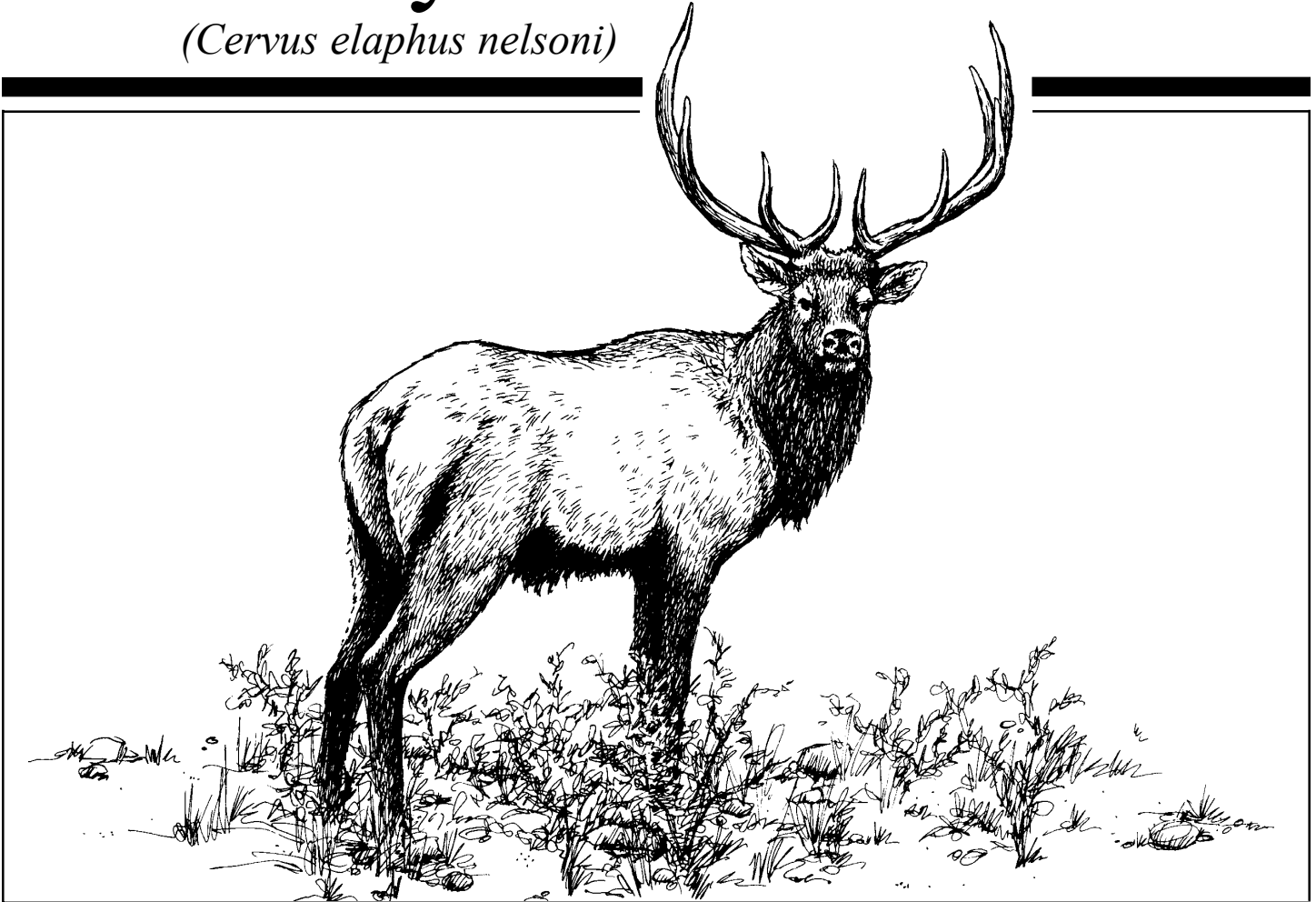


# Rocky Mountain Elk

(*Cervus elaphus nelsoni*)



Rocky Mountain elk (*Cervus elaphus nelsoni*) are members of the deer family, *Cervidae*, which includes moose, elk, caribou and deer. Elk, moose and mule deer can be found in Utah. In North America, elk are also called *wapiti* which is the Shawnee name for the animal and means “white rump.”

