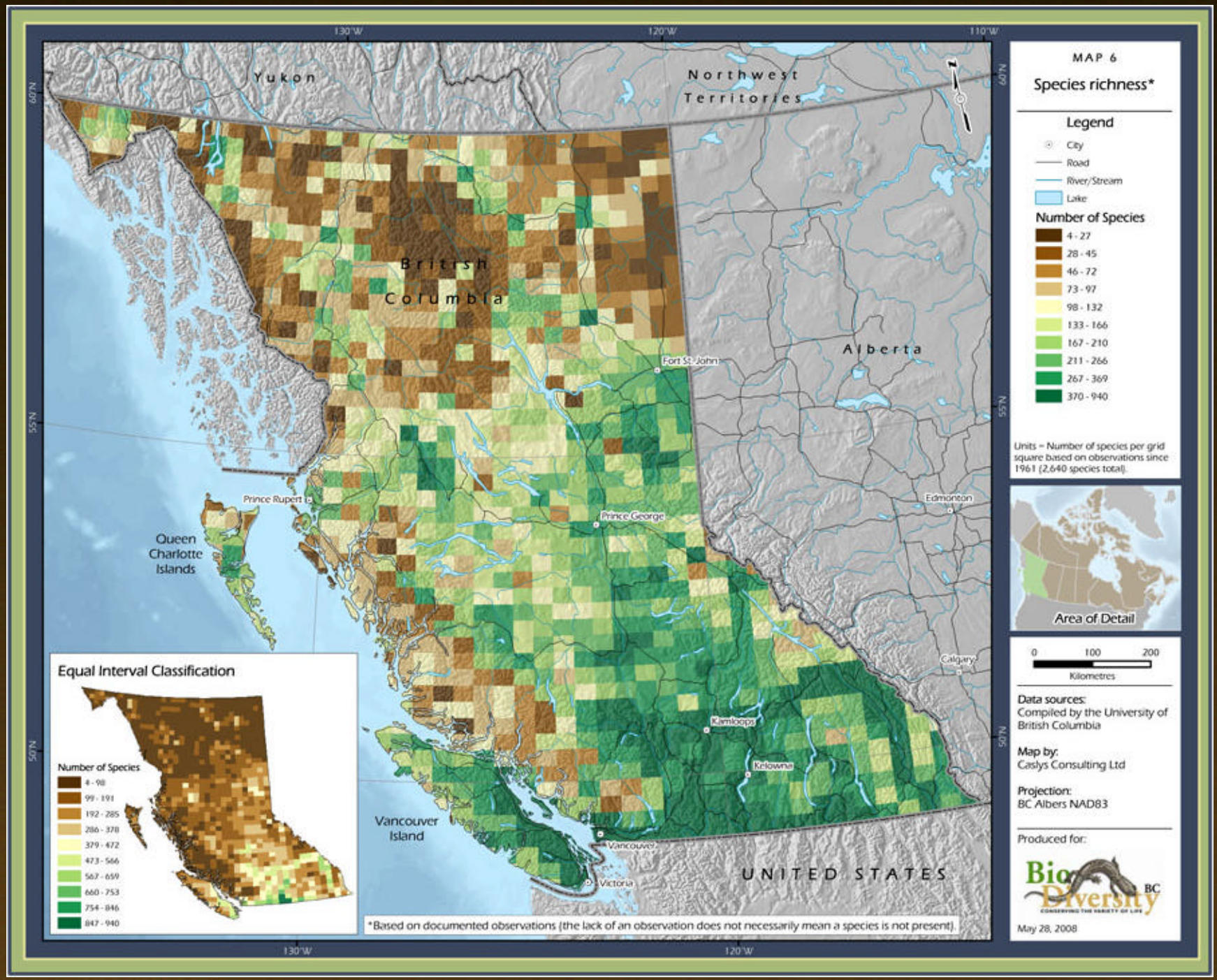
Some Major Findings –

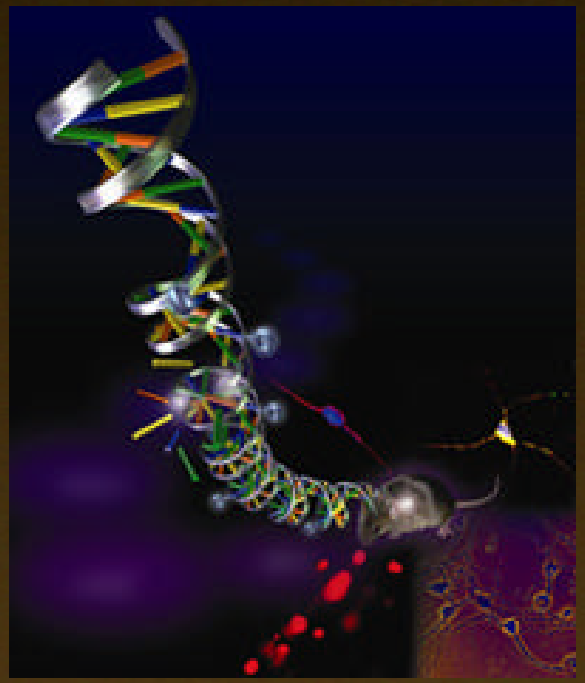
Species Diversity

- 43% of species assessed are of conservation concern
- B.C. has a majority of the global range for 99 species


MAP 6
Species richness*
Legend
City
Road
River/Stream
Lake
Number of Species
4 - 27
28 - 45
46 - 72
73 - 97
98 - 132
133 - 166
167 - 210
211 - 266
267 - 369
370 - 940
Units = Number of species per grid square based on observations since 1961 (2,640 species total).
Area of Detail
0 100 200
Kilometres
Data sources:
Compiled by the University of British Columbia
Map by:
Caslys Consulting Ltd
Projection:
BC Albers NAD83
Produced for:
BC Biodiversity
May 28, 2008
Yukon
Northwest Territories
British Columbia
Alberta
UNITED STATES
Queen Charlotte Islands
Vancouver Island
Fort St. John
Prince Rupert
Prince George
Edmonton
Calgary
Kamloops
Kelowna
Vancouver
Victoria
130°W
120°W
110°W
60°N
55°N
50°N
Equal Interval Classification
Number of Species
4 - 98
99 - 191
192 - 285
286 - 378
379 - 472
473 - 566
567 - 659
660 - 753
754 - 846
847 - 940
*Based on documented observations (the lack of an observation does not necessarily mean a species is not present).

Some Major Findings – Genetic Diversity

- B.C. has high levels of genetic diversity within species which are critical for adaptation and resilience



