



Aging Elk

Text by William Jensen

Photos by Craig Bihrlé

Each year Game and Fish biologists run elk checking stations to gather information from hunters about harvested animals. One of the more common questions from hunters is: "How old is my elk?"

If you've ever been lucky enough to hunt elk and brought it into a field check station, a biologist probably aged it for you by looking at its teeth, and told you some basic things about how they did it. But you probably still had questions about how the animal's age was determined, and wondered if you couldn't do it yourself. This guide will help successful hunters estimate an elk's age.

How to Age An Elk

Elk in North Dakota are primarily born in late May and early June. Therefore, when most animals are harvested in October and November they are considered either six months, 1½ years, 2½ years, 3½ years, etc., in age. This guide is designed to block elk into these age categories.

Although elk may live to 16 years in the wild, the overall age structure of a hunted elk population is younger than most people think. Of elk harvested in the badlands that biologists have examined, more than 70 percent of cows and 90 percent of bulls were 4½ years old or younger.

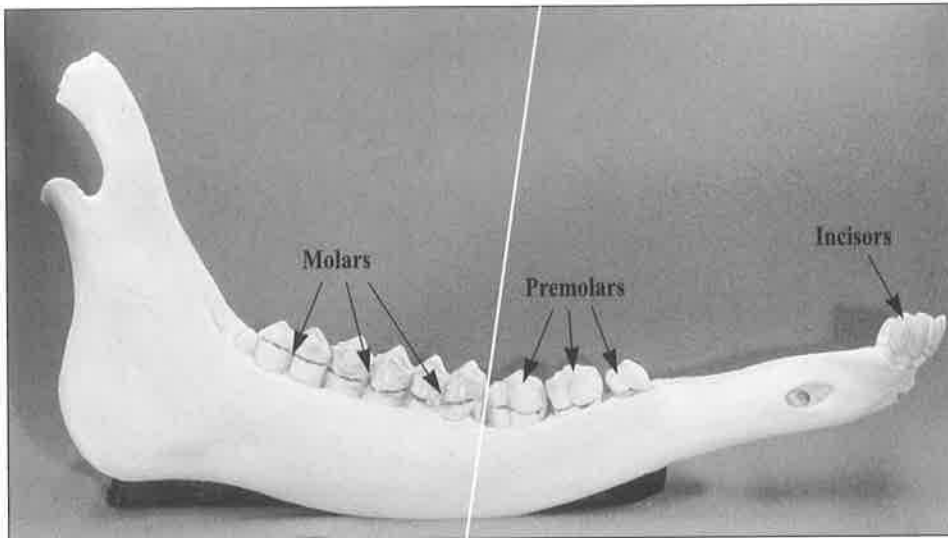
Antler and body size can indicate an elk's age, but physical characteristics are often misleading. The number of antler points do not correspond to age. Even if it did, it wouldn't help in aging cows, which make up a considerable proportion of the harvest each year.

Antler size in bulls and physical development in both genders is greatly affected by diet, which may account for differences between animals of the same age taken from different locations.

It's All in the Teeth

The science of aging elk is based on tooth development and wear. Like humans, elk replace their "baby teeth" with permanent teeth at a relatively set rate. As surely as a 6-year-old child will soon get her two front teeth, an 18-month-old elk will have its central two permanent incisors. By the time an elk is 3½ years old, all permanent teeth are in. At this stage, esti-

imating age is based largely on the rate of tooth wear. Diet and soil types may accelerate tooth wear, but generally, estimating the age of adult elk is straight-forward through age 3½. In animals 4½ years and older, estimating age by tooth wear is less reliable.

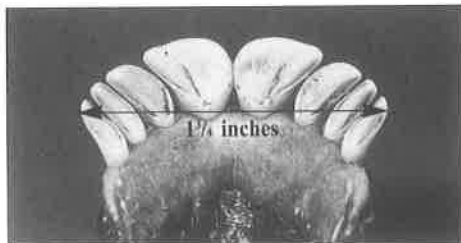


Tooth Identification Basics

Elk basically have two groups of teeth. The front teeth, or incisors, are used for collecting food. The back teeth or cheek teeth – molars and premolars – are used to chew and grind food. Between the incisors and molars is an open space along the jaw that has no teeth.

