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# Elk: Southern Rockies, Alberta, Canada

## Migration Description

Elk on the eastern slope of the Rockies in southwest Alberta are composed of multiple herds. In the spring, the elk follow the green-up of spring vegetation to migrate from low elevation winter ranges in the foothills towards a higher elevation summer range stretching along the Continental Divide. The elk's summer range falls mostly on public lands in the British Columbia and Alberta mountains, while their winter ranges often overlap with private agricultural and public range lands in Alberta. South of Highway 3, the elk use a series of drainages to migrate east to west during spring and fall migration, with high hunting pressure from humans shaping the speed and duration of their movements during the fall. Road density in this region also influences their movements, with elk showing temporal avoidance of roads during fall migration. North of Highway 3, elk similarly migrate east to west during the spring to reach their higher elevation summer range in the Rockies, with a portion of the population using the Crowsnest Pass during migration. Elk in this system show loose fidelity to specific migration routes year to year, though at the population level several high use corridors remain consistently used.

## Threats to Migration

Highway 3 in the Crowsnest Pass is a busy two lane highway that bisects the elk

population's winter range and migratory corridors in the region. During migration, collar data indicates that elk cross the highway at several points near Crowsnest Pass. Wildlife-vehicle collisions, including elk, are common on this section of the highway. A single collision with an elk costs an average of \$100,000. Several changes in the highway are expected in the coming years, including twinning and realignment of the highway to accommodate more traffic. Efforts to reduce collisions with wildlife are also underway on the BC and Alberta portions of Highway 3 with more than 80 km of protected highway planned, as well as numerous crossing structures for wildlife. Changing land-use and management techniques can also alter elk migratory behavior. Migration is dependent on the presence of productive summer range habitats. Fire suppression over the last century has changed high elevation habitats, but recent burned areas have been used extensively by elk. Pressure from various types of backcountry recreation is also reshaping elk habitat. As the elk population in the southeastern slope of the Rockies of Alberta has risen in recent years, conflict with the ranching communities in the foothills of southwestern Alberta has also increased. Supplemental feeding and increased hunter quotas have been proposed to manage the elk population that increasingly uses agricultural lands for winter habitat.