Some Major Findings –
Key and Special Elements

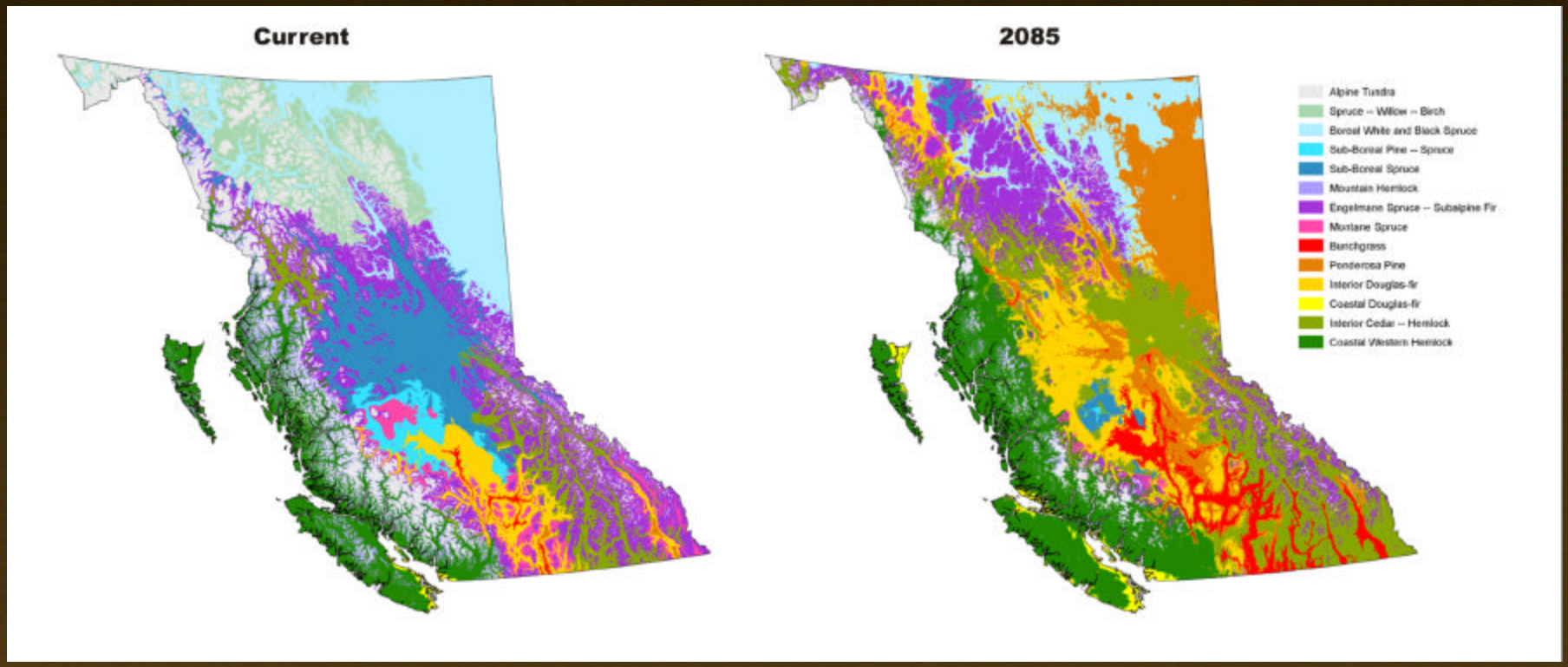
- Water flow in lakes, wetlands and groundwater systems is being seriously affected
- The majority of B.C. has relatively intact predator-prey systems
- B.C. has significant seasonal concentrations of species vulnerable to human impact