(Note: In all photos, black line indicates the gum line.)

Your basic elk jaw. Incisors in the front, premolars and molars in the back, and a big space between.



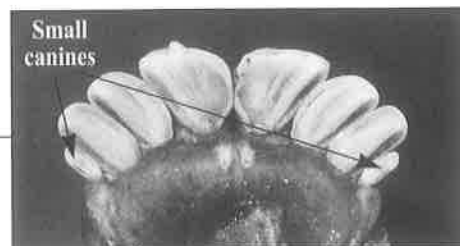
Front teeth of a six-month-old elk (calf). Width of incisors less than 1/4 inches.



Above: Yearling jaw with permanent central two front teeth fully emerged.

Front Teeth (Incisors): These are the front teeth of an elk jaw. When an elk is 15-18 months old, the central two incisors are replaced. The rest of the front teeth – lateral incisors and canine teeth – are replaced during the second and third year of life. Unlike horses, elk do not have upper incisors.

Central front teeth all permanently in place. This elk is at least 3½ years old.



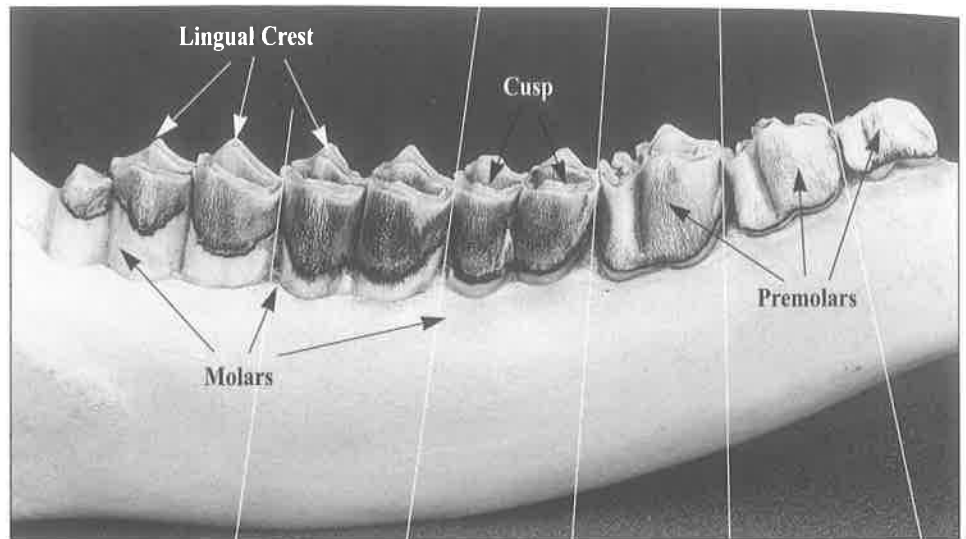
Right: 2½ year-old elk have central six permanent front teeth fully emerged. Temporary canine teeth may still be small, or permanent canines are emerging.