## Local Population Facts

### Migration

**Seasonal**   
**Medium** 22 km (avg.)

### Threats



## Species Facts

**Common name:** Elk

**Species name:** *Cervus elaphus canadensis*

**Range:** North America

**Diet:** Woody browse, grasses, forbs

**Global population:** ~1 million

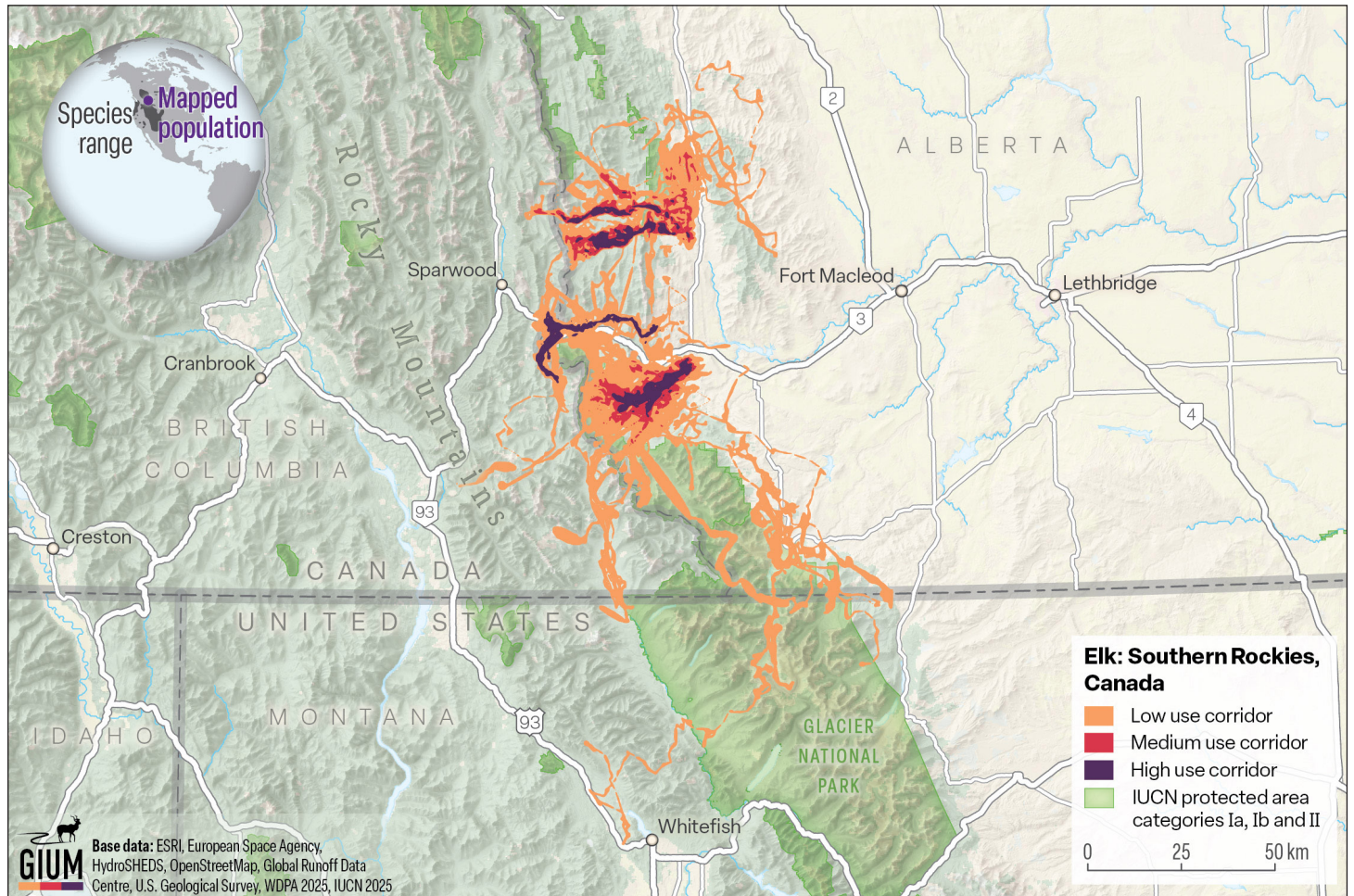
### IUCN Conservation Status

**LC** Least concern

### CMS Status

Not listed

# Elk Migration



## Study Information

### Sample size

122 individuals

### Relocation frequency

2 hours

### Project duration

2007–2012

## Data Analysis

### Delineation of migration periods

Net squared displacement to delineate migration between seasonal ranges.

### Models derived from

Brownian Bridge Movement Model; The level of use (high, medium, low) is calculated per subpopulation, corresponding to the sample size.

## Route Summary

### Migration start and end date (median)

- Spring: May 04–June 02
- Fall: October 18–December 04

### Average number of days migrating

- Spring: 29 days
- Fall: 38 days

### Migration route length

- Min: 4.6 km
- Mean: 22.4 km
- Max: 123.9 km

## Data Providers

Data were collected and provided by Mark Boyce, Simone Ciuti, Tyler Muhly, Dale Paton, Dana Seidel and Henrik Thurfjell of the Montane Elk Project. Mapping and analysis were conducted by Clayton Lamb with the Wildlife Science Center.

## In partnership with:



The Convention on the Conservation of Migratory Species of Wild Animals (CMS), also known as the Bonn Convention, is an environmental treaty of the United Nations that provides a global platform for the conservation and sustainable use of terrestrial, aquatic and avian migratory animals and their habitats. v



The Global Initiative on Ungulate Migration (GIUM) was created in 2020 to work collaboratively to: 1) create a Global Atlas of Ungulate Migration using tracking data and expert knowledge; and 2) stimulate research on drivers, mechanisms, threats and conservation solutions common to ungulate migration worldwide.



View and Download Map Data from the GIUM Migration Atlas

Boyce, M., S. Ciuti, D. Muhly, D. Paton, D. Seidel, H. Thurfjell, and C. Lamb. 2025. Elk: Southern Rockies, Alberta, Canada. Global Initiative on Ungulate Migration, editors. *Atlas of Ungulate Migration*. Convention on the Conservation of Migratory Species of Wild Animals.