

Land Use and Habitat Loss

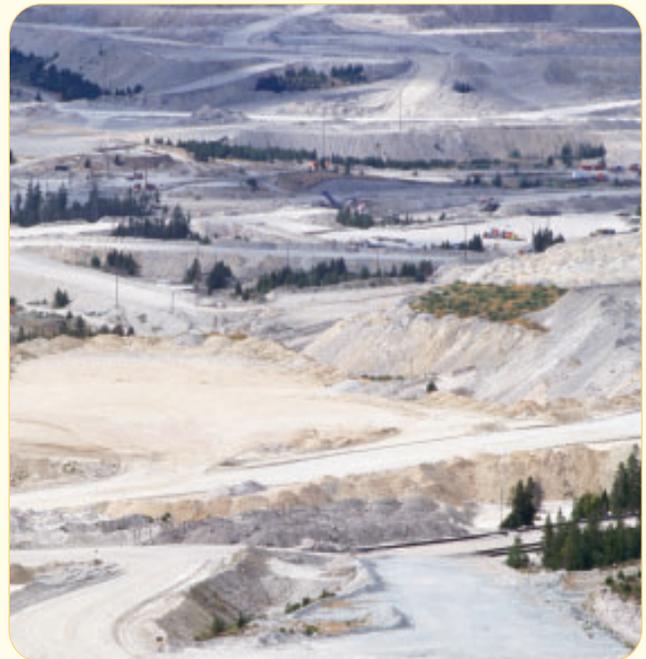
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Humans use land in many ways. Human activities, such as farming, building cities, and logging, can change or eliminate the conditions that are needed for other living things to survive. Thus, human activities can result in loss of habitat for plants and animals. Land use issues are complicated, however. Looking after the needs of ecosystems and both the needs and wants of humans can be very difficult.

TRY THIS: OBSERVE HABITAT LOSS

Skills Focus: observing, inferring, classifying

Explain how each land use in the photos below has resulted in habitat loss. What species of plants and animals might have been affected? Do you think biodiversity has been reduced? Suggest some ways that habitat loss could be reduced in these land use situations.



A Case Study in Land Use and Habitat Loss: The Antelope Brush Ecosystem

B4 • Vancouver Sun

Vineyards a threat to rare species

Larry Pynn Vancouver

A dry and little-known ecosystem—the antelope brush and needle-and-thread grass ecosystem—is being squeezed out by the ever-expanding grape-growing industry south of Penticton to the Canada-U.S. border. With the number of vineyards in the region predicted to double over the next several years, conservationists are urging immediate protection for what little antelope brush remains.

The antelope brush ecosystem is among the four most endangered habitats in Canada and is home to 88 species considered at risk by the B.C. government—a diverse and odd assortment of plants, insects, and animals, which, for the most part, are neither cute nor cuddly. Among the rarer species are the western red bat, tiger salamander, grasshopper sparrow, burrowing owl, white-tailed jackrabbit, badger, night snake, rough dropseed, flat-topped broomrape, Spalding's milk-vetch, Behr's hairstreak butterfly, and ground mantis.

Urbanization has been responsible for the loss of about 16 percent of antelope brush habitat. The other 84 percent has been lost to agriculture—vineyards, cultivated agriculture, orchards, and grazed pasture. Statistics are not specific to vineyards, but the consensus is that expansion of vineyards is the main threat.

The 400-member Osoyoos



Brian Sprout/Vancouver Sun

Conservationist Geoff Scudder in the endangered antelope brush system at the Osoyoos Desert Centre

Indian Band (Nk'mip) has recently converted almost 500 ha (hectares) to vineyards as part of the band's mandate to become economically self-sufficient by 2005. Chris Scott, the band's chief operating officer, said he expects up to another 160 ha of antelope brush to be converted to vineyards over the next two or three years, if the band membership approves. But he also said the band will be asked to endorse setting aside close to

400 ha of antelope brush habitat for conservation.

The B.C. Wine Institute argues that vineyards are trying their best to be environmentally responsible. Initiatives have included drip irrigation to reduce water use, netting and bird calls to keep out birds that would consume grapes, donations to wildlife conservation, and in some cases a movement to organic wines that are free of pesticides.

Jim Wyse, proprietor of

Many human activities cause habitat loss for other species (Figure 1). The case study shows how difficult it is to look after the needs of both humans and plants and animals in the same ecosystem. The needs and wants of British Columbians affect how we use the land in our province. Many of the ways that we use the land result in habitat loss for other species that live in British Columbia. Some of the food we eat and the products we use are produced in other provinces and countries. So our needs and wants affect land use in other provinces and countries. The choices we make here can result in habitat loss in other parts of Canada and in countries around the world.

LEARNING TIP

It is easier to remember information if you personalize it. How do you feel about your choices concerning habitat loss? Compare your opinion with a partner.



Figure 1

Building this mall and its parking lot resulted in habitat loss in the local ecosystem. The production and transportation of the products sold in this mall resulted in habitat loss in ecosystems throughout Canada and in other parts of the world.

Canadians have a very high standard of living. We are able to meet many of our wants, as well as our needs. This means that we have a greater effect on land use and habitat loss than people in poorer countries with lower standards of living.

CHECK YOUR UNDERSTANDING

1. It is often difficult to look after the needs of both humans and ecosystems. Use examples from the article to explain why.
2. What type of land use causes the most habitat loss in the antelope brush ecosystem?
3. Using information from the article, explain how land use by humans can result in habitat loss for plants and animals.
4. The Nk'mip First Nation (near Osoyoos) is trying to protect rattlesnakes and their habitat in this ecosystem. Why do you think the Nk'mip consider rattlesnakes to be important?
5. Do human needs or human wants result in more habitat loss for other species? Explain your answer.