



## 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."

Olaus Murie, *Wapiti Wilderness*.

### Jackson Elk Herd

Tens of thousands of elk live in the Greater Yellowstone Ecosystem, a 20 million acre area including 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 the herd is challenging 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 are darker than males.

Mature males have branched antlers, whereas yearling males have "spikes." Antler size indicates dominance and nutritional state. Females do not have antlers. Older males shed their antlers in March and April, while younger bulls shed their antlers later. New antler growth begins within a week and continues until late August. 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 off the velvet 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; one calf is born in late May and June. Newborns 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 lack of access to winter range. Elk raided rancher's hay stored for livestock causing conflicts. In 1912, the National Elk Refuge established secure winter range. Today the refuge covers 24,700 acres of native grasses.

When snow becomes crusty or deep, elk struggle to reach their food and the refuge provides a supplement of alfalfa pellets. 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 percent; but ranges up to 20 percent outside the refuge.

In the summer, elk from the refuge migrate up to 60 miles to Grand Teton and Yellowstone national parks and the Bridger-Teton National Forest.

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 percent 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 to mate with and zealously guard. Bulls bugle, a high-pitched whistling sound, followed by grunts, as a display of dominance to attract females and assert their rank. Rival males respond by bugling back. Bulls may spar with challengers, after first aggressively posturing and thrashing the ground with their antlers.

Females enter estrus (breeding receptivity) for a twelve-hour period. Estrus may recur up to four times at twenty-day intervals until successful. 85 to 90 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 severely depleted.

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. Elk paw through snow to reach forage.

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, bulls' 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 first breed as yearlings or as two year olds. Females usually have one calf per year until they die. 50 percent of juveniles do not survive their first year. Elk have a high reproduction potential: a ten-year old female may account for five living descendants, a five-fold increase in the population.

Winter mortality, disease and predation reduce the elk population, as does hunting. The National Elk Refuge manages the land as winter range for elk and bison. 90 percent of the Jackson elk herd winter on the refuge (5,000 to 8,000 elk) or on three state-operated feed grounds in the Gros Ventre River drainage. The Jackson elk herd population is 11,050 elk (2012), close to the objective of 11,000.

## 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 the park October to early-December. From Moose to Moran, hunt areas are east of the Snake River. North of Moran Junction, hunting occurs east of Highway 89 and throughout the John D. Rockefeller Jr., Memorial Parkway.

Park hunt camps, open only to hunters with a valid permit, are located 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 at the hunt camps or remove the meat immediately to prevent black and grizzly bears from claiming the carcass.

