



IUFRO Conference on
Biodiversity in Forest
Ecosystems and Landscapes

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

August 8, 2008

Who is Biodiversity BC?

- Ducks Unlimited Canada
- Environment Canada (Canadian Wildlife Service)
- Government of British Columbia (Ministry of Environment, Ministry of Agriculture and Lands)
- Habitat Conservation Trust Foundation
- The Land Conservancy of British Columbia
- Nature Conservancy Canada
- The Nature Trust of British Columbia
- Pacific Salmon Foundation
- Public Land ENGOs (represented by Canadian Parks and Wilderness Society)
- Union of British Columbia Municipalities (represented by Metro Vancouver)

Context

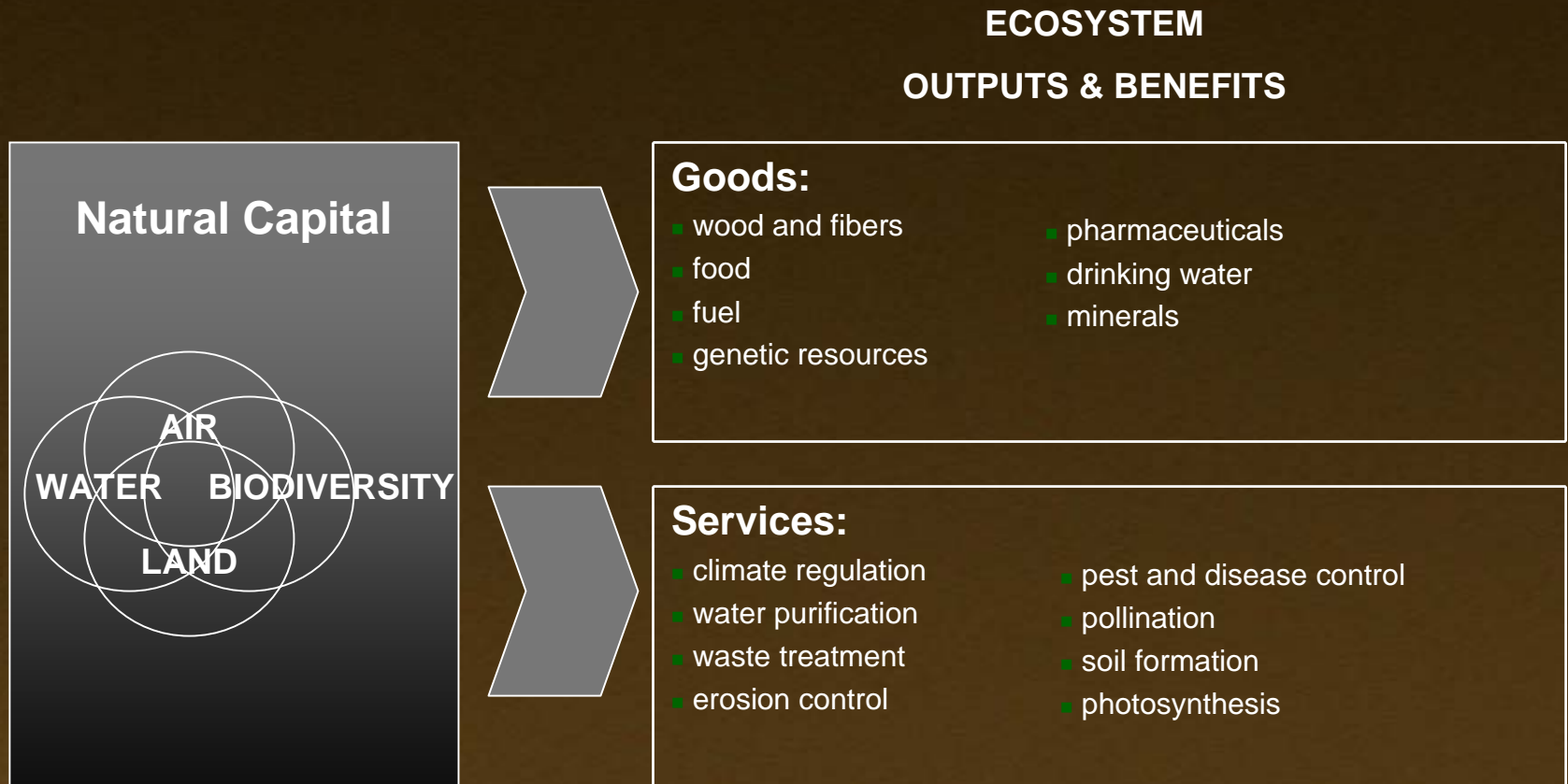
- Historical Overview 2004 - 2008
- Collaboration & Synergy

What is Biodiversity?

