

# Grand Teton

National Park Service  
U.S. Department of the Interior

Grand Teton National Park  
John D. Rockefeller, Jr.  
Memorial Parkway



## Elk Ecology & Management



"Often from out of the forest, as I sit here writing, comes the long clear bugle note of a bull elk... These are the adventures of the wilderness, the scenes which make up Nature's great mosaic. Why do we so delight in the wild creatures of the forest, some of us so passionately that it colors our whole life." Elk biologist Olaus Murie, *Wapiti Wilderness*.

### Jackson Hole Elk

Tens of thousands of elk live in the Greater Yellowstone Ecosystem, a twenty-million acre area that includes Grand Teton and Yellowstone national parks, the John D. Rockefeller, Jr. Memorial Parkway, seven national forests and two national wildlife refuges. We call elk in these areas the Jackson elk herd. Management of this herd is intensive and involves a reduction program in the form of an annual harvest.

### Physical Characteristics

Elk are ungulates (hooved-animals) belonging to the deer family. Elk have a dark head, neck and legs, with a lighter brown body and a cream-colored rump. *Wapiti*, the Shawnee name for elk, means white rump. Females have darker bodies than males.

Mature males have branched antlers, whereas yearling males have un-branched antlers or "spikes." Antler size indicates dominance, nutritional state and genetic fitness. Females do not have antlers. Older males shed their antlers each year during March and April, while younger bulls shed their antlers later. New antler growth begins within a week and continues until late August when the antlers reach full size. At their peak rate of growth, "velvet" covered antlers may grow almost one inch

per day. Velvet is fuzzy tissue composed of blood vessels that nourish developing antlers. Antlers are cartilage-like during formation, but later become bone. When fully developed, bulls rub the velvet off by scraping their antlers against saplings.

- Adult males weigh about 700 pounds; adult females weigh about 500 pounds.
- The breeding period, called the rut, occurs from early September to mid-October.
- The gestation period is 8-1/2 months; calving occurs in late May and June. Usually one calf is born; twins are very rare. Newborn calves weigh 30 pounds at birth and 250 pounds at the end of their first summer.
- The average life span is 13 to 18 years.

### National Elk Refuge

During the severe winter 1908-1909, thousands of elk died due to heavy snows and homesteads that blocked winter range and migration routes. Elk raided hay stored for livestock causing conflicts. In 1912, the National Elk Refuge was established to provide a secure winter range for elk. Today the refuge covers 24,700 acres of land kept largely in native grasses.

When snow becomes crusty and deep, elk struggle to reach their food and the refuge supplements alfalfa pellets with their sparse natural forage. Elk stay on the refuge for about six months with about two and a half months of supplemental feeding. Winter mortality on the refuge is 1 - 2%; but ranges up to 20% outside the refuge.

In the summer, elk from the refuge migrate up to 60 miles to Grand Teton National Park, the Bridger-Teton National Forest and the southern part of Yellowstone National Park.

Elk are susceptible to a number of diseases including brucellosis and chronic wasting disease. Brucellosis is a contagious bacterial disease that originated in livestock and often causes infected cows to abort their first calves. An average of 30% elk on feed-grounds have tested positive for exposure to brucellosis. Chronic wasting disease is a contagious fatal disease with no known vaccine that has spread within 130 miles of Yellowstone National Park.

### Elk Annual Cycle

During autumn, males establish harems of females that they mate with and zealously guard. Bulls bugle, a high-pitched whistling sound, followed by grunts, as part of the mating ritual. Bugling is a male dominance display that attracts females and asserts the rank of the male. Rival males respond by bugling back. Bulls may spar with challengers, after first demonstrating threat postures and thrashing the ground with their antlers.

Females enter estrus (breeding receptivity) for a twelve-hour period. If they do not breed, estrus may recur up to four times at twenty-day intervals. Eighty-five to ninety percent of females become pregnant each year.

The rut is an intense time for bulls. Dominant males expend a considerable amount of energy and rarely eat. The price for passing on their genes means bulls enter winter with severely depleted resources.

Reduced food supplies and snowfall in the high country prompt elk to leave their summer range. Beginning in October, elk migrate from summer grounds to winter grounds, such as the National Elk Refuge in southern Jackson Hole. To reach the grasses

they eat, elk paw through snow, deep or crusty snow hampers their efforts.

As snow melts in early spring, elk stream off the refuge. They follow new vegetation as they return to their traditional summer range in higher elevation meadows; 2,500 elk summer in Grand Teton National Park. Females give birth to calves on their summer range or while migrating. Cows, calves and yearling males remain in small groups throughout the summer, while older males, form bachelor herds.

