Reptiles

Snapping Turtle (*Chelydra serpentina*)

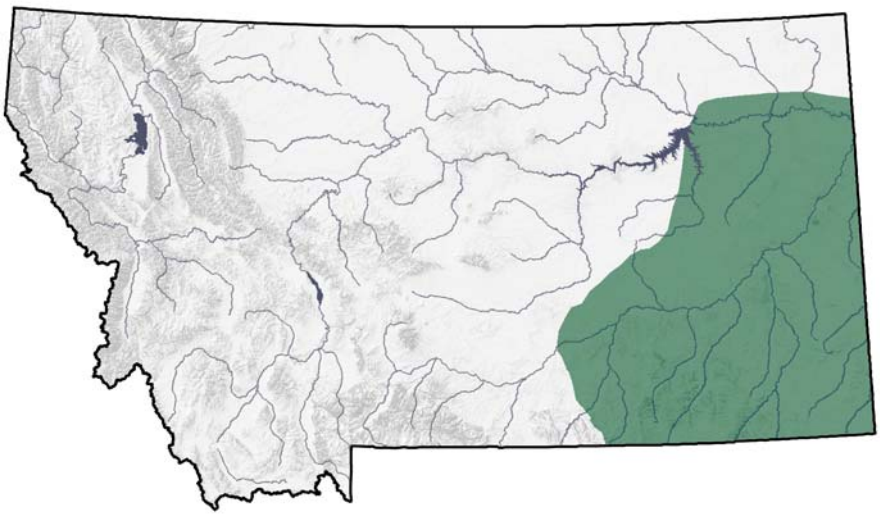

Figure 64. Distribution of the Snapping Turtle

Range

Voucher specimens of snapping turtles have been collected in three eastern counties (Carter, Powder River, and Rosebud), with visual observations in seven additional counties (Big Horn, Custer, Dawson, Wibaux, Richland, Roosevelt, and Yellowstone), at elevations up to 3,800 feet (1,158 meters). Although there are no records of breeding populations on the Missouri River, several reliable sightings, including one on the Redwater River, may indicate existing populations (Werner et al. 2004). Snapping turtles have probably been introduced in several localities (there are unconfirmed reports from Gallatin, Ravalli, and Sanders counties); confirmed records from Flathead and Lake counties represent introductions.

Habitat

Habitat use by snapping turtles in Montana is probably similar to elsewhere in the range, but studies are lacking and there is little qualitative information available. They have been captured or observed in backwaters along major rivers, at smaller reservoirs, and in smaller streams and creeks with permanent flowing water and sandy or muddy bottoms (Reichel 1995; Hendricks and Reichel 1996; P. Hendricks, personal observation). Nesting habitat and nest sites have not been described.

Elsewhere, snapping turtles occur in all types of shallow freshwater habitats, such as streams, rivers, reservoirs, and ponds, especially those with a soft mud

bottom and abundant aquatic vegetation or submerged brush and logs (Hammerson 1999), and in brackish water in some areas. Although found most often in shallower water, they have been reported on the bottom of lakes in water up to 10 meters deep. Temporary ponds also may be occupied. Hatchlings and juveniles tend to occupy shallower sites than mature individuals in the same water bodies. Snapping turtles are mostly bottom dwellers, which is where they spend much of their time. Although highly aquatic, they may make long movements overland if their pond or marsh dries (Baxter and Stone 1985; Ernest et al. 1994; Hammerson 1999). They hibernate singly or in groups in streams, lakes, ponds, or marshes; in bottom mud, in or under submerged logs or debris, under an overhanging bank, or in muskrat tunnels; often in shallow water; sometimes in anoxic sites (Brown and Brooks 1994). Sometimes snapping turtles bask out of water, especially younger individuals and in the northern extremes of the global range.

Nests are built in soft sand, loam, vegetation debris, or even sawdust piles, most often in open areas and often 100 meters or more from water (Congdon et al. 1987; Ernst et al. 1994; Hammerson 1999). They also nest in beaver and muskrat lodges.

Management

Montana populations of the snapping turtle are poorly understood, making management more difficult. It is possible that even moderate harvest of adults by anglers in most localities will result in population declines, similar to Colorado (Hammerson 1999), because the life history of this species indicates recruitment of juveniles into breeding populations is low, and population densities in western states is probably low.

