



REPTILES

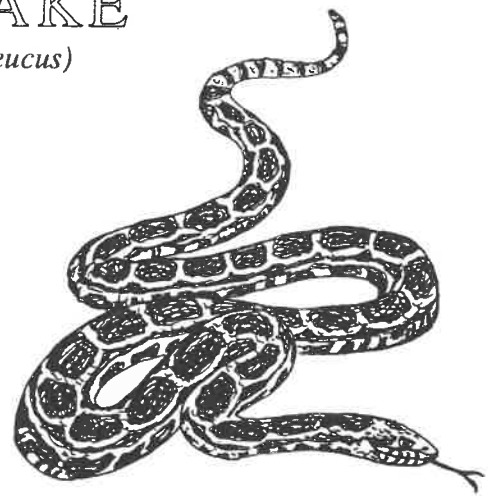
Status: Common, Native Resident

BULLSNAKE

(*Pituophis melanoleucus*)

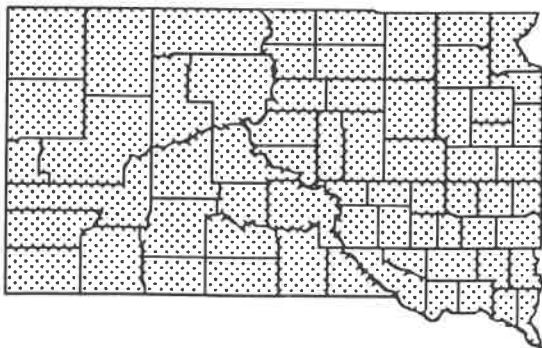
Description

Bullsnakes are the largest snakes in South Dakota and one of the largest species found in the United States. These powerfully built snakes range from 48 to 72 inches (122-173 cm) long with an average length of about five feet (1.5 m) at maturity and a record of almost 8 feet (2.5 m). Their coloring is yellowish tan with about 40 brownish blotches along their bodies. The underside is pale yellow with bold black spots, especially toward the sides. Each scale on a bullsnake has a small ridge called a keel. These keels make the snake rougher to the touch than a smooth-scaled snake such as a green snake. Members of this species sometimes are called pine snakes or gopher snakes. The Lakota call them "sinte wanglelega."



Bullsnakes are found throughout South Dakota in habitats wherever rodents are abundant. They live in the plains, in grasslands, and in agricultural areas, such as wheat fields.

Distribution



Natural History

Bullsnake habitat needs are simple: rodents to eat and a place to stay cool in the summer and warm in the winter. Bullsnakes will eat small mammals (especially mice and rats), birds, and occasionally bird eggs. They are constrictors who kill by coiling around their prey, and each time it breathes out, tightening their coils a little bit more until the victim dies from lack of oxygen. This usually only takes a few seconds and then the constrictor swallows the animal whole, usually head first.

Like all reptiles, snakes cannot maintain their own body temperature and must depend upon the environment for warmth and cooling. They regulate their temperature by moving to warmer and cooler areas and between sun and shade. Bullsnares are *diurnal*, hunting in the early morning, late afternoon, and early evening, when the temperature is warm without the strong, direct heat of the midday sun. They will bask in the morning sun for a considerable period of time each day. During midday they usually find shelter from the heat in animal burrows or in the cavities formed by the root systems of fallen trees, although they are capable of digging a burrow. During hot weather bullsnares may be active at night, but usually the night is spent in a burrow or other shelter.

Reptiles in South Dakota escape the cold of winter by *hibernating*. Bullsnares *hibernate* in snake dens in rocks below the frost line. The same den is used each year and great numbers of snakes can be found in a single den. A snake den can contain many species of snakes; bullsnares, rattlesnares, racers, and even garter snakes can all be found in the same den. Each species goes into and comes out of hibernation at different times. For example, bullsnares leave the snake den after garter snakes and before rattlesnares. As the days warm, bullsnares begin coming out of the den. They bask during the day and return at night. Sometimes many snakes may be seen basking on rocks by the dens at this time.

Once their bodies have adjusted to warm weather, they will shed their skins. The males come out of hibernation first, then the females. They then mate and go their separate ways. Female bullsnares lay 3 to 24 large eggs in sandy soil or beneath large rocks or logs. The creamy white eggs are 2 to 4.5 inches (5-11 cm) long and will hatch in 64 to 79 days. At hatching, young snakes are 12 to 18 inches (30-46

cm) long and are fully capable of capturing a small mouse.

Predators of the young include *raptors* and skunks. Full grown bullsnares have few predators. If threatened they hiss loudly, sometimes flattening their heads and vibrating their tails. If this doesn't work, they will lunge at an intruder. Bullsnares earned their name because, when threatened, they make very loud snorting sounds that resemble the noise bulls make.

Significance

Bullsnares are important members of the food chain. They are also very useful to humans by controlling rodents and may save farmers hundreds of dollars in rodent damage. Because they are excellent mousers, some people will let a bullsnake live in a barn or under a porch.

Management Considerations

Is it *mimicry*? How can you tell a bullsnake from a rattlesnake? Many people are confused about the differences between bullsnares and rattlesnares, so they kill any large, patterned snake they see. It is NOT true that these snakes can mate and create hybrids that are half bullsnake and half rattlesnake and poisonous like a rattlesnake. These snakes are different species and therefore cannot breed with one another. Bullsnares lay eggs and rattlesnares give birth to live young. Bullsnares have a long, lithe body and a pointed tail. Rattlesnares have a chunky body and a blunt tail with a rattle on the end. Bullsnares have a head and neck that are the same width. Rattlesnares have a wide head and a narrow neck. Bullsnares have round pupils and rattlesnares have pupils that are vertical slits. And of course, bullsnares do not have rattles and are not poisonous, while rattlesnares do have rattles and are poisonous. Unfortunately, if bullsnares are cornered and frightened they will vibrate their tails, and will strike and

bite. If they are in dry grass, the noise that is made can be mistaken for the rattle of a rattlesnake.

Bullsnakes are beneficial creatures that are harmless to humans. People should

work to protect them. People are allowed to collect bullsnakes for personal use (for pets, scientific study, wildlife parks) only if they have a South Dakota fishing license. Commercial collecting requires a commercial permit.

Glossary

Diurnal - active during the day.

Hibernate - to pass the winter in a dormant or inactive state with lowered metabolism and heart rate.

Mimicry - the resemblance of one organism to another or to an object in its surroundings for the purpose of concealment and protection from predators.

Raptors - birds of prey, such as hawks and owls.

Selected References

Behler, John L. and F. Wayne King, 1995. National Audubon Society Field Guide to North American Reptiles and Amphibians. New York: Knopf.

Conant, Roger., 1975. A Field Guide to Reptiles and Amphibians of Eastern and Central North America. Boston: Houghton Mifflin. 2nd ed. Peterson Field Guide Series.

McMehrtens, John, 1987. Living Snakes of the World in Color. New York: Sterling Publishing Company.

Resources for Teachers

Caduto, Michael and Joseph Bruchac. Keepers of the Earth: Native American Stories and Environmental Activities for Children. Golden, CO: Fulcrum Press. 1988.

Caduto, Michael and Joseph Bruchac. Keepers of the Animals: Native American Stories and Wildlife Activities for Children. Golden, CO: Fulcrum Press. 1991.

Project Wild has some excellent activities about predator and prey that could be adapted to bullsnakes.

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