In 1971, the Rocky Mountain elk was voted Utah’s state mammal. This title was given to the elk in recognition of its recreational, economic and intrinsic value to the people of Utah.

## Description

Elk are the second largest member of the deer family and are easy to identify in the field. Mature males, called bulls, may weigh up to 700 pounds, stand five feet at the shoulder and measure eight feet from nose to rump. Mature females, called cows, may weigh up to 500 pounds, stand four and a half feet at the shoulder and measure six and a half feet from nose to rump.

Both males and females have a light-brown body, dark-brown head, neck and legs and characteristic cream-colored rump. Older males tend to have lighter-colored bodies.

## Antlers

Mature bulls have large sets of antlers, usually with six points, called tines, on each side. Cows do not grow antlers. Elk antlers sweep back over the body, with the exception of the two lower tines which grow forward over the elk’s muzzle.

A yearling bull (one and a half years old) grows unbranched antlers, called spikes. Occasionally, a yearling in good physical condition may have additional forks or points at the end of his spike antlers. A mature bull (four to six years old) will grow a full-sized set of antlers with six to seven tines. As a bull reaches old age (eight to twelve years), his body condition begins to deteriorate, and he is not capable of growing a set of antlers as large as he grew in his prime.

A bull elk sheds his antlers and begins to grow a new set every spring. Antlers, unlike horns, are shed and regrown every year; horns are not shed and continuously grow throughout the life of an animal.

While new antlers are growing, they are protected by a soft covering, aptly named *velvet*. Antlers grow throughout the summer. When the growth has stopped and the antlers are hard, the bull removes the velvet by scraping his antlers against trees and bushes. Because antler growth requires an excess of energy and minerals, antler size is a good indicator of the weight and physical condition of a bull, as well as condition of habitat.

## Habitat and Community

Rocky Mountain elk can be found throughout Utah in mountainous habitat. During the hot summer months, elk live fairly high in the mountains, usually between 6,000 and 10,000 feet. In late fall, most elk migrate down the mountain slopes to areas of lower elevation and less snowfall. During the winter, elk congregate in valley bottoms and forage on south-facing slopes where the sun melts snow more quickly and winds prevent deep snow from accumulating. These conditions provide elk access to more food sources.

Winter habitat for elk is referred to as *winter range*. The availability of winter range is critical to the survival of all big game species. The survival of many other wildlife species is not only dependent upon available winter range, but also upon the big game animals themselves. Magpies are often seen picking parasites off the backs of elk. Other birds follow herds of elk, gleaning the vegetation uncovered by the foraging animals. Coyotes also follow elk, watching for voles which are flushed from their burrows by an elk pawing through the snow. A weakened elk may become prey for mountain lions or coyotes. Wintering bald eagles, ravens, gophers and badgers will also feed on winter-killed elk.

## Food Habits

Like all members of the deer family, elk are herbivores. Sedges, grasses and forbs (flowering, nonwoody plants) comprise most of an elk's diet. Elk also eat shrubs (woody plants) during the winter. In the winter, elk are often forced to eat lower quality foods, browsing on twigs, bark, pine needles and tree lichens. Mortality is highest during the winter months for big game animals. Elk and deer need a large amount of energy to survive the winter; yet, there is little food available. In hard winters they must rely on fat reserves for extra energy needs. Elk however have two advantages over deer: elk are larger animals and can travel more easily through deep snow; and elk are able to eat a greater variety of plants.

chambered stomachs. A ruminant stomach enables an animal to digest tough grasses and other plant material. The teeth of elk consist primarily of molars for chewing plants. Elk, like deer and moose, lack upper incisors and instead have a tough pad opposite their lower incisors. However unlike deer and moose, elk have upper canine teeth in the forward part of their jaw. Ancestrally, these teeth were much larger and served as functional weapons. The current, smaller canines are still used in threat behaviors. These teeth, which are called *whistlers* or *elk ivories*, are prized by hunters and are often used for making jewelry.