Conservation Concerns & Strategies

Conservation Concerns	Conservation Strategies
Biological information lacking in Montana	Consider preparing a management plan for the snapping turtle or include it into other comprehensive taxonomic plans
	Meticulous tracking of observations and biological information
	Conduct surveys of suitable habitat that are designed to detect the species
Habitat loss and degradation, including barriers that hamper movement of snapping turtles	Conservation of major river systems in Montana
Nest destruction and predation	Conservation of nest areas
Human harvest of long-lived adults	Review harvests limits

Management Plan

None

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Brown, G. P., and R. J. Brooks. 1994. Characteristics of and fidelity to hibernacula in a northern population of snapping turtles (*Chelydra serpentine*). Copeia 1994:222–226.

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Spiny Softshell (*Apalone spinifera*)

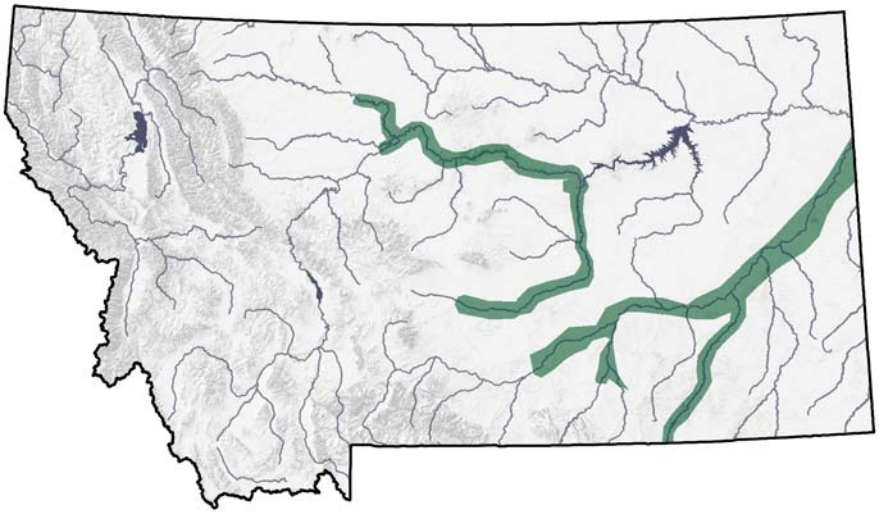

Figure 65. Distribution of the Spiny Softshell Turtle

Range

In Montana, native populations of the spiny softshell are present east of the Continental Divide in the Missouri River and Yellowstone River drainages, and some principle tributaries (Maxell et al. 2003). Large gaps remain in the species' range within Montana, especially in the Missouri River below the mouth of the Musselshell River. Spiny softshells in Montana are thought to be isolated from the remainder of the global population, and it appears the population in the Missouri River is isolated from the population in the Yellowstone River. Voucher specimens have been collected in five counties (Big Horn, Chouteau, Prairie, Rosebud, and Wheatland), with visual observations in eight additional counties, at elevations up to 3,600 feet (1,097 meters); a questionable voucher record exists from Roosevelt County.

Habitat

Habitat use by spiny softshells in Montana is probably similar to elsewhere in the range, but studies are lacking and there is little qualitative information available. They occupy larger rivers and tributaries. Both sexes have been observed basking together on partially submerged logs in backwater sites of slow-moving water and on sandy or muddy riverbanks (P. Hendricks, personal observation).

Generally, the spiny softshell is primarily a riverine species, occupying large rivers and river impoundments, but also occurs in lakes, ponds along rivers, pools along intermittent streams, bayous, irrigation canals, and oxbows. Spiny softshells usually are found in areas with open sandy or muddy banks, a soft bottom, and submerged brush and other debris. They bask on shores or on

partially submerged logs and burrow into the bottoms of permanent water bodies, either shallow or relatively deep (0.5 to 7 meters), where they spend the winter. Eggs are laid in nests dug in open areas in sand, gravel, or soft soil near water (Baxter and Stone 1985; Ernst et al. 1994; Hammerson 1999; Stebbins 2003).

Management

Montana populations of the spiny softshell are poorly understood, making management more difficult. No management plan is in place at this time.

