

Northwestern Pond Turtles and Forestry

Wildlife in Managed Forests:
Reference Series

The northwestern pond turtle (*Actinemys marmorata*) is one of only two native freshwater turtle species found in Oregon. They grow to about nine inches long across the carapace (shell), which is colored in shades of olive to dark brown. Their plastron (underside) is typically light yellow to cream in coloration and can have dark blotches. The skin of the northwestern pond turtle is mottled yellowish and brown. They are omnivorous, eating a wide variety of plants and animals.

Northwestern pond turtles are a Proposed Threatened species as of October 2023. They are an Oregon Department of Fish and Wildlife (ODFW) sensitive-critical species and an Oregon Conservation Strategy species. Oregon's native freshwater turtles are of high conservation concern because their populations have declined heavily in recent years, and continue to be threatened. Northwestern pond turtles are found in Oregon's Coast Range, Cascades, Klamath Mountains and Willamette Valley ecoregions.

Northwestern pond turtles are long-lived. They may reach 50 years of age or more in the wild, but they don't reproduce until they are about ten years old. This long maturation time, coupled with anthropogenic threats and naturally high mortality rates for eggs and hatchlings, means that populations can quickly become small and recovery can be very slow.

Northwestern pond turtles don't just live in ponds; they can also be found in a variety of aquatic habitats including lakes, rivers, wetlands, ephemerals, and even brackish waters such as estuaries. They are also dependent on adjacent terrestrial habitat for dispersal, nesting, brumation (winter dormancy) and aestivation (summer dormancy). Females can travel long distances to find a suitably open area of bare or sparsely-vegetated ground to dig a nest and lay eggs. Similarly, when faced with the cold of winter or the intense heat of summer, Northwestern pond turtles travel to forested or shrubby upland sites with vegetation, leaf litter and other cover, where they can shelter from extreme temperatures.



Northwestern pond turtle basking



Close-up of pond turtle's plastron

SEASONAL ACTIVITIES OF NORTHWESTERN POND TURTLES IN OREGON

Winter (Nov.-Feb.)	Spring (Mar.-Apr.)	Summer (May-Aug.)	Fall (Sep.-Oct.)
Inactive season	Breeding season	Nesting season	Hatch and dispersal season
Northwestern pond turtles spend most of this time period in brumation, either in the mud at the bottom of water bodies or upland in nearby shrubby or forested areas under soil, leaf litter or other cover. They may emerge temporarily to bask during episodes of warm, sunny weather.	Hatchlings and adults that overwinter in uplands will emerge and travel back to water. This is a perilous journey, especially for hatchlings. In aquatic habitats, adults and juveniles will be actively feeding and basking. Basking is very important early in the season, when waters are still cold. Mature turtles will engage in courtship and breeding.	In summer (mainly June and July) females will leave the water and travel over land to dig a nest and lay eggs, usually returning immediately after. Turtles may disperse to new aquatic habitats. If waters get too warm or shallow, pond turtles will aestivate in mud, or travel upland to lay dormant in shrub or forest cover until conditions improve.	Eggs hatch mainly in September and October, and most hatchlings will overwinter to emerge in spring. Some adults will mate in fall. In mid to late season, turtles will move to overwintering sites in muddy areas, or shrubby and forested uplands. The preceding weeks are crucial for feeding and storing energy to survive months of dormancy in winter.



Northwestern pond turtles basking



A swimming Northwestern pond turtle peeks above the surface

WHAT ARE THREATS TO NORTHWESTERN POND TURTLES?

- habitat loss, degradation, fragmentation and urban development
- altered temperature regimes due to climate change
- illegal taking and killing
- predation, competition, habitat alteration and disease spread from non-native species such as American bullfrog and painted turtles
- vehicle mortality, mainly on roads that separate aquatic and terrestrial habitats
- harassment and mortality from house pets

HOW CAN YOU TELL NORTHWESTERN POND TURTLES APART FROM OTHER TURTLES?

- Western painted turtles have dark green skin with yellow, orange or red stripes, and have yellow stripes behind the eye. Their plastron is colorful, with reddish, yellow and black hues in ornate patterns. The carapace is dark greenish-black and the rear edge is smooth. This species sometimes co-occurs with Northwestern pond turtles, mostly in northern parts of their Oregon range.
- Red-eared sliders (invasive to Oregon) have green skin with yellow stripes. They have a distinctive red stripe or patch (“red ear”) behind the eye. Their plastron is light yellow, with no red color, and usually has dark splotches. They have a serrated rear carapace edge, which makes them unique. Red-eared sliders populations are found throughout the Oregon range of the northwestern pond turtle.
- Common snapping turtles (invasive to Oregon) are easily distinguished by their thick head and legs, long tail, bumpy skin, small plastron and large claws. If seen in the wild, this invasive turtle species should be reported to ODFW to benefit pond turtles and the greater ecosystem.



Northwestern pond turtle in shallow water

SOURCES & MORE INFORMATION

https://www.dfw.state.or.us/wildlife/living_with/docs/ODFW_Turtle_BMPs_March_2015.pdf

https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.102191/Actinemys_marmorata

<https://www.oregonconservationstrategy.org/strategy-species/western-pond-turtle/>

https://www.dfw.state.or.us/conservationstrategy/invasive_species.asp

BEST MANAGEMENT PRACTICES FOR POND TURTLES

- Consider timing timber harvest to avoid disturbing turtles that are known to be utilizing upland forest habitats during critical periods such as breeding and nesting.
- Retain or place downed wood and snags of various sizes - especially larger logs - in upland and aquatic habitats. Turtles use these as refugia during periods of upland dormancy and as basking structures in water.
- Provide and maintain buffers of native vegetation around aquatic habitat. Forested areas with canopy, shrubs, logs and duff are needed for overwintering and aestivation. Open, sunny and sparsely vegetated areas are needed for nesting. Corridors allowing safe movement between aquatic and terrestrial habitats are highly beneficial. Conversely, roads and fences that separate these habitats can be harmful.
- Conduct visual checks for turtles before management activities. Work with a wildlife biologist to determine site-specific plans for Northwestern pond turtles.
- Recommendations provided by ODFW. For more information see call box on this page.



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