## Behavior

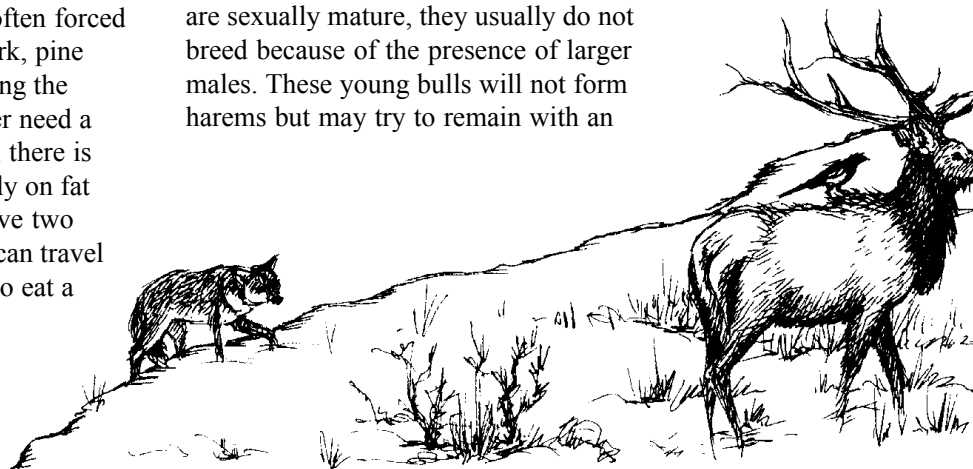
Elk are very vocal animals and may be recognized by the sounds that they make. Barks indicate alarm, while squeals are typical communication between cows and calves. Chirps and mews are sounds used in general conversation within the herd. The most unique and characteristic sound an elk makes is the "bugling" of bulls during mating season. The sound, which may be heard for miles, usually begins low in pitch and continues up the scale until it reaches a high, shrill pitch, followed by several low grunts.

Elk congregate in herds which affords good protection against predators. Summer herds may number as many as 400 cows and calves. Generally, older cows are the herd leaders. Some yearling bulls stay with these herds, but most bulls keep to themselves or congregate in small groups. Within the herd, calves form nursery groups that follow one cow at a time. This "babysitting" process provides intervals when cows have time to graze and rest. This practice also allows calves to focus on one cow, eliminating confusion if the herd breaks into a run.

## Reproduction

The elk mating season, called *the rut*, begins in early September. It is at this time that bull elk begin to bugle. A bull elk will bugle to announce his presence to cows and to warn away other bulls.

As the rut begins, cows and calves form smaller herds called harems. These harems are joined by mature bulls; one of which will emerge as the dominant bull and control the harem. Although yearling bulls are sexually mature, they usually do not breed because of the presence of larger males. These young bulls will not form harems but may try to remain with an



older bull's cows, possibly mating with one while the dominate bull is preoccupied.

Bulls will challenge one another during the mating season and can assess another bull's strength by the size of his antlers. Bulls battle by locking antlers and pushing, trying to throw each other off balance.

Breeding is over by mid-October, and bulls become more solitary. After the rut, both males and females begin consuming as much food as possible to build energy reserves for winter.

Elk calves are born in the months of May and June. Calves weigh approximately 30 pounds at birth. Cows normally have only one calf per year; twins are rare. A cow will seek solitude for the birth of her calf. After giving birth, she will eat the placenta and any soil or vegetation that has been soaked with birthing fluids to eliminate any scent of her newborn calf. It is during the first three weeks of life that a calf is most vulnerable to predators. Throughout this time, the cow will keep her calf in hiding and will eat the calf's feces to further diminish any scent that might betray the calf's presence. Once the calf is able to travel, the cow and calf will rejoin the herd.

