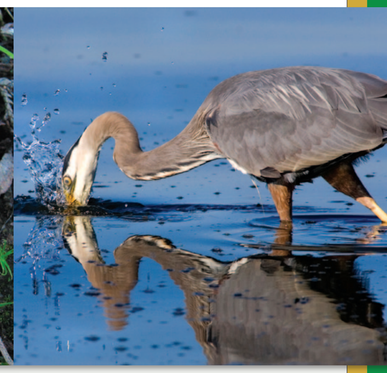
BC's NATURAL TREASURE: Will it Still be Here for Your Children?

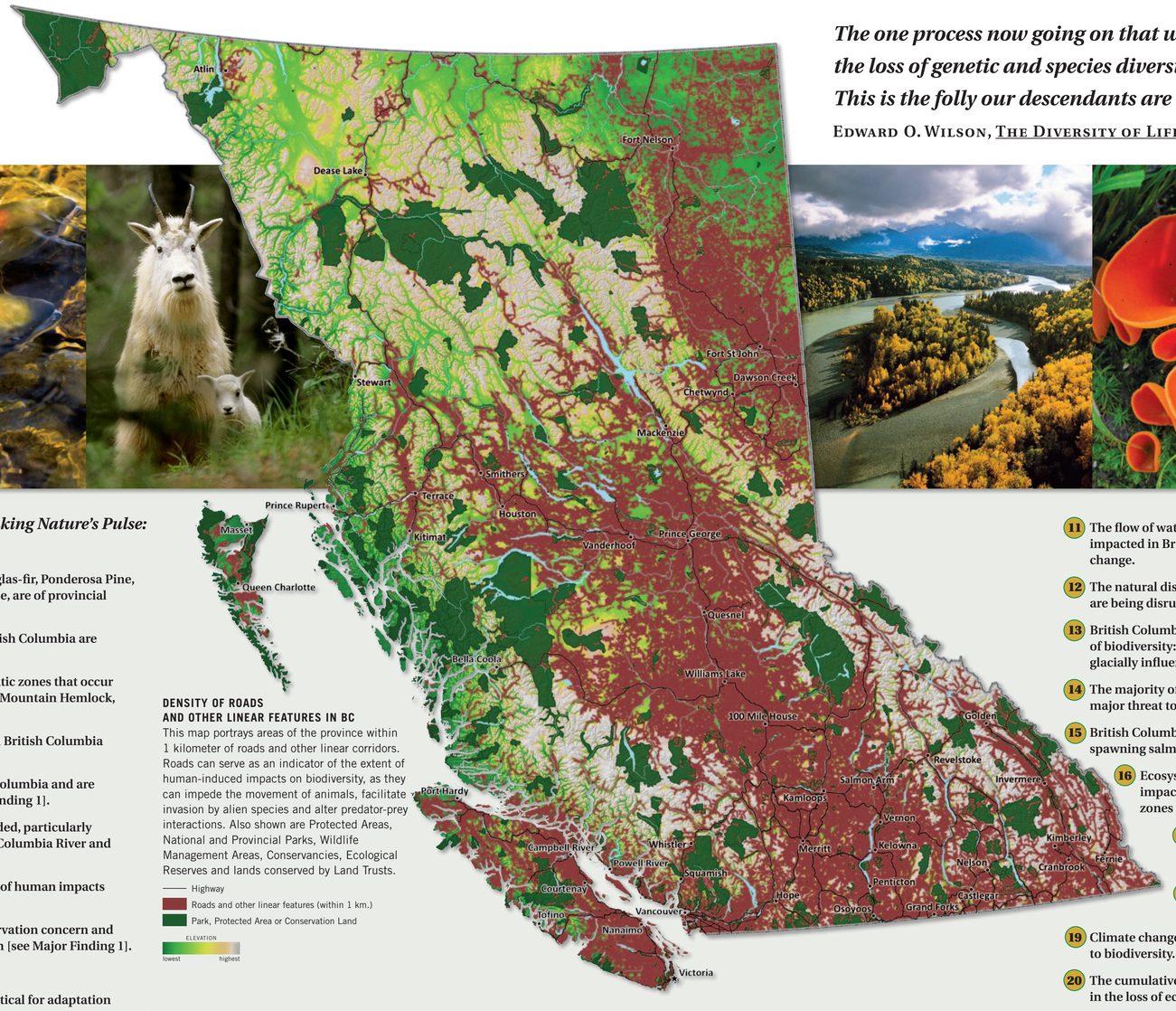
Immediate commitment and action are needed to save British Columbia's globally significant biodiversity

It's the best place on Earth – let's start treating it that way.

The one process now going on that will take millions of years to correct is the loss of genetic and species diversity by the destruction of natural habitats. This is the folly our descendants are least likely to forgive us.

Edward O. Wilson, The Diversity of Life, 1992





DENSITY OF ROADS AND OTHER LINEAR FEATURES IN BC

This map portrays areas of the province within 1 kilometer of roads and other linear corridors. Roads can serve as an indicator of the extent of human-induced impacts on biodiversity, as they can impede the movement of animals, facilitate invasion by alien species and alter predator-prey interactions. Also shown are Protected Areas, National and Provincial Parks, Wildlife Management Areas, Conservancies, Ecological Reserves and lands conserved by Land Trusts.

