

Aquatic Garter Snake / Asápsuun / *Thamnophis atratus*



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Cultural Importance

For Karuk people, asápsuun is a cultural indicator of healthy aquatic and riparian systems. In Karuk territory, people have reported seeing fewer and fewer "water snakes," a fact that they attribute in part to the impact of fire suppression on aquatic systems (Lake 2007).

Life Cycle & Habitat

Asápsuun is a highly aquatic snake that uses water for both foraging and protection. It prefers shallow, rocky creeks and streams in forested or grassy areas. It feeds primarily on amphibians at various life stages, including frogs, tadpoles, newts, salamanders, salamander larvae and juvenile fish. Courtship occurs during the spring, and young are born in late summer to early fall (Californiaherps.com I 2016)

Asápsuun and Fire

Fire can benefit aquatic garter snakes if it enhances the productivity of aquatic systems by depositing nutrients and debris into waterways. These deposits can enhance habitat for amphibians that form a vital part of asápsuun's diet. High severity fire, however, can burn forest canopies, leading to sunnier and drier understory conditions that may not be able to sustain amphibians inhabiting more upland settings. This may have negative consequences for aquatic garter snakes.

Effects of High Severity Fire Across Time

Immediate	2-Year	Long-Term
<ul style="list-style-type: none"> Death by fire for snakes dwelling further from water Removal or degraded habitat and foraging opportunities 	<ul style="list-style-type: none"> Canopies that have been burned create more exposed and dry understory conditions affecting upland dwelling amphibians that form part of asápsuun's diet. 	<ul style="list-style-type: none"> Burned and salvaged logged areas become less suitable habitat as micro-climate become warmer and drier, reducing terrestrial prey habitat.
Sources: Bury 2004	Sources: Bury 2004	Sources: Bury 2004

Effects of Karuk Cultural Burning Across Time

Immediate	2-Year	Long-Term
<ul style="list-style-type: none"> Lower to mixed severity burns maintain diversified habitat requirements 	<ul style="list-style-type: none"> Burn releases nutrients and debris that can wash into waterways, benefitting amphibians and therefore snakes. 	<ul style="list-style-type: none"> Lower to mixed severity landscape burn patterns maintain diversified habitat requirements Reduced landscape vegetation and ET increases/maintains spring and water yield
Sources: Bury 2004	Sources: Bury 2004	Sources: Perry et al. 2011, Bury 2004

Effects of Federal Fire Management Strategies on Species' Climate Change and Fire Resilience

Prior to Fire	During Fire	After Fire
<ul style="list-style-type: none"> Fire suppression reduces stream productivity, limiting the amount of prey available to the aquatic garter snake. 	<ul style="list-style-type: none"> Fire retardant that accidentally enters aquatic systems may affect sensitive amphibians that form a large part of asápsuun's diet 	<ul style="list-style-type: none"> Continued fire suppression and associated increased fuel loading predisposes forest to higher severity burns
Sources: Lake 2007, Bury 2004	Sources: Pilliod et al. 2003	Sources: Bury 2004