*...all living things
and the elements
and processes
that sustain
them...*



Benefits of Biodiversity



Vision

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



Goals

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

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.

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.

Accomplishments

- Science Foundation
 - ◆ Ecological Principles
 - ◆ Atlas of Biodiversity
 - ◆ Background science reports
 - ◆ Status Report
 - ◆ Hectares BC
- Education and Stewardship
- Website www.biodiversitybc.org/

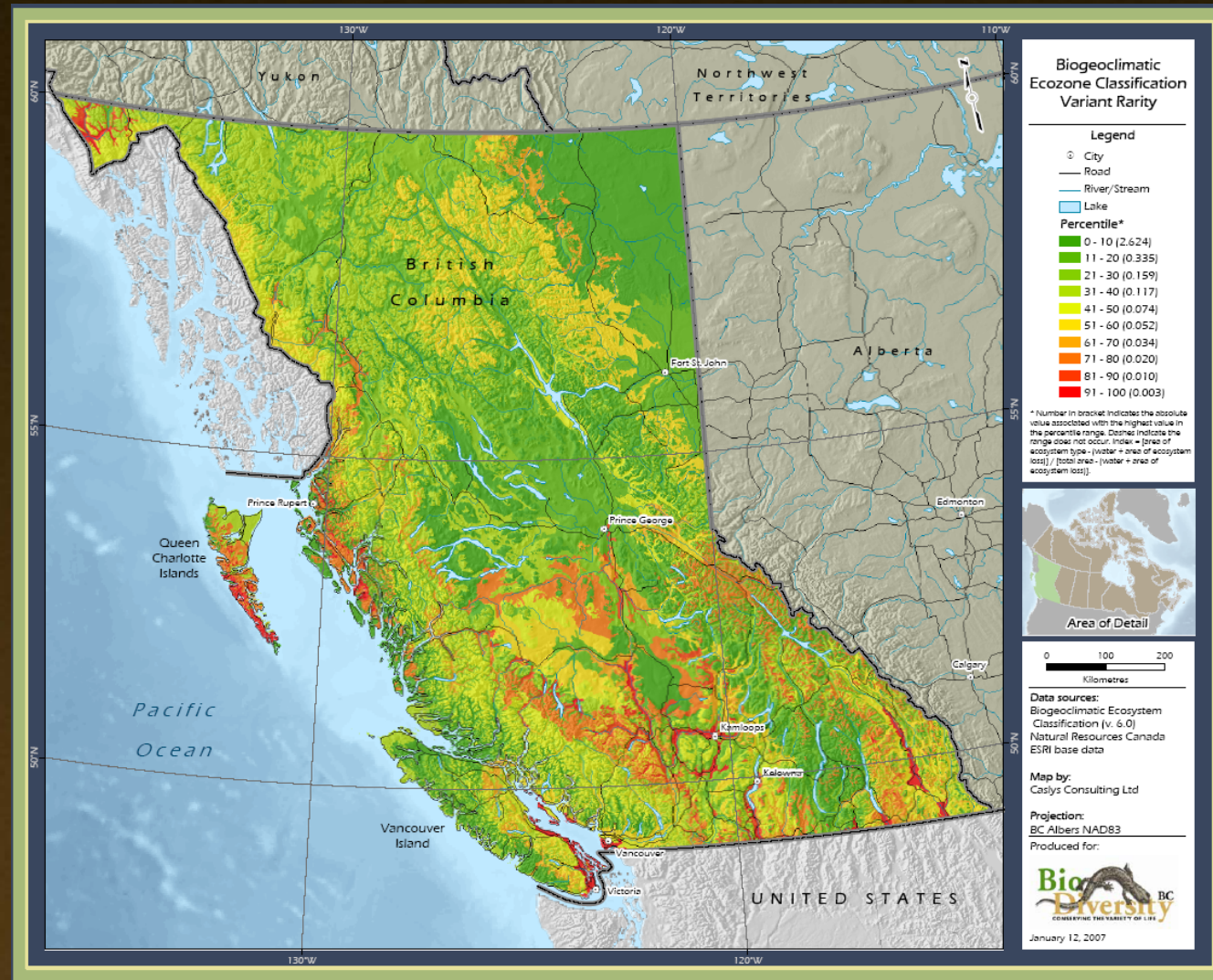
Ecological Principles

- primer on biodiversity
- informs the process of developing priorities for conservation