Some Major Findings –

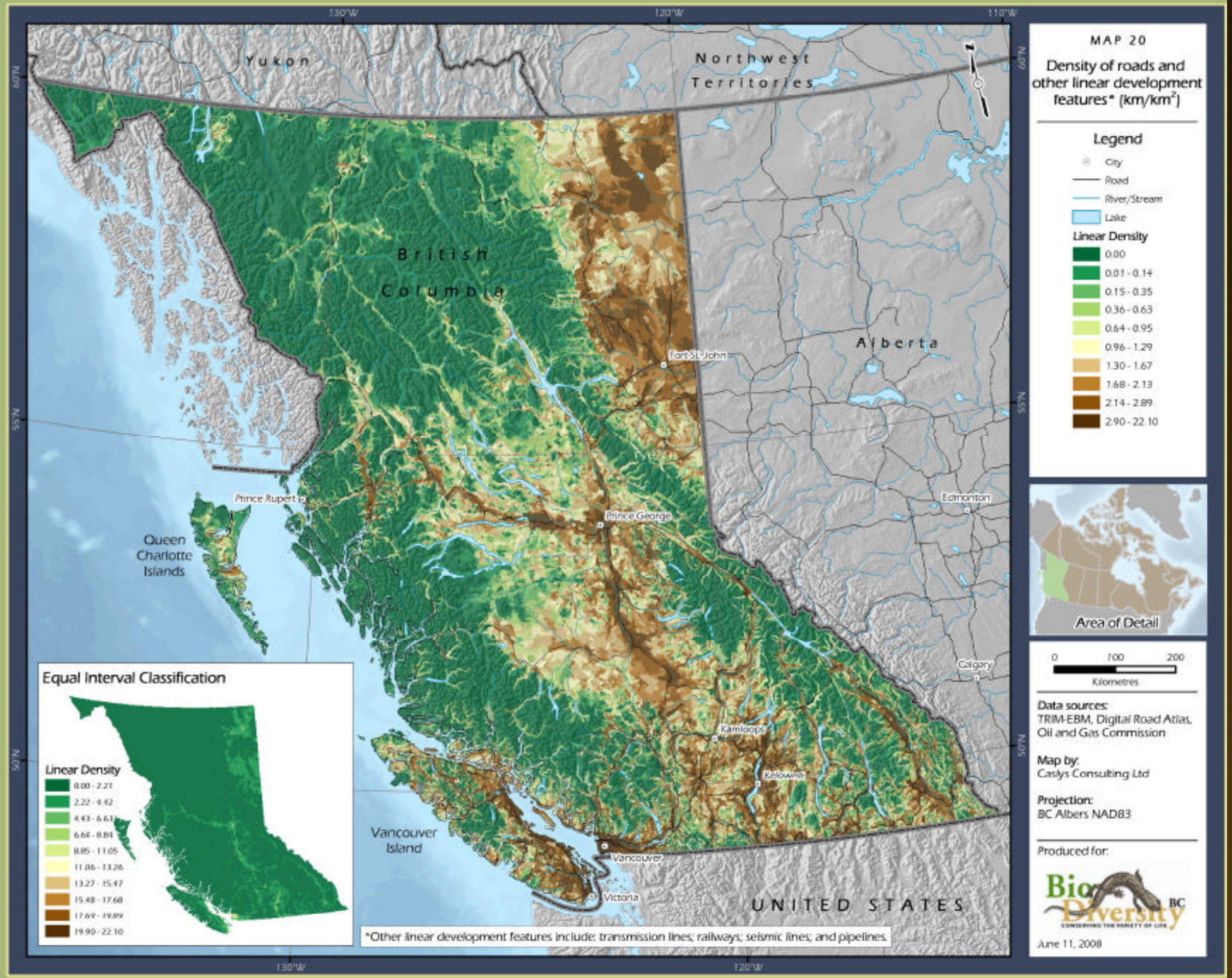
Threats to Biodiversity

- Climate change is the foremost threat to biodiversity
- Ecosystem conversion and degradation have seriously impacted biodiversity
- Alien species are seriously impacting biodiversity
- Ecosystem connectivity is being lost and will limit species distribution

Potential shift in BEC Zones by 2085 due to climate change



BC Biodiversity


MAP 20
Density of roads and other linear development features* (km/km²)
Legend
City
Road
River/Stream
Lake
Linear Density
0.00
0.01 - 0.14
0.15 - 0.35
0.36 - 0.63
0.64 - 0.95
0.96 - 1.29
1.30 - 1.67
1.68 - 2.13
2.14 - 2.89
2.90 - 22.10
Area of Detail
0 100 200
Kilometres
Data sources:
TRIM-EBM, Digital Road Atlas, Oil and Gas Commission
Map by:
Caslys Consulting Ltd
Projection:
BC Albers NAD83
Produced for:
BC Biodiversity
June 11, 2008
Equal Interval Classification
Linear Density
0.00 - 2.21
2.22 - 4.42
4.43 - 6.63
6.64 - 8.84
8.85 - 11.05
11.06 - 13.26
13.27 - 15.47
15.48 - 17.68
17.69 - 19.89
19.90 - 22.10
*Other linear development features include: transmission lines; railways; seismic lines; and pipelines.
Yukon
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Prince George
Edmonton
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Vancouver Island
Queen Charlotte Islands
UNITED STATES
130°W
120°W
110°W
60°N
55°N
50°N

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Path Forward

- conduct further analysis to determine conservation priorities arising from *Taking Nature's Pulse*
- distribute *Taking Nature's Pulse* to local governments as a tool to support land use planning
- conduct presentations/workshops to facilitate action on major findings in *Taking Nature's Pulse*
- support development of the provincial Conservation Framework
- develop incentives and promote use of conservation tools

Accessing BBC Information

Website

www.biodiversitybc.org

- Science Foundation Reports

BBC Secretariat –

info@biodiversitybc.org

- DVD's available soon

Hectares BC – www.hectaresbc.org

The Challenge…

As you move forward on climate change, green community and sustainability initiatives how can you:

- access the best available science
- define biodiversity's contribution to community well-being
- use *Taking Nature's Pulse* as a tool to create green communities
- develop climate action and sustainability plans that address the major findings in *Taking Nature's Pulse*
- learn more about ecological health and biodiversity initiatives in other communities

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