

Smooth Softshell (*Apalone mutica*)

Family Trionychidae

Subspecies: Midland Smooth Softshell (*Apalone mutica mutica*)

Updated 2025



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Description/Identification: The Smooth Softshell is a large, highly aquatic turtle, and one of two softshell species in Wisconsin. Unlike most other North American turtles, Softshells lack hardened, bony keratinized shells, instead having smooth, flattened, and cartilaginous or leathery round or oval shaped carapaces hence lending to their common names of “Softshells”. The fore and hind feet are highly webbed, and Softshells also possess a long, tube-like or snorkel-like snouts, very long necks (when fully outstretched), and hardened, bony, sharp-edged jaws covered in large, fleshy lips. Several differences help to differentiate the Smooth Softshell from their look-alike species in Wisconsin, the Spiny Softshell (*Apalone spinifera*).

The nasal septa lack horizontal ridges (unlike in the Spiny Softshell), the anterior margin of the carapace is either lacking in spines or tubercles, or the tubercles are much more smoothed than in the Spiny Softshell. Smooth Softshells are noticeably dimorphic in size between males and females, with the males being much smaller. Adult males average between about 4.3 and 7.0 inches in carapace length, while females reach on average between 6.7 to 13.3 inches, also making Smooth Softshells smaller than Spiny Softshells. The carapace color of the hatchlings, subadults, and adult males ranges from light brown or tan with numerous small, dark dots or dashes along the outer edges outlined in a light yellowish-tan.

Adult females have lighter brown ground colored carapaces more irregularly blotched with large, dark patches or irregular blotches. In both sexes, the plastron is reduced, whitish, and surrounded by their thick, fleshy undersides of their limbs. Males also have longer, stouter tails than do females, and in males, the anal opening is much nearer to the tips of the tails than closer to the plastron in females. The heads, limbs, and necks of both sexes are also olive to light brown in color above, and light grayish or whitish beneath, and there is a single light, black bordered peach colored stripe which runs along each side of the head from anterior to the eye, onto the neck. In Wisconsin, the subspecies that occurs in the state is the Midland Smooth Softshell (*Apalone mutica mutica*).

As with most turtles, Smooth Softshell turtles are toothless, and instead have hardened, bony, keratinized beaks and horny plates along the maxilla and premaxillae on the inside of the mouth, covered by their thick, fleshy lips. Also as with most aquatic turtles, the reddish to pinkish tongue is triangular to somewhat rounded, and fixed to the inside of the mouth, and does not move freely or protrude outside of the mouth.

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Plastron, © IowaHerps.com



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Range and Distribution: Smooth Softshells occur throughout the central United States, from western Pennsylvania, to the Dakotas, south to eastern New Mexico, central Texas, and northern Florida. Throughout most of their range, Smooth Softshells are restricted to larger riverways and river-systems. In Wisconsin, Smooth Softshells are the more restricted in range of the two softshell species, occurring primary in the Wisconsin and Mississippi riverway systems, and their tributaries as far north in the Mississippi river as the mouth of the St. Croix river, and Wisconsin River to Adams and Sauk Counties.

Habitat: In Wisconsin, Smooth Softshells are almost exclusively a large river turtle, being found predominately in the sandy bottomed Wisconsin and Mississippi rivers and some of their larger tributaries. Smooth Softshells are reported in Vogt. 1981 to be nowhere abundant.

Feeding and Diet: Smooth Softshells are carnivorous, and will feed on a variety of aquatic crustaceans, insects and their larvae, aquatic mollusks, and small fish and amphibians. Softshells forage for food along the bottoms, using their heads and long necks to search for prey items. Their labial glands along their upper jawlines are believed to be their primary means of locating food, or prey items. It is sometimes still erroneously believed that softshells have negative impacts on game or other fish populations, although it is unlikely that they consume enough game fish for this to be true.

Natural History: Smooth Softshells begin to emerge from overwintering in mid to late May, where they are primarily diurnal turtles, and most, if not all of their activity being restricted to during the daylight. Smooth Softshells can most often be observed basking on logs or sandbars close to the water's edge, or foraging for food amongst the river bottom. When captured, Smooth Softshells are less pugnacious and less willing to bite than Spiny Softshells, although they are nevertheless very shy and wary turtles that will retreat into their shells when handled, or difficult to approach and capture. They are also much more

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aquatic and reluctant to stray far from the water, than Spiny Softshells.

Nesting occurs along sandbars or sandbanks along the river, usually no more than 2 meters away from the water, where about 15 to 25 eggs are laid in June or early July. The hatchlings use a sharp egg tooth or “caruncle” and strong fore-legs for breaking out of their eggs when hatching. Hatching Smooth Softshells are similar to the adults in appearance, but have more turned up outer shell margins as well as snouts. Upon hatching, they are immediately on their own and receive no parental care.

Softshells of both species are also well-known for their habits of lying buried beneath the sand in shallow water, enough for them to use their high-set eyes and long necks to surface periodically for air. Softshells can remain underwater in this state for up to 5 or more hours at a time, relying on breathing through their cloacas and/or pharynxes. Blood vessels along their inner surface of their throats and cloacas enable them to allow for dissolved oxygen exchange with the water. Both species of Softshells are still hunted and exploited for their meats through turtle trapping, and overharvesting is another conservation threat facing these turtles. Smooth Softshells may remain active throughout the year until October or November, where they will then bury themselves under the sandy bottoms, or within sandy riverbanks as overwintering locations.

Smooth Softshell turtle eggs and hatchlings are most susceptible to a large number of different predators. Many different species of birds, including large wading birds, large fish, snakes, sometimes other turtles, large amphibians such as North American Bullfrogs, large predatory or carnivorous aquatic invertebrates such as waterbugs, and a wide array of carnivorous mammals such as raccoons, opossums, skunks weasels, skunks, foxes, and coyotes and otters will all readily eat hatchling turtles or turtle eggs. Adult Smooth Softshell turtles have relatively few natural predators, apart from humans and some other aquatic carnivorous mammals such as otters.

Conservation Status: In Wisconsin, Smooth Softshells are listed as a “Special Concern” species and are considered an uncommon species. They are regulated and protected along with all other of Wisconsin’s herptiles, as well under N.R. 16 and 19.275 as well as N.R. 21 and 22. Smooth Softshells are currently not protected or regulated federally. Smooth Softshells are currently IUCN Red-List Least Concern (LC).