Conservation Concerns & Strategies

Conservation Concerns	Conservation Strategies
Little biological information for Montana populations	Consider preparing a management plan for the spiny softshell or include it into other comprehensive taxonomic plans
Habitat loss and degradation, including barriers that hamper movement of spiny softshells	Conservation of major rivers in Montana
Nest disturbance	Protect nest sites from human disturbance
Incidental take from anglers	Thorough documentation of observations and incidental take

Management Plan

None

Citations

Baxter, G. T., and M. D. Stone. 1985. Amphibians and reptiles of Wyoming. 2nd ed. Wyoming Game and Fish Department, Cheyenne, WY.

Ernst, C. H., J. E. Lovich, and R. W. Barbour. 1994. Turtles of the United States and Canada. Smithsonian Institution Press, Washington, DC. 578 pp.

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Stebbins, R. C. 2003. A field guide to western reptiles and amphibians. 3rd ed. Houghton Mifflin Company, Boston, MA. 533 pp.

Werner, J. K., B. A. Maxell, D. Flath, and D. P. Hendricks. 2004. Amphibians and reptiles of Montana. Missoula, MT: Mountain Press Publishing Company. 262 pp.

Western Hog-nosed Snake (*Heterodon nasicus*)

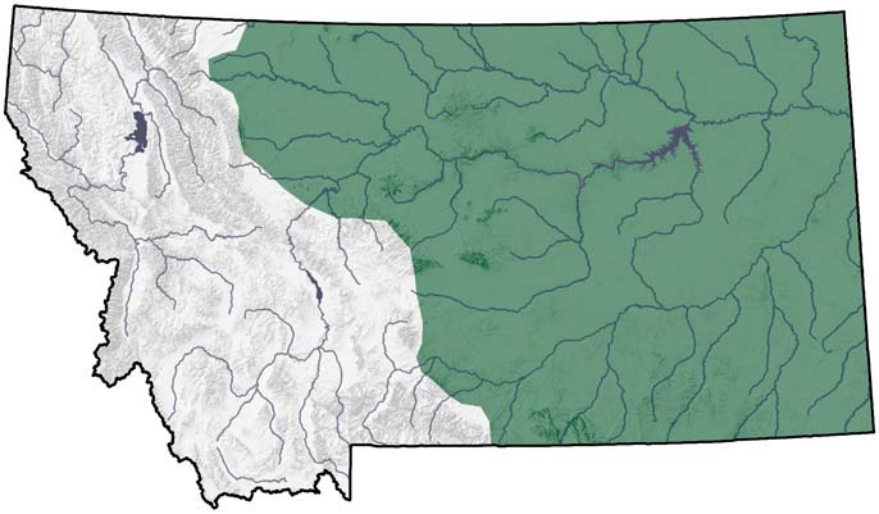

Figure 66. Distribution of the Western Hog-nosed Snake

Range

In Montana, the western hog-nosed snake is found east of the Continental Divide throughout the prairies, although significant gaps in its known distribution remain in the central region between the “island” mountain ranges, and there have been few reports statewide in the last ten years (Maxell et al. 2003). Voucher specimens exist for 17 eastern counties, and there are observation records from 7 additional counties, at elevations up to 4,060 feet (1,237 meters).

Habitat

Little specific information for the state is available. Western hog-nosed snakes have been reported in areas of sagebrush grassland habitat (Dood 1980) and near pine savannah in grassland underlain by sandy soil (Reichel 1995; Hendricks 1999). Distribution of soil and vegetation and proximity to water could be limiting factors for distribution.

In other locations, their apparent preference for arid areas, farmlands, and floodplains, particularly those with gravelly or sandy soil, has been noted. They occupy burrows or dig into soil and can be found under rocks or debris during periods of inactivity (Baxter and Stone 1985; Hammerson 1999; Stebbins 2003).

Management

Apparently the western hog-nosed snake was relatively abundant in Montana during the late 19th century. In 1876 it was the third most common reptile (after the western rattlesnake and short-horned lizard) along the Missouri River

between Fort Benton and the mouth of the Judith River (Cope 1879). This is no longer the case (Maxell et al. 2003); the few recent records suggest that the species is uncommon throughout Montana, although its status is largely unknown.