Biodiversity Atlas

- map-based overview of biodiversity components and threats
- companion to the Status Report (*Taking Nature's Pulse*)

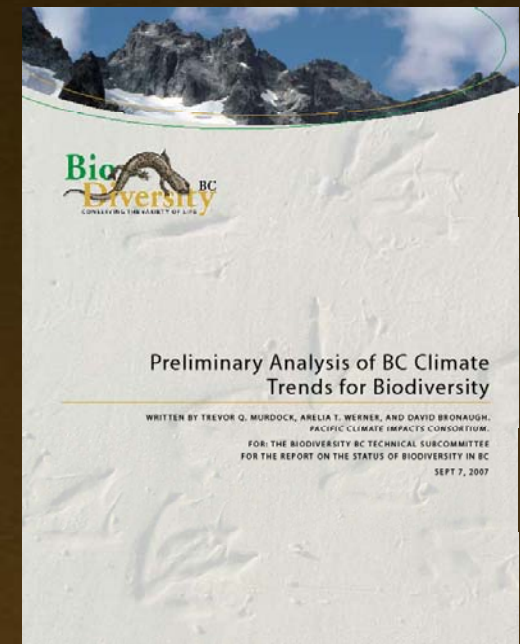
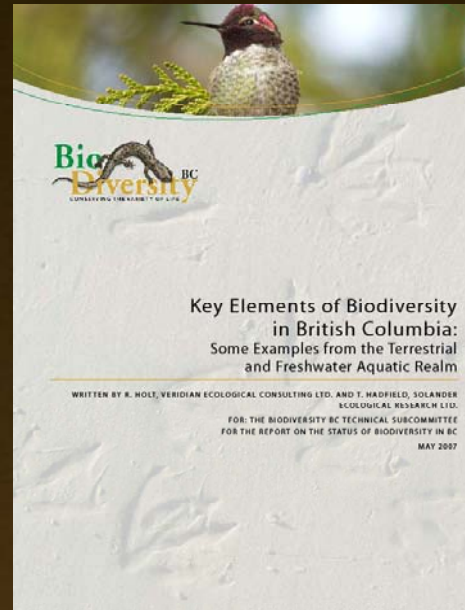


Science Reports

Examples

- First Nations and Biodiversity
- Geologic History
- Ecosystem Status
- Species Status
- Stewardship Responsibility
- Genetic Diversity
- Key and Special Elements
- Safety Net Gap Analysis
- Climate Change