Summer is a brief time of plenty. Elk are primarily grazers—they eat lush grasses and wildflowers, although when food is scarce, they will browse on woody shrubs and saplings. Elk eat at dawn and dusk, and spend warm days in the cool shade of forests as they ruminate (chew their cud). After birth, females leave their nearly scentless spotted calves curled up as they feed some distance away. Within a week or two, calves follow their mothers.

By late summer, males' testosterone levels increase resulting in the end of antler development and the start of the rut. As fall colors peak, the haunting sound of bugling elk fills the air...

## Population Regulation

Female elk can breed as yearlings, but most start breeding at two years of age. Females usually breed every year and have one calf per year until they die, about 50% of juveniles do not survive their first year. Elk have a high reproduction potential: a ten-year old female may account for five additional living descendants, a five-fold increase in the population.

Winter mortality, disease and predation contribute to reducing the elk population, as does hunting. Available natural winter range is limited due to human development. The National Elk Refuge manages the land to support an average of 5,000 elk and 500 bison during the winter. In recent years, about 5,000 to 8,000 elk have wintered on the refuge; about 90% of the Jackson elk herd winters on the refuge and on three state-operated feed grounds in the Gros Ventre River drainage. The Jackson elk herd currently consists of about 11,700 elk, only slightly above the management objective of 11,000 elk (2010).

## Elk Management Program

The National Park Service and the Wyoming Game and Fish Department jointly manage the elk population within Grand Teton National Park. In 1950, Public Law 81-787 established the present boundaries of Grand Teton National Park. Congress included a provision to manage the elk population through an annual elk reduction program when necessary. According to this law, hunters selected to participate in the reduction must have legal Wyoming hunting licenses for special areas 75 and 79 and must be deputized as park rangers.

### The Elk Management Program

Hunting occurs in Grand Teton National Park from mid-October through early-December. Between Moose and Moran, legal hunt areas are east of the Snake River. North of Moran Junction, legal hunting occurs east of Highway 89 and throughout the John D. Rockefeller Jr., Memorial Parkway. See the map for more details. Check at the Craig Thomas Discovery and Visitor Center in Moose for more information.

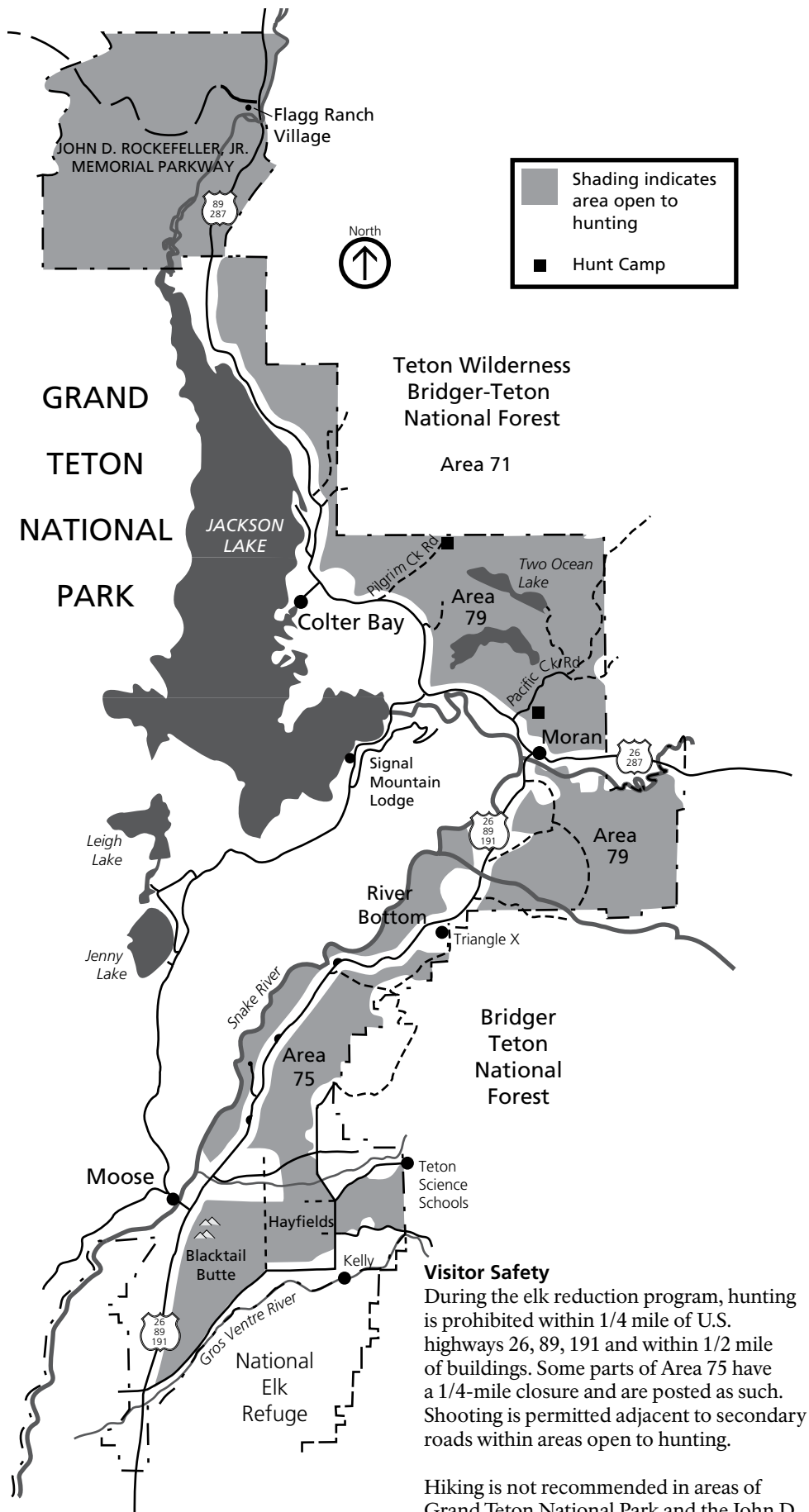
Hunt camps, open only to hunters possessing a valid permit, are located within the park at Pacific Creek and at Pilgrim Creek. Hunters may not camp elsewhere in the park. Hunters that kill an elk must hang the meat at least ten feet high from the racks provided in the hunt camps or remove the meat immediately to prevent black and grizzly bears from claiming the carcass.