## Historical Status / Current Management

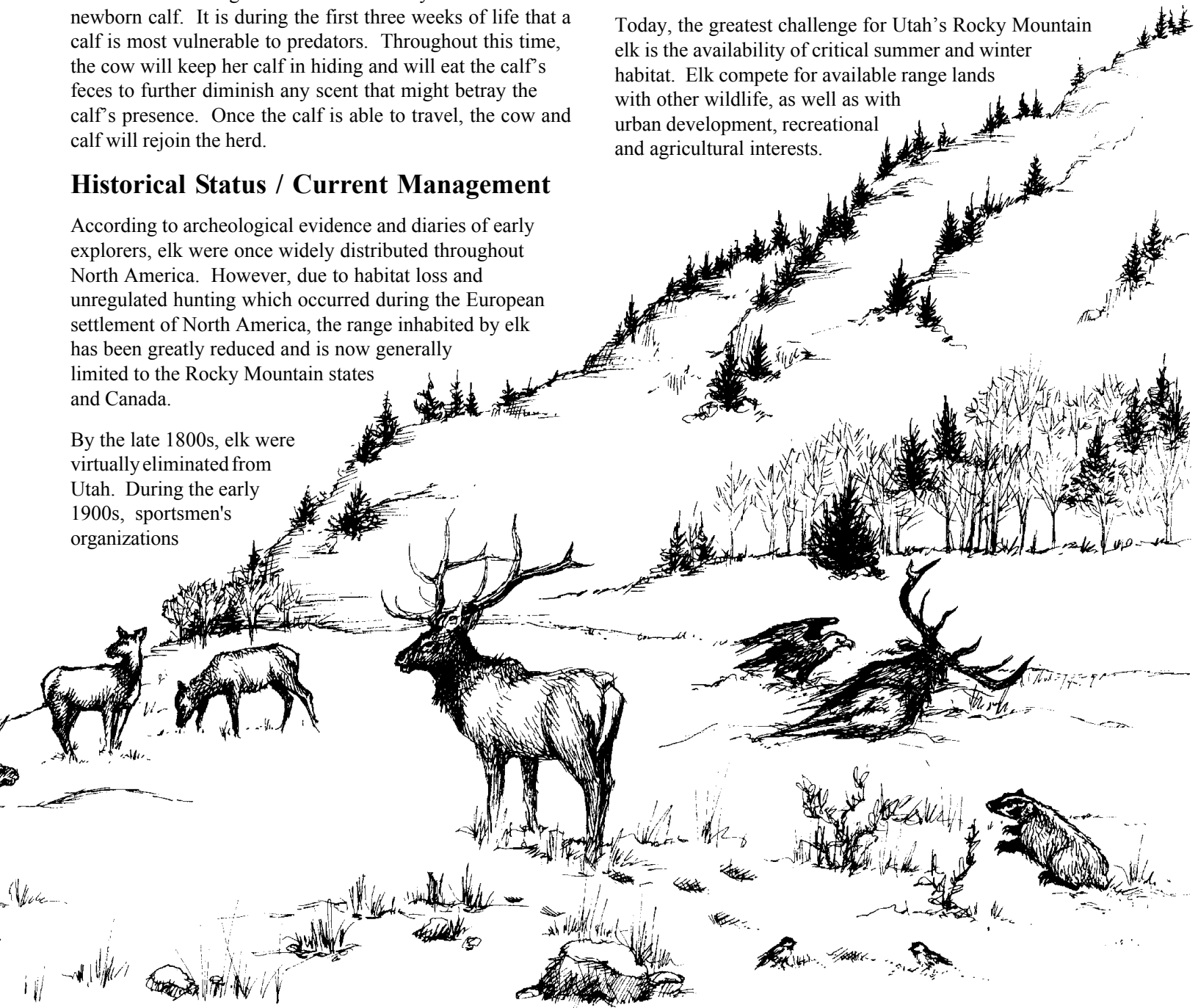
According to archeological evidence and diaries of early explorers, elk were once widely distributed throughout North America. However, due to habitat loss and unregulated hunting which occurred during the European settlement of North America, the range inhabited by elk has been greatly reduced and is now generally limited to the Rocky Mountain states and Canada.