www.biodiversitybc.org



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.”*

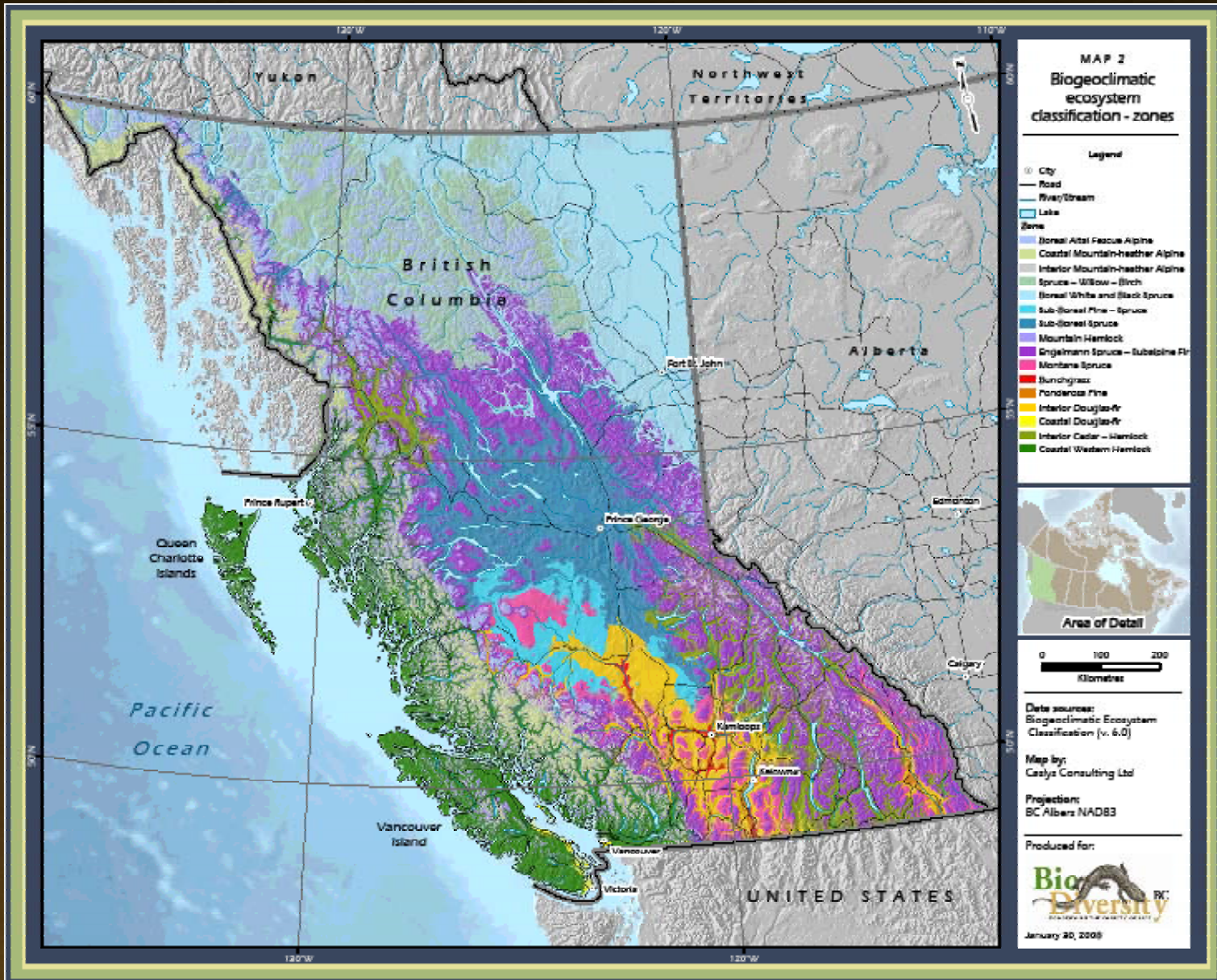
Dr Hugh Possingham, University of Queensland



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 3
Biogeoclimatic zones of conservation concern

- Legend**
- City
 - Road
 - River/Stream
 - Lake
- Zone**
- Bunchgrass
 - Ponderosa Pine
 - Interior Douglas-fir
 - Coastal Douglas-fir



Data sources:
 Biogeoclimatic Ecosystem Classification (v. 6.0)

Map by:
 Castys Consulting Ltd

Projection:
 BC Albers NAD83

Produced for:



June 17, 2008

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*

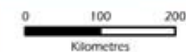
Legend

-  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).



