

## Timber Rattlesnake (*Crotalus horridus*) Proposed as Threatened in Nebraska



### **Species Description:**

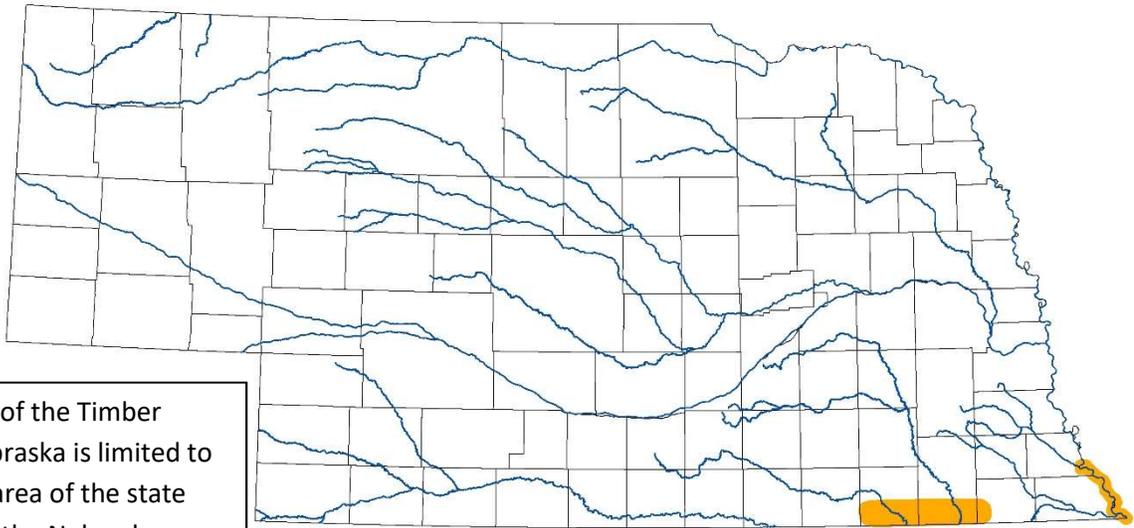
Timber Rattlesnakes (*Crotalus horridus*) are the largest of Nebraska's rattlesnakes and grow to an average size of 44–50 in. long. They have dark chevron bands, a rusty brown dorsal stripe, a triangular head, and vertical pupils. A golden colored stripe extends along the cheeks. Tail is black with a lighter colored rattle.

### **Habitat:**

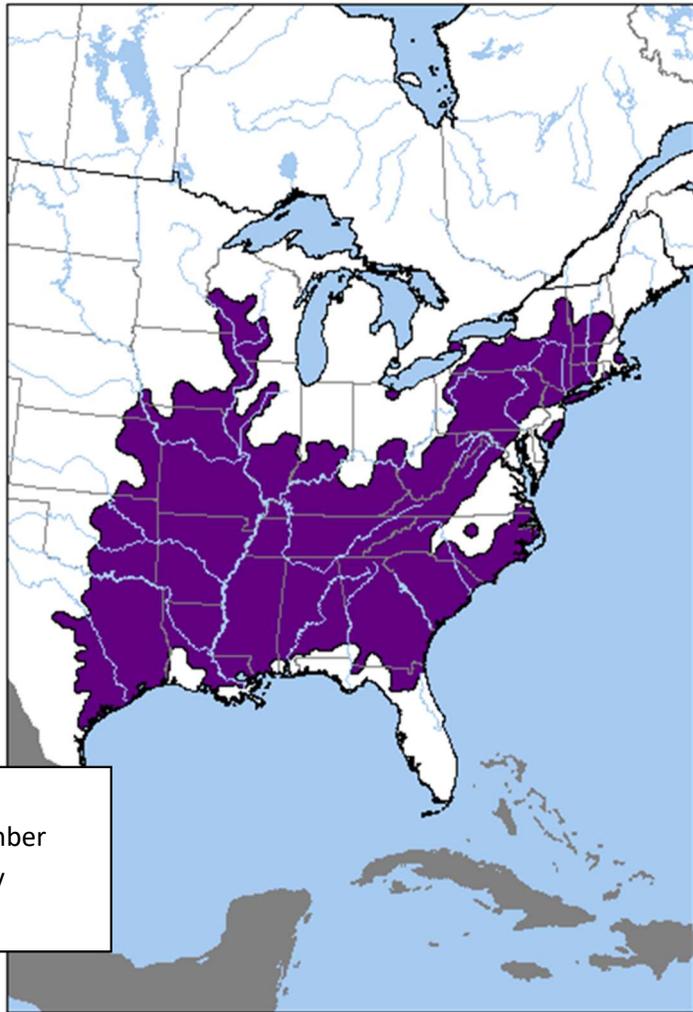
- Deciduous and riparian woodlands in conjunction with rock outcrops or talus slopes that provide winter denning.
- Woodlands are often associated with prairie uplands.
- Grasslands, and sometimes agricultural fields, provide the snakes with a migratory corridor between woodlots.
- Pastures and row-crop adjacent to or with some corridor connection to an active den site may also be important habitat.
- During their migration, they are known to use houses of Eastern Woodrats for cover.