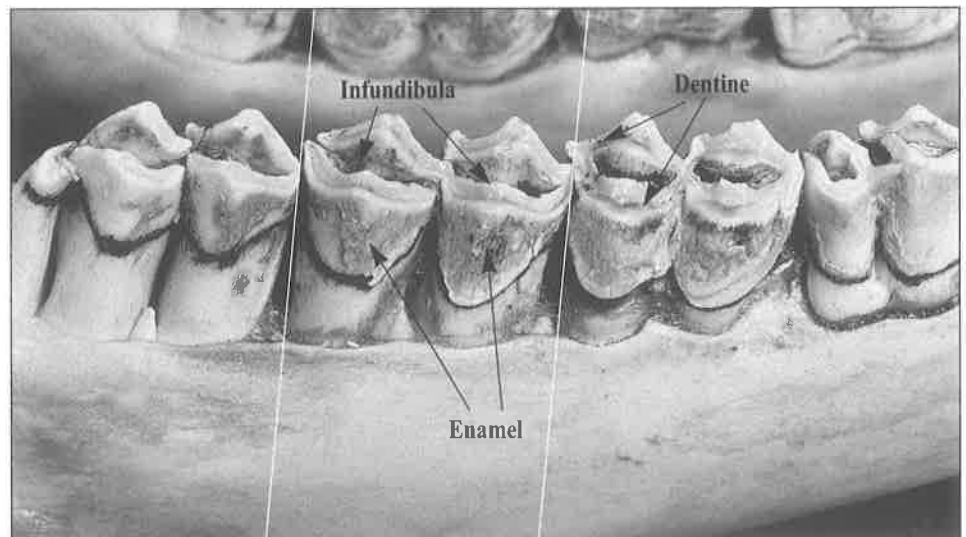
Cheek Teeth

Premolars: The first three teeth on each side of the jaw are called premolars. Elk grow two sets of premolars. The first set appear in calves and last until the animal is about 2½ years old, when permanent adult premolars push out the baby premolar teeth. An important characteristic of the first set of premolars is that the third premolar has three crowns or cusps. When permanent teeth come, all premolars have just two cusps.

Molars: The fourth, fifth, and sixth cheek teeth are the molars. Elk grow one set of molars. Generally, six-month-old elk have only one molar when they enter the fall hunting season. Therefore, six-month-old animals usually have only four cheek teeth. By 1½ years of age – the second fall – the second and third molar have erupted through the gum, though the last cusp of the third molar may still be below the gum line. All six molars and premolars are fully erupted by 3½ years. To determine the age of animals in older age classes we need to look more closely at tooth wear.



Cheek teeth of a 3½ year-old elk. Premolars and molars are indicated. Each permanent premolar and molar has two cusps or crowns, except the third molar, which has three cusps. The cusps on the lower jaw form a ridge of sharp points on the side nearest the tongue, called lingual crests.

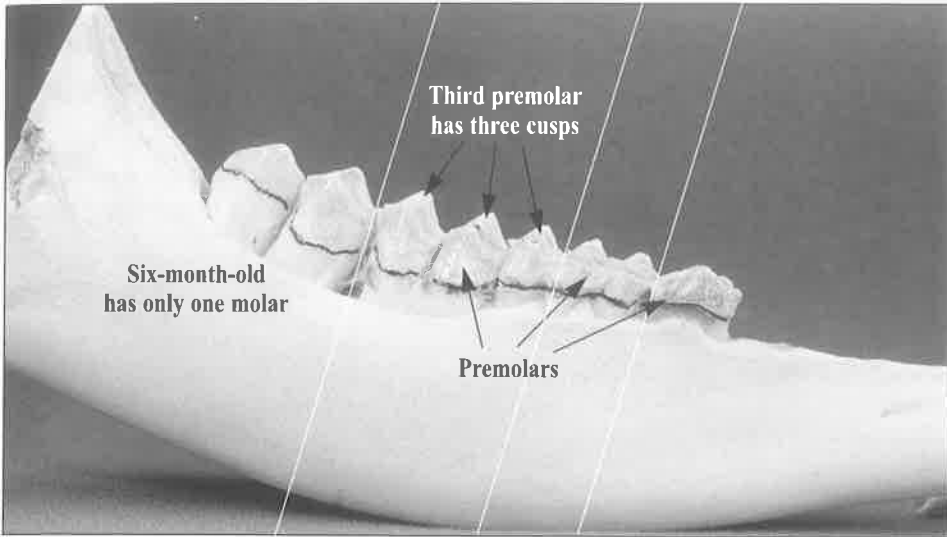


Each premolar and molar shows white and dark portions. The white portion is the enamel. The dark portion is dentine. The pits in the tooth are called infundibula.