### Special Precautions

Hunting, by nature, is an activity that may increase the risk of a bear encounter. Hunterstypically move quietly through the woods, with the wind in their face. Hunters are now required to carry an accessible can of bear spray while hunting. Research has shown that bear spray is a highly effective deterrent during a bear encounter.

### Hunting in the Rockefeller Parkway

The John D. Rockefeller, Jr., Memorial Parkway unites Grand Teton and Yellowstone national parks. Grand Teton National Park administers this 24,000-acre unit, but Wyoming State law governs hunting regulations. Hunting elk and several other species occurs throughout the parkway from September 1 through December 31.



### Road closures

- The RKO Road, the River Road and the Bar BC Road close to motorized vehicles in early October.
- Part of the Moose-Wilson Road closes to motorized vehicles on November 1.
- The Teton Park Road closes to motorized vehicles from the Taggart Lake parking area to Signal Mountain Lodge on November 1.
- The Antelope Flats Road closes to motorized vehicles when drifting snow blocks the road, often the day after the elk reduction ends.

### Poaching

Abundant wildlife in national parks attracts poachers. If you witness any activity you believe to be illegal, do not attempt to take action yourself. Note the location, description of the people involved, license numbers and descriptions of any vehicles and report the incident as soon as possible. Call 911 or park dispatch at (307) 739-3301. Call (877) 943-3847 to report poaching outside the park.

### Visitor Safety

During the elk reduction program, hunting is prohibited within 1/4 mile of U.S. highways 26, 89, 191 and within 1/2 mile of buildings. Some parts of Area 75 have a 1/4-mile closure and are posted as such. Shooting is permitted adjacent to secondary roads within areas open to hunting.

Hiking is not recommended in areas of Grand Teton National Park and the John D. Rockefeller, Jr. Memorial Parkway that are nearby or within hunting zones. If you do hike in these areas, please wear fluorescent orange. Also, the park recommends that all hikers carry bear pepper spray. Most of the park's hiking trails are located away from hunting areas. Consult a map or check at the Craig Thomas Discovery and Visitor Center in Moose for recommendations.

## For Your Safety

- Watch for large animals on the road, especially at night. Elk, moose, bison and mule deer frequently migrate at night and may be difficult to see.
- Be Bear Aware!**
- Follow proper food storage requirements. When not in immediate use, store all items with an odor (e.g. food, toiletries, cookware, etc.) in a bear-resistant food storage locker or in a hard-sided vehicle with the doors locked and windows closed.
- Keep bear spray accessible at all times.