



Plains Hog-nosed Snake



Scientific name

Heterodon nasicus

Taxon

Reptiles

COSEWIC status

Special Concern

Canadian range

Alberta, Saskatchewan, Manitoba

Reason for designation

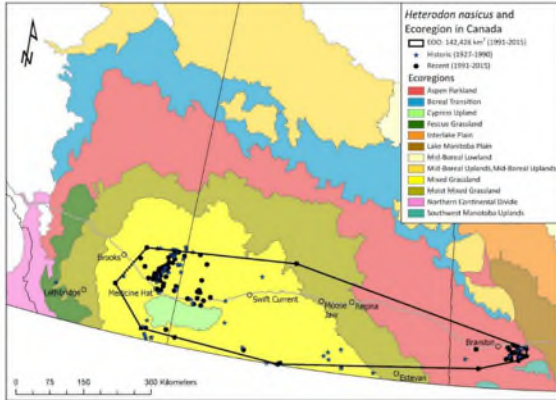
This large prairie snake, distinguished by its prominent upturned snout, belongs to a suite of grassland species restricted to the arid interior of North America. It has a widespread but patchy distribution in southern Alberta, Saskatchewan and Manitoba. Habitat loss is mostly historical, but conversion of grasslands to more intensive agricultural uses continues. The current population size is probably under 10,000 mature individuals, but robust estimates are lacking. Recent population trends are unknown, but continuing decline is suspected based on threats. These include ongoing habitat loss, fragmentation and degradation from agriculture, fire suppression, energy development, and road mortality. The species is near to meeting criteria for Threatened status and could continue to decline if threats are not effectively managed.

Wildlife Species Description and Significance

Plains Hog-nosed Snake (*Heterodon nasicus*) is one of two species of hog-nosed snakes in Canada, the other being Eastern Hog-nosed Snake (*Heterodon platirhinos*) in Ontario. Adults range from 45 cm to 75 cm snout-to-vent length and are stout bodied. Distinguishing features include an upturned scale at the tip of the snout, giving the snake its hog-nosed appearance. The defensive behaviours exhibited by Plains Hog-nosed Snake, such as flaring of the neck, hissing, and death feigning (playing dead), are some of the most interesting and bizarre behaviours documented for snakes. Although the species is mildly venomous, it poses negligible risk to humans.

Distribution

In Canada, Plains Hog-nosed Snake occurs in southern portions of Alberta, Saskatchewan, and Manitoba. The global range extends south to New Mexico and Texas. The distribution of the species in Canada is poorly understood; this is partially because characteristics of the species' ecology make it difficult to observe. Recent and historical records suggest that the distribution of the Plains Hog-nosed Snake in Canada is not continuous; instead, there are clusters of records that may demarcate isolated subpopulations.



Plains Hog-nosed Snake distribution in Canada in relation to ecoregions within the Prairies ecozone

Source: COSEWIC, 2019. COSEWIC assessment and status report on the Plains Hog-nosed Snake *Heterodon nasicus* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. x + 38 pp.

Habitat

In Canada, Plains Hog-nosed Snake occurs in grasslands on soils with higher than average sand content. Within these grasslands, the snakes can be found in a variety of open-canopy communities, ranging from drier habitats to damp lowlands; the snakes are often found in close proximity to water. Plains Hog-nosed Snake is usually a solitary hibernator, unlike most other large snakes found in the southern prairie region of Canada that hibernate communally. It seems likely that the majority of hibernation sites are burrows, either excavated by the snakes or initially created by small mammals. Similarly, constructed burrows are also used for nesting and shelter.

Biology

Females lay a single clutch of 4 to 23 eggs, typically in an abandoned rodent burrow, and hatchlings emerge from nests from late July to mid-September. Females can reproduce annually, but biennial cycles also occur. The age at which the species reaches sexual maturity may be as early as two years, but some individuals may not reach sexual maturity until 3-4 years of age. Their lifespan is between 8 and 14 years, and generation time is deemed to be 5–8 years.

Plains Hog-nosed Snake is primarily active during daytime. It feeds mainly on amphibians but also preys on small mammals, ground-nesting birds, turtle eggs, and lizards.

Population Sizes and Trends

The size of the Canadian population of Plains Hog-nosed Snake is unknown. There are insufficient data to document trends or fluctuations in population sizes, and while survey effort has increased in recent years, no systematic surveys across the range of the species have been conducted. The population may be declining due to habitat degradation and other threats.

Threats and Limiting Factors

Habitat degradation from agriculture and fire suppression, energy production, and road mortality are all considered low impact threats. Subpopulations in Alberta, primarily around Medicine Hat, experience the most significant impact from road mortality and from human intrusion and disturbance. All subpopulations may experience negative impacts of road mortality on gravel roads because of the high density of roads (0.74 km/km²) throughout the species' range. Sites in Saskatchewan and Manitoba are mostly impacted by agriculture, croplands in particular.

Protection, Status and Ranks

COSEWIC assessed Plains Hog-nosed Snake as Special Concern in November 2019. It currently has no status under the *Species at Risk Act*. In national parks, the species is protected under the *National Parks Act*. Provincially, Plains Hog-nosed Snake and its hibernacula are protected under the wildlife acts of Alberta, Saskatchewan, and Manitoba. It is listed as Threatened under Manitoba's *Endangered Species and Ecosystems Act*. Within provincial park boundaries, Plains Hog-nosed Snake is afforded protection through the Alberta, Saskatchewan,

and Manitoba provincial parks acts. There is variable protection within the Suffield National Wildlife Area in Alberta, the Manitoba Wildlife Management Areas, and the National Prairie Farm Rehabilitation Administration pastures in Saskatchewan. Approximately 13% of all occurrences and 10% of the Canadian distribution are in protected areas.

Source: COSEWIC. 2019. COSEWIC assessment and status report on the Plains Hog-nosed Snake *Heterodon nasicus* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. x + 38 pp.

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