Data sources:
Compiled by the University of
British Columbia

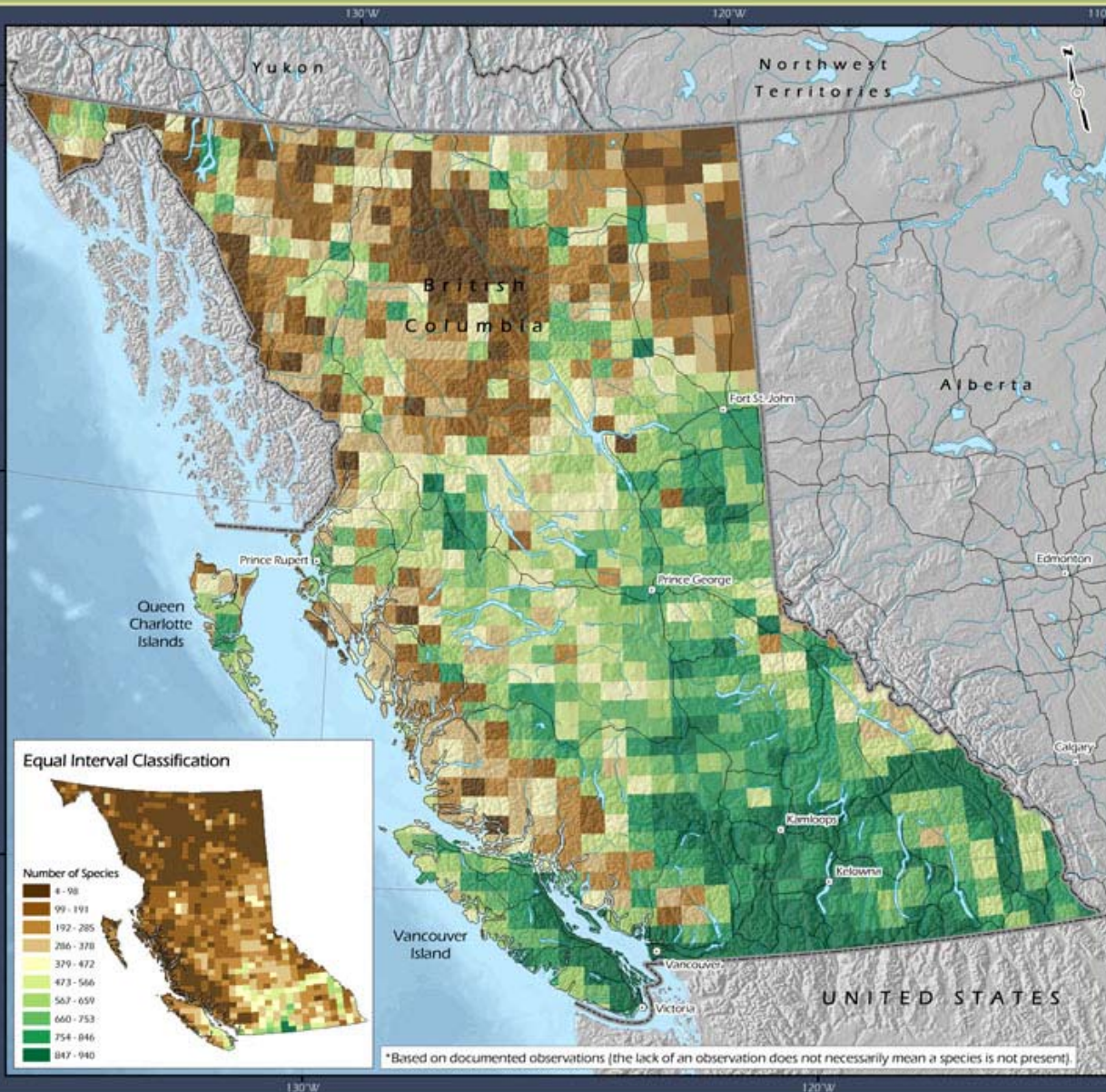
Map by:
Caslys Consulting Ltd

Projection:
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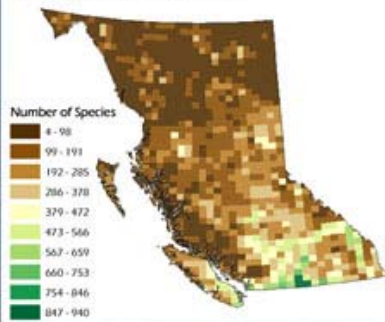
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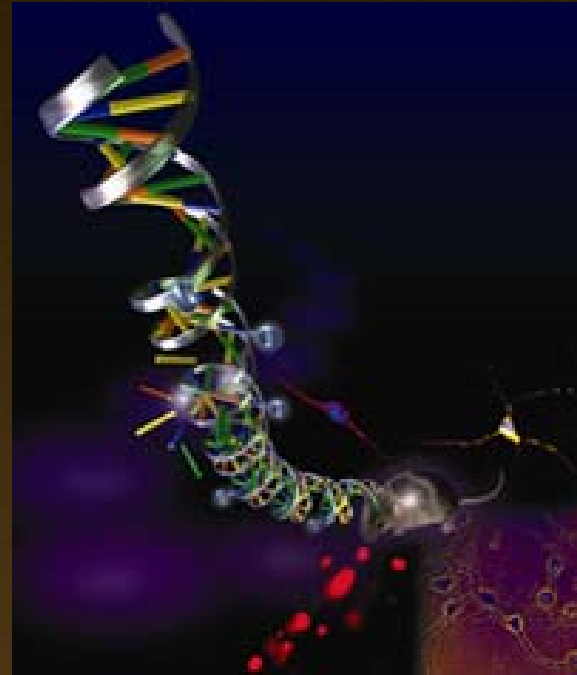
Equal Interval Classification



*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