- Highway
- Roads and other linear features (within 1 km.)
- Park, Protected Area or Conservation Land

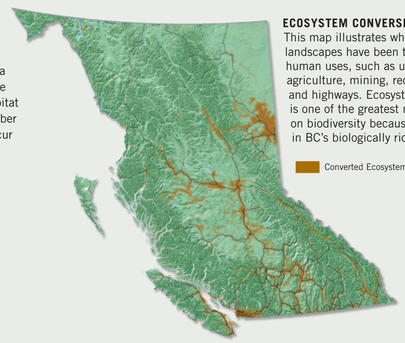
ELEVATION: lowest – highest

ALIEN SPECIES

Alien species are non-native species that have been introduced by humans. Those regarded as 'invasive' can pose a threat to native animals and plants due to competition, displacement and habitat degradation. The map shows the number of alien species that are known to occur in an ecosystem, even though such species may not be present in every part of that ecosystem.

Potential number of alien species

- 0
- 1–2
- 3–4
- 5–6
- 7–11
- 12–92



ECOSYSTEM CONVERSION

This map illustrates where natural landscapes have been totally converted for human uses, such as urban development, agriculture, mining, recreation, reservoirs and highways. Ecosystem conversion is one of the greatest negative impacts on biodiversity because it is concentrated in BC's biologically rich valley bottoms.

- Converted Ecosystems

The following are the major findings on BC's biodiversity from *Taking Nature's Pulse: The Status of Biodiversity in British Columbia*, released in 2008

1. At the broad scale, four biogeoclimatic zones [Coastal Douglas-fir, Interior Douglas-fir, Ponderosa Pine, and Bunchgrass], representing approximately 5% of British Columbia's land base, are of provincial conservation concern.
2. At the fine scale, more than half of the ecological communities described in British Columbia are of provincial conservation concern.
3. British Columbia has a majority of the global range for six of the 16 biogeoclimatic zones that occur in the province [Coastal Douglas-fir, Interior Cedar–Hemlock, Montane Spruce, Mountain Hemlock, Sub-boreal Pine–Spruce, and Sub-boreal Spruce].
4. The Coastal Douglas-fir biogeoclimatic zone is the rarest biogeoclimatic zone in British Columbia and is of great conservation concern.
5. Low-elevation grassland communities are the rarest land cover type in British Columbia and are concentrated in the biogeoclimatic zones of conservation concern [see Major Finding 1].
6. Significant areas of wetlands in British Columbia have been converted or degraded, particularly in the two Major Drainage Areas of greatest conservation concern [those of the Columbia River and Fraser River].
7. Estuaries are of concern in British Columbia because of their rarity and the level of human impacts to them.
8. Of the species assessed to date in British Columbia, 43% are of provincial conservation concern and these are concentrated in the four biogeoclimatic zones of conservation concern [see Major Finding 1].
9. British Columbia is known to have a majority of the global range for 99 species.
10. British Columbia has a high level of genetic diversity within species, which is critical for adaptation and resilience.
11. The flow of water in lakes, streams, wetlands and groundwater systems is being seriously impacted in British Columbia by dams, water diversions, logging, stream crossings and climate change.
12. The natural disturbance processes that shape British Columbia's forests [e.g., wild fire, insects] are being disrupted by human activities.
13. British Columbia's mainland coast features a number of interconnected key and special elements of biodiversity: intact temperate rainforest, an intact large mammal predator-prey system, glacially influenced streams and salmon-driven nutrient cycling.
14. The majority of British Columbia has intact or relatively intact predator-prey systems, but a major threat to them is motorized access and associated human activities.
15. British Columbia has many significant seasonal concentrations of species [e.g., migratory birds, spawning salmon] that are vulnerable to human impacts.
16. Ecosystem conversion from urban/rural development and agriculture has seriously impacted British Columbia's biodiversity, especially in the three rarest biogeoclimatic zones [Coastal Douglas-fir, Bunchgrass and Ponderosa Pine].
17. Ecosystem degradation from forestry, oil and gas development, and transportation and utility corridors has seriously impacted British Columbia's biodiversity.
18. Alien species are seriously impacting British Columbia's biodiversity, especially on islands and in lakes.
19. Climate change is already seriously impacting British Columbia and is the foremost threat to biodiversity.
20. The cumulative impacts of human activities in British Columbia are increasing and are resulting in the loss of ecosystem resilience.
21. Connectivity of ecosystems in British Columbia is being lost and, among other impacts, this will limit the ability of species to shift their distributions in response to climate change.
22. Gaps in our knowledge of biodiversity in British Columbia create major challenges for effective conservation action.
23. The capacity to address some of the gaps in our knowledge of biodiversity in British Columbia is being impacted by the loss of already limited taxonomic expertise.

Biodiversity: What Is It and Why Is It Important?

Biodiversity (short for "biological diversity") refers to the variety of life in all its forms. It includes the diversity of ecosystems, species and genes and the natural processes that link them – an assemblage that many people think of as Nature.

Biodiversity is essential for sustaining both environmental and human well-being. It supports vital ecological processes such as regulating the climate, maintaining adequate oxygen in the atmosphere, filtering and purifying water, pollinating plants, decomposing waste and regulating population abundance.

Biodiversity also provides natural resources that support industries such as forestry, fishing and agriculture, and landscapes that attract residents and tourists to the outdoors for recreational enjoyment and spiritual renewal.

Many people believe that biodiversity has intrinsic value regardless of the presence of humans, and that we have a moral and ethical responsibility to look after it.

About Biodiversity BC

The preparation of *Taking Nature's Pulse: The Status of Biodiversity in British Columbia* was coordinated by Biodiversity BC, which includes representation from a number of organizations.

FOR FURTHER INFORMATION

Please visit Biodiversity BC's website at **www.biodiversitybc.org** or send us an email at **info@biodiversitybc.org**

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