Conservation Concerns & Strategies

Conservation Concerns	Conservation Strategies
Distribution, status, and habitat uses are poorly understood	Develop a comprehensive taxanomic management plan (e.g., for reptiles) that includes the western hog-nosed snake and addresses the concerns listed
	Record all observations of this species to continue establishing its range in Montana
Some evidence for declines are potentially associated with habitat loss	Conservation of prairie land and prey habitat (wetlands)
Pet trade industry	Increase education and information on reptile biology and awareness of the importance of den and nest sites
Declines in prey (amphibians)	Targeted surveys (specific to both hog-nosed snakes and prey base) in suitable habitat to continue determining their abundance and range in Montana
Dependent on natural flood regimes that provide gravel and sandy beaches in which they and their amphibian prey can burrow	Mainenance of natural flood regime

Management Plan

None

Citations

Baxter, G. T., and M. D. Stone. 1985. Amphibians and reptiles of Wyoming. 2nd ed. Wyoming Game and Fish Department, Cheyenne, WY.

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Dood, A. R. 1980. Terry badlands nongame survey and inventory: final report. (BLM Contract #YA-512-CT8-217.) Montana Department of Fish, Wildlife & Parks. 70 pp.

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Milksnake (*Lampropeltis triangulum)*

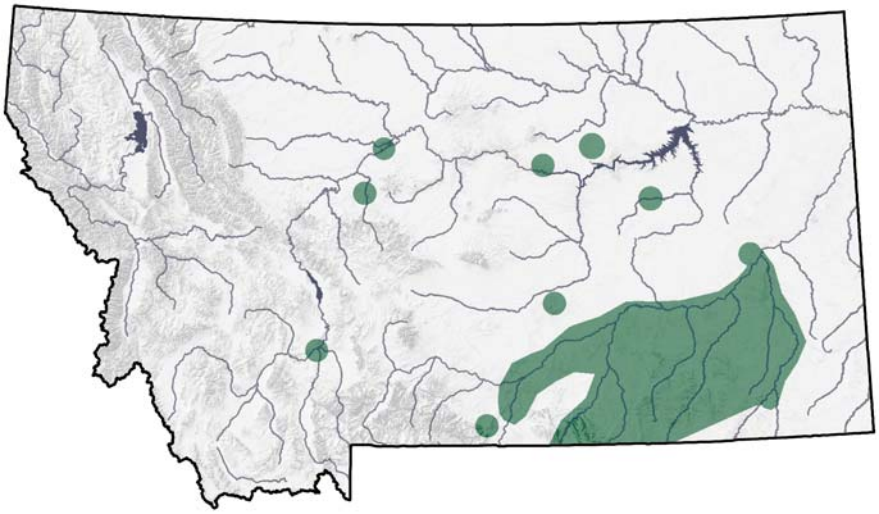

Figure 67. Distribution of the Milksnake

Range

In Montana, the milksnake is found east of the Continental Divide throughout much of the prairie regions, although mostly south of the Missouri River (Maxell et al. 2003); significant gaps are present in its known distribution, probably due in part to a combination of restricted habitat preferences, extensive use of cover (e.g., rocks), and nocturnal habits. Voucher specimens exist for seven counties (Carbon, Chouteau, Custer, Garfield, Phillips, Powder River, and Yellowstone), and there are observation records for four additional counties (Big Horn, Musselshell, Prairie, and Rosebud), at elevations up to 3,960 feet (1,207 meters). Questionable records exist for Cascade County near Belt and the boundary of Broadwater, Gallatin, and Jefferson counties near Three Forks.

Habitat

Little specific information is available. Milksnakes have been reported in areas of open sagebrush grassland habitat (Dood 1980) and ponderosa pine savannah with sandy soils (Hendricks 1999; B. Maxell, personal communication; L. Vitt, personal communication), most often in or near areas of rocky outcrops and hillsides or badland scarps, sometimes within city limits.

Management

So few recent milksnake records exist for Montana (Maxell et al. 2003) that it is difficult to determine if management activity is needed. Nevertheless, the widely scattered recent records indicate that milksnakes continue to occupy a large part of the known range in the state, and some sites near a large urban center have

remained occupied for the last 40 to 45 years (L. Vitt, personal communication). Management for this species is hampered by a lack of basic information on abundance, food habits, and habitat associations.

Conservation Concerns & Strategies

Conservation Concerns	Conservation Strategies
Distribution, status, and biology are poorly understood	Develop a comprehensive taxanomic management plan (e.g., for reptiles) that includes the milksnake and addresses the conservation concerns listed
	Record all observations of this species to continue establishing its range in Montana
	Targeted surveys (specific to the milksnake) in suitable habitat to continue determining its range in Montana
Pet trade industry	Increase education and information on reptile biology and awareness of the importance of den and nest sites

Management Plan

None

Citations

Dood, A. R. 1980. Terry badlands nongame survey and inventory: final report. (BLM Contract #YA-512-CT8-217.) Montana Department of Fish, Wildlife & Parks. 70 pp.