By the late 1800s, elk were virtually eliminated from Utah. During the early 1900s, sportsmen's organizations

sponsored reintroduction of elk onto many of Utah's historical elk ranges. This reintroduction of elk has been very successful and the state's current elk population numbers approximately 60,000 animals.

In managing elk herds, the Division of Wildlife Resources strives to maintain a healthy population of elk in balance with its habitat and provide for recreational opportunities, such as wildlife viewing and hunting. Elk hunting is the primary management tool used to maintain herd population numbers and reduce elk-caused damage to range and agricultural lands. When wildlife managers recommend the number of animals to be hunted, they consider the overall amount of habitat, range condition, as affected by livestock and big game numbers, and long-term weather patterns. Managers also consider social factors such as the need to minimize levels of crop depredation versus the desire of others for more elk.

Today, the greatest challenge for Utah's Rocky Mountain elk is the availability of critical summer and winter habitat. Elk compete for available range lands with other wildlife, as well as with urban development, recreational and agricultural interests.



## What You Can Do

To assist in the conservation of the Rocky Mountain elk in Utah, concerned citizens can do several things:

- Join an organization that works to conserve elk and elk habitat.
- Write land-use planners, planning commissioners and legislators to express your concern and support for the preservation of summer and winter habitat for elk.
- Visit Hardware Ranch to learn more about elk and to hear and see these animals up close.
- Look for wintering herds of elk, but view wintering elk from afar. Getting too close and forcing these animals to move results in their using up precious energy reserves needed to survive the winter.
- Organize a group to reseed or plant browse on a winter range area. Reseeding provides greater vegetation and plant diversity. Contact the Division of Wildlife Resources for specific information.
- For more information on Rocky Mountain elk, contact the Utah Division of Wildlife Resources, 1594 West North Temple, Suite 2110, Salt Lake City, UT 84116.

## Additional Reading

Krakel II, Dean. *Season of the Elk*. National Cowboy Hall of Fame and Western Heritage Center, 1985.

Murie, Olaus J. *The Elk of North America*. Stackpole, PA, 1957.

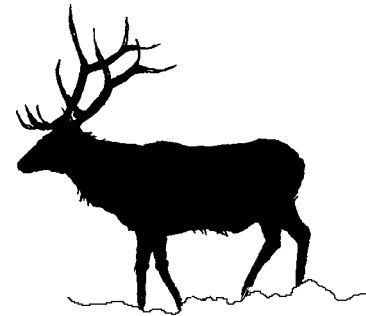
Thomas, Jack Ward and Dale E. Toweill. *North American Elk: Ecology and Management*. Wildlife Management Institute, Washington, DC, 2002.

## Hardware Ranch Wildlife Management Area

Hardware Ranch is a Wildlife Management Area (WMA), owned and operated by the Utah Division of Wildlife Resources. Each fall, approximately 600 wild elk move onto the ranch and are supplementally fed from December through March. Visitors to the ranch during October may have the opportunity to see elk in the rut and to hear bulls bugle. During the winter months (mid-December through mid-March), visitors may view elk from horse-drawn sleighs.

The Division of Wildlife Resources has maintained a field study program at Hardware Ranch WMA since 1948. Research programs conducted on elk at the Ranch include studies on the elk's life history, migration habits, diseases and elk capture/tranquilization techniques. Biologists generally work with the herd in January and February.

Hardware Ranch WMA is located in Cache Valley, about 15 miles east of Hyrum, Utah, at the top of Blacksmith Fork Canyon. For more information about viewing elk at Hardware Ranch WMA call (435) 753-6206 or visit <http://hardwareranch.com>.



*Wildlife Notebook Series No. 12*

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