The Interior Douglas-fir Zone lies in the heart of British Columbia’s southern interior. Often described as “cattle country,” it is a land of rolling hills and valleys covered by dry grasslands and open forests. Although it is best known for cattle ranching and forestry, this zone also supports a rich diversity of natural communities and wildlife species.
**Location**

The Interior Douglas-fir Zone spreads across low- to mid-elevations in the east Kootenays, the Okanagan-Similkameen and Thompson region, and southern parts of the Chilcotin and Cariboo. Most of the zone occupies the southern part of the Interior Plateau. To the west, the zone works its way up the leeward slopes of the Coast Mountains. In the east, it covers the southern portion of the Rocky Mountain Trench. Cranbrook, Vernon, Chase, Princeton, Boston Bar, Clinton, and Williams Lake all lie within the Interior Douglas-fir Zone.

**Climate**

The Coast, Cascade, and Columbia mountains cast a rain-shadow over the Interior Douglas-fir Zone. Warm and dry in the short summer season and cool in winter, the climate is driest at lower elevations in the Okanagan-Similkameen, Lytton-Lillooet, Chilcotin, and Kamloops areas and wettest in areas close to the Columbia and southern Coast mountains. The ecology of the area reflects the shortage of moisture in much of this zone. Plants such as pinegrass flourish here because they can survive on little moisture during the growing season.

**Ecosystems**

A diverse and interesting array of ecosystems occurs within the Interior Douglas-fir Zone. Forests dominated by Douglas-fir trees of all ages and sizes with a grassy understory in which pinegrass is most common are typical in this zone. On hotter and drier sites, grassland and open ponderosa pine forest predominate, while dense, closed-canopy spruce forests occur on wetter and cooler sites such as in riparian areas. Lodgepole pine is common at higher elevations or where there has been recent fire. Extensive grassland communities, commonly called the “upper grasslands,” occur throughout drier parts of the zone. Bluebunch wheatgrass, junegrass, and fescues are prominent grasses in these communities. These grasses also occur on very hot and dry sites such as upper, south-facing slopes and ridges where ponderosa pine forms open, park-like forests. Wetlands are found in depressions and around open water. Marshes with cattails, sedges, and bulrushes ring the open water with shrubby willows and birches in nearby swamps. The prominent red stems of red-osier dogwood stand out along stream banks in winter after the leaves have fallen. A unique wetland ecosystem found in this zone consists of saline meadows dominated by saltgrasses.
Fire in the Grass

Ecologists believe wildfires have played an important role in maintaining grasslands in the Interior Douglas-fir Zone. Without regular grassfires, trees take root in open grassy areas and, over time, grasslands become overgrown with trees. Frequent grass fires keep the forests at bay by killing most young trees. Today, wildfires are suppressed, and there is evidence that forests are taking over areas once occupied by grasslands.

Wildfires have a big influence on forest ecosystems of the Interior Douglas-fir Zone. Ecologists classify forest fires as either low intensity or high intensity, depending on how hot they are and how they affect the forest. In this zone, most forest fires are low intensity—they scorch the forest floor every 10 to 20 years and burn less than 50 hectares. The thick bark on old Douglas-fir trees enables them to survive low-intensity fires, but many young trees and understory plants are killed. Over time, repeated low-intensity fires create a forest made up of Douglas-fir trees of many ages—a multi-aged stand.

High-intensity fires occur on average every 150 to 250 years and burn more than 50 hectares at a time. These are stand-destroying fires—they burn not only along the ground but also through the forest canopy, killing most of the young and old trees. Following a high-intensity fire, lodgepole pine is often the first tree to grow back. This pattern results in pure, even-aged pine stands.

Wildlife

Ungulates find prime winter habitat in this zone, with its old Douglas-fir forests, low snowpack, and abundant shrubs such as snowbrush, redstem ceanothus, and snowberry. In winter mule deer find habitat in old forests, particularly those on south-facing slopes. The deer feed on litter fall and find protection from heavy snowfalls under the tree cover. South-aspect forests are also important winter habitat for other ungulates, including white-tailed deer, Rocky Mountain elk, and bighorn sheep.
Species at Risk

There are several animal species found in the Interior Douglas-fir Zone that are considered by the Ministry of Environment, Lands and Parks to be vulnerable and at risk. For example, vulnerable or sensitive species in wetland ecosystems within this zone include the Great Blue Heron, American Bittern and painted turtle.

Flammulated Owl

After over-wintering in Mexico and Guatemala, Flammulated Owls move north in spring to breed in mountainous areas of North America. Although most nest farther south, a small number return every summer to British Columbia’s southern interior—to the Okanagan Valley, the Thompson Basin and, occasionally, the southern part of the Rocky Mountain Trench. Individuals have been observed throughout the Thompson Basin between Chase and Spences Bridge. This diminutive owl is a cavity nester. It usually makes its nest in dead trees or snags and often uses cavities made by woodpeckers. The species is considered vulnerable or sensitive, one step below endangered status.
Riparian Ecosystems

Riparian zones are areas around streams, lakes, and other bodies of water. Characterized by a high water table and nutrient-rich soils, riparian zones often support productive ecosystems and a rich diversity of plants and animals. Water-loving plants, birds, amphibians, and small mammals all thrive in these ecosystems. Larger animals use them for various reasons, such as foraging or giving birth. Because moist and productive riparian areas are limited in dry regions like the Interior Douglas-fir Zone, they are especially important habitat for many species in this zone. Cattle and horses are also attracted to riparian areas and, if not properly managed, can seriously degrade these sensitive ecosystems.

Resources

Extensive and productive Douglas-fir forests provide saw and pulp logs for the forest industry. Cattle grazing is also an important land use here. In fact, this zone contains much of the province’s forested summer cattle ranges, as well as many spring and fall ranges.

Wintering areas for cattle are common at lower elevations, especially in grasslands. The short growing season limits other agriculture uses. The zone is ideal for a variety of recreational activities, from hiking and fishing to cross country skiing and horseback riding.
The Interior Douglas-fir Zone is just one of the fourteen biogeoclimatic or ecological zones within British Columbia. These zones are large geographic areas that share a similar climate within the province. Brochures in this series explore each zone.