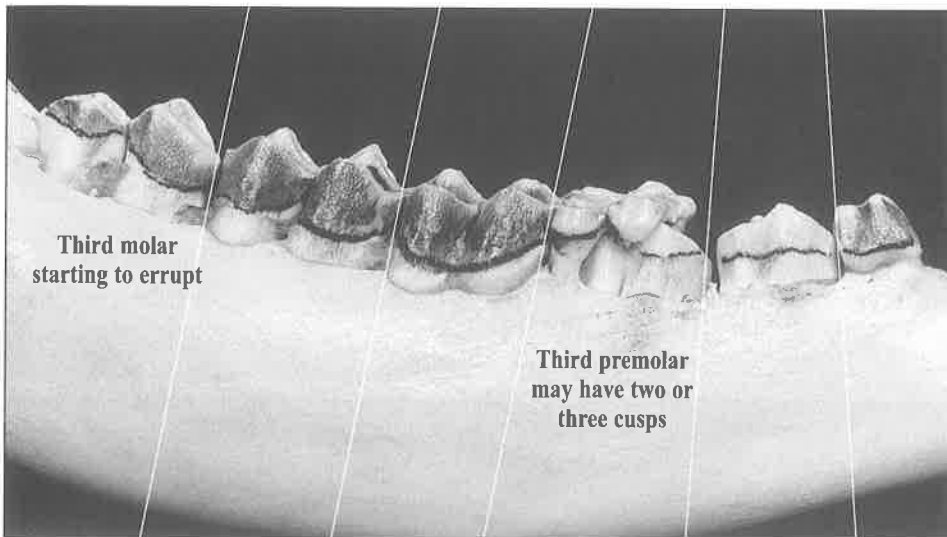
Through the Ages

While it is possible to determine whether an elk is six months, 1½ or 2½ years old by looking at its incisors or front teeth, it is the cheek teeth of the lower jaw, that harbor the most reliable clues for older animals.

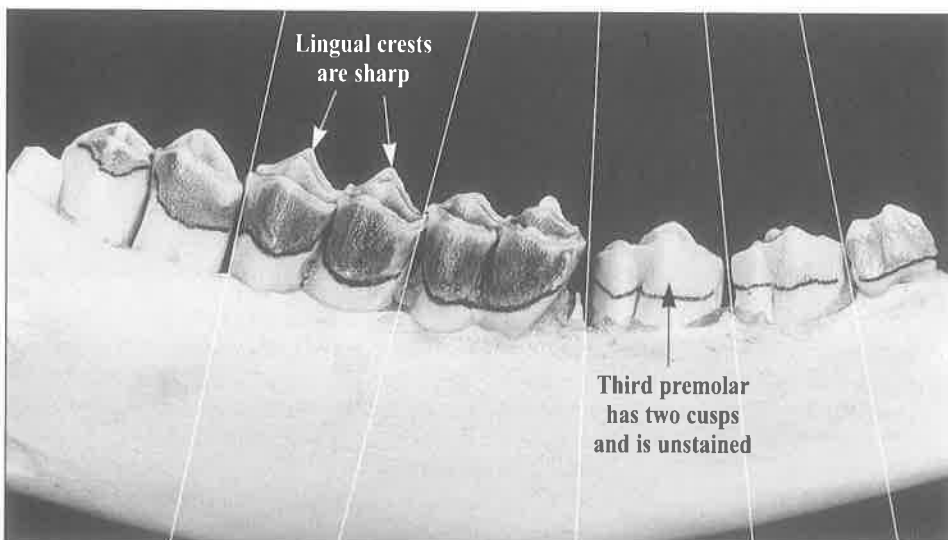
To get a good look at the cheek teeth (premolars and molars), you need to cut back the lip and cheek skin. If you plan to have the elk head mounted, let your taxidermist skin out the head and remove the jaw for you.