### Special Precautions

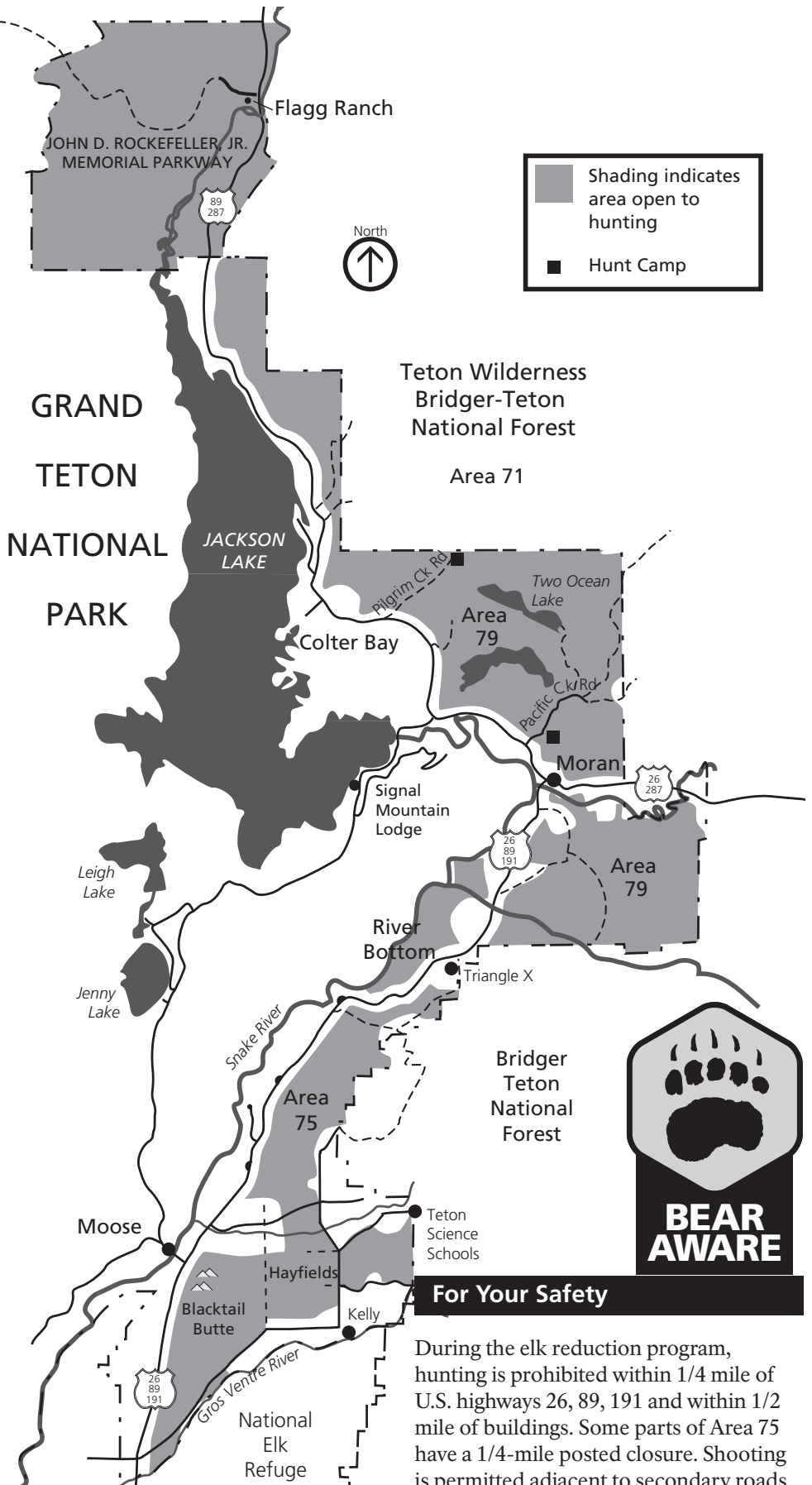
Hunting, by nature, is an activity that increases the risk of a bear encounter. Hunters typically move quietly through the woods, with the wind in their face. Hunters are required to carry an accessible can of bear spray while hunting. Research shows bear spray is highly effective during a bear encounter.

### Hunting in the Rockefeller Parkway

Grand Teton National Park administers the 24,000-acre John D. Rockefeller, Jr. Memorial Parkway, but Wyoming State law governs hunting regulations. Hunting elk and several other species occurs throughout the parkway September 1-December 31. No wolf or bison hunting is allowed in the parkway.

### Poaching

Abundant wildlife in the park attracts poachers. If you witness illegal activity, do not take action. Note the location, descriptions of the individuals, vehicle plate numbers and descriptions. Report the incident as soon as possible. In the park, call 911 or (307) 739-3301. Call (877) 943-3847 to report poaching outside the park.



## Changes Implemented in 2013

- Hunters will be limited to seven non-lead cartridges per day.
- Limiting the number of shots fired by a hunter at a group of running elk to one.
- Closing the portion of the Snake River bottom between the Deadman's Bar road and Ditch Creek to decrease the probability of grizzly bear-hunter conflicts in an area of thick timber and poor visibility.
- Opening the area between the Gros Ventre River and the road to Kelly, adjacent to the National Elk Refuge between Gros Ventre Junction and a point just west of the Gros Ventre campground to hunting.
- Opening Hunt Area 79 to Hunt Area 75 Type 4 (antlerless) license holders for two weeks at the beginning of the season to focus on Grand Teton summer-resident elk and to spread out hunters.

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 posted closure. Shooting is permitted adjacent to secondary roads within areas open to hunting with hunters at least 30 feet from the roadway.

Hiking is not recommended in areas of the park and parkway adjacent to or within hunt areas. If you do hike in these areas, please wear fluorescent orange. Also, the park recommends that all hikers carry bear spray. Consult a map or check at the Craig Thomas Discovery and Visitor Center in Moose for recommendations.

- Watch for 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.



## For Your Safety