### **Distribution:**

- Wide distribution across most of the eastern half of the U.S.
- Approx. half the states in the U.S. consider the Timber Rattlesnake to be a species of greatest conservation need. Timber Rattlesnakes are listed as threatened in TX, MN, IL, and NY and endangered in IN, OH, NJ, VT, MA, CT, and NH. Timber Rattlesnakes are considered extirpated from ME and RI.
- Populations extinct in Canada.
- In Nebraska, they live in the very southeast portion of the state.



The current range of the Timber Rattlesnake in Nebraska is limited to the southeastern area of the state (Map prepared by the Nebraska Natural Heritage Program)



Map illustrating the complete distributional range of the Timber Rattlesnake (Map prepared by NatureServe)

### **Factors Affecting the Species:**

- Distribution of Timber Rattlesnakes is shrinking everywhere they occur.
- Population studies in Gage Co. since 1997 show decline in both number and distribution.
- In Richardson Co. where Timber Rattlesnakes were once reported to be fairly common, <20 individuals have been sighted within the past 40 years, and 7 of those were within the last 3 years as a result of intense survey efforts.
- Total number in the state estimated to be <1,000. Declining population densities reduce probability of encounters with other Timber Rattlesnakes, and therefore reduce the probability for mating, reproduction, and recruitment. This exacerbates the continued decline of populations.
- While Nebraska's population represents a significantly small proportion of the global population, its placement in distribution is notable and significant in terms of the species' biogeography, global genetic diversity, and most importantly – conservation value.
- Woodlands are rare and scarce in Nebraska, and woodlands associated with suitable hibernation habitat are even rarer.
- The need for rocky outcrops with very specific characteristics limits the likelihood that they will survive extreme winter conditions in Neb.
- Threats:
  - Spread of eastern redcedars has caused significant “shading over” of den sites, which depend on solar exposure during winter months. Many of these den sites have been abandoned over the past 30–40 years (per landowner discussions).
  - The distribution of Timber Rattlesnakes in Gage Co. has been reduced as a result of quarrying and land conversion for agriculture, but several stronghold den sites still persist
  - Illegal collecting and pet trade in some states
  - Snake Fungal Disease is an emerging threat with greatest impact on peripheral and isolated populations
  - Rattlesnakes are killed both accidentally and intentionally, by cars or otherwise. Malicious killings if randomly encountered and at their dens.
  - With recent conversion of railroad lines to hike/bike trails along the Big Blue Riv. in Gage Co., trail users will pass directly in front of den sites where Timber Rattlesnakes hibernate communally and which were previously protected by railroad “no trespassing” regulations.
  - Several are killed annually during hay cutting and baling activities.
  - Small size of the remaining populations increases the possibility of loss of the remaining populations as a result of any natural catastrophic or human induced events.

(viii) For species proposed to be added under this subsection but not for species proposed to be removed under this subsection, developed an outline of the potential impacts, requirements, or regulations that may be placed on private landowners, or other persons who hold state-recognized property rights on behalf of themselves or others, as a result of the listing of the species or the development of a proposed program for the conservation of the species as required in subsection (1) of section 37-807.

### **Timber Rattlesnake (*Crotalus horridus*)**

#### Implications:

- I. Purposeful take (take means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect or attempt to engage in any such conduct) of Timber Rattlesnakes is prohibited under Title 163, Chapter 4, 010.02, in Nebraska Game and Parks regulations.
  - A. Exceptions in proposed regulations will include the take of a Timber Rattlesnake if it is done for the immediate protection of the health of humans, livestock, or pets.
  - B. The collection of a Timber Rattlesnake may be allowed with a Scientific and Education Permit issued by the Nebraska Game and Parks Commission.
- II. Any project that is permitted, funded, or carried out in part or full by any state agency on public or private land requires that agency to coordinate with the Nebraska Game and Parks Commission to prevent the “take” (take means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect or attempt to engage in any such conduct) of species on the Nebraska State Threatened or Endangered Species List.
  - A. Site Specific requirements to prevent “take” of this species will be recommended during coordination between the state agency and the Nebraska Game and Parks Commission. Such requirements will only be applicable within or near the modeled distribution of this species, and may include, but are not limited to:
    - i. Avoiding and minimizing ground disturbance in areas with habitat for this species.
    - ii. Burning may be limited during certain times of the year when snakes are most vulnerable.
    - iii. Surveys for individuals or hibernating habitat may be required.
    - iv. Height restrictions for mowing or haying may be required.
    - v. Conversion of native habitats used by snakes to a different land use or vegetative cover may be limited.
    - vi. Erosion and silt control devices will need to be used and installed in a way to allow snakes to pass through areas without getting tangled, trapped or caught.

Proposed Wildlife Regulation:

004.02 THREATENED SPECIES

Location entire. It shall be unlawful to: 004.03A Take, export, possess, process, sell or offer for sale, deliver, carry, transport, or ship by any means whatsoever any threatened species, except as specifically provided by state or federal law, with the following exceptions:

Taking of Timber Rattlesnake will not be considered unlawful if it is done for the immediate protection of the health of humans, livestock, or pets.