Six Months: The nose or muzzle of the elk appears short or stubby, when compared to older elk. All the immature incisors are still present. Generally, only four cheek teeth are showing. The third premolar has three cusps.

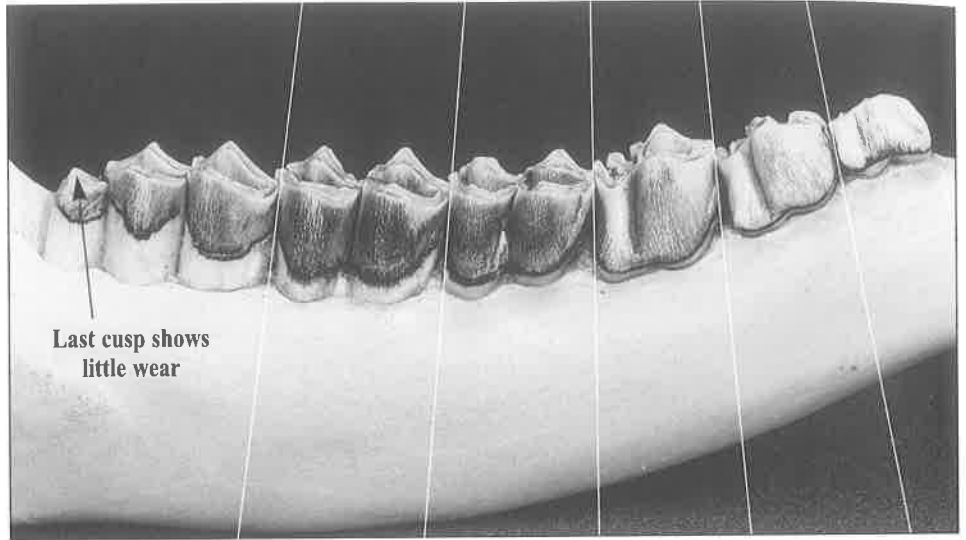


1 1/2 Years: Central two permanent front teeth are in place (see incisor inset photos). Five cheek teeth have erupted in the lower jaw. The third premolar still has three cusps and is well worn. Elk harvested later in the season may be in the process of losing this three-cusped molar. Third molar may just be starting to erupt through the gum. Lingual crest of molars have sharp points.

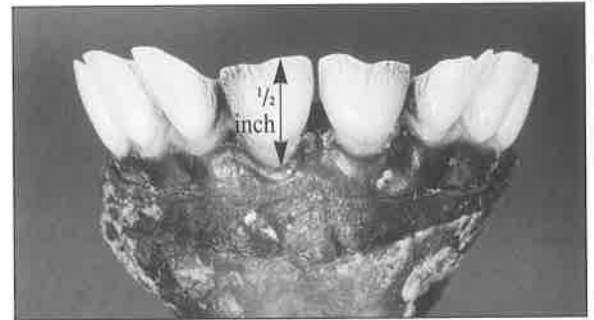


2 1/2 Years: Central six permanent front teeth are in place (see incisor photos). Look closely at the third cheek tooth (third premolar). The permanent tooth is two cusps, unstained, sharp, and shows little or no wear; enamel (white portion) of the lingual crest shows well above the dentine (brown portion). Third molar (sixth cheek tooth) may still be erupting.

3½ Years: All permanent front teeth and cheek teeth are fully erupted and in place (see incisor photos). Last cusp of sixth cheek tooth shows little or no wear.



4½ to 8½ Years: Aging elk 4½ to 8½ years is difficult. Wear on the lingual crest and cupping of molars becomes more pronounced. By 8½ years the dark portion (dentine) of the first molar (four cheek tooth) nearly surrounds the pit, or infundibula, of the tooth. In older animals the infundibula of the first molar will be completely worn away.



Incisors of elk 8½ years and older show a great deal of wear. Central two-front teeth are worn to within ½ inch of the gum line.

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