Hendricks, P. 1999. Amphibian and reptile survey of the Bureau of Land Management, Miles City District, Montana. Montana Natural Heritage Program, Helena, MT. 80 pp.

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Smooth Greensnake (*Opheodrys vernalis*)

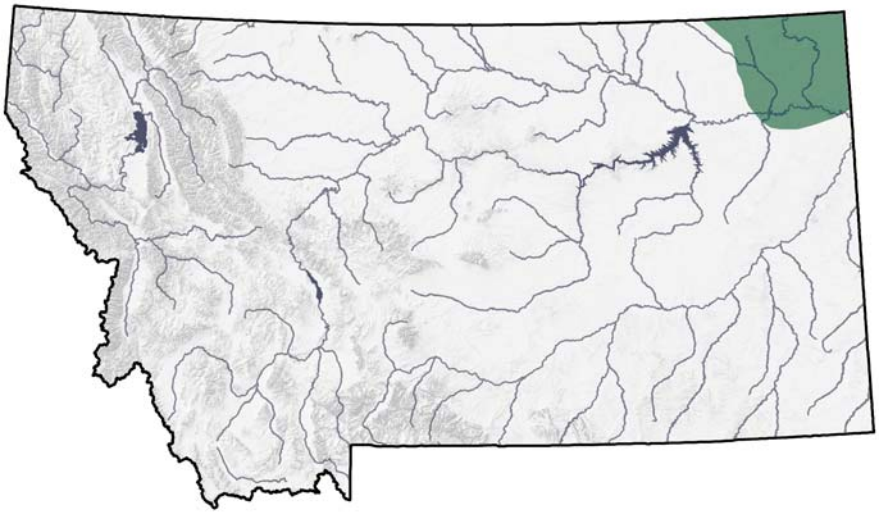

Figure 68. Distribution of the Smooth Greensnake

Range

Montana is at the edge of the smooth greensnake's global range. The species is restricted to extreme northeastern Montana north of the Missouri River, at elevations below 2,780 feet (847 meters). There are reliable records from Sheridan County (Maxell et al. 2003); smooth greensnakes recently have been found in Valley County, and they undoubtedly occur in Roosevelt County. This snake may eventually be documented south of the Missouri River near the boundry with North Dakota.

Habitat

Little information is available for the species in Montana, though it has been reported on residential lawns, in city parks, along ditches in the prairie pothole region, and around wetland complexes. Based upon observations outside Montana, the smooth greensnake is known to occupy meadows, grassy marshes, moist grassy fields at forest edges, mountain shrublands, stream borders, bogs, open moist woodlands, abandoned farmlands, and vacant lots. Periods of inactivity are spent underground, beneath woody debris and rocks or in rotting wood. Smooth greensnakes have been found hibernating in abandoned ant mounds. Most activity is restricted to the ground, but they may climb into low vegetation and sometimes enter water (Hammerson 1999).

Management

No special management activity is defined at this time.

Conservation Concerns & Strategies

Conservation Concerns	Conservation Strategies
Distribution, status, and biology in Montana are poorly understood	Develop a comprehensive taxanomic management plan (e.g., for reptiles) that includes the smooth greensnake and addresses the conservation concerns listed above
	Targeted surveys (specific to the smooth greensnake) in suitable habitat to continue determining its range in Montana
	Record all observations of this species to continue establishing its range in Montana
	Habitat where smooth greensnakes occur should be conserved
	Increase education and information on reptile biology

Management Plan

None

Citations

Hammerson, G. A. 1999. Amphibians and reptiles in Colorado. 2nd ed. University Press of Colorado, Boulder, CO. 484 pp + xxvi.

Maxell, B., K. J. Werner, P. Hendricks, and D. Flath. 2003. Herpetology in Montana: a history, status summary, checklists, dichotomous keys, accounts for native, potentially native, and exotic species, and indexed bibliography. Olympia, WA: Society for Northwestern Vertebrate Biology. Northwest Fauna 5:1–138.

Werner, J. K., B. A. Maxell, D. Flath, and D. P. Hendricks. 2004. Amphibians and reptiles of Montana. Missoula, MT: Mountain Press Publishing Company. 262 pp.