

Beaver / Sahpihnüich / *Castor canadensis*



@ Ginger Holser, wdfw.wa.gov

Cultural Importance

Sahpihnüich alters ecosystems in ways that benefit other species. Beaver dams are known to improve juvenile Coho salmon habitat (Colleen and Gibson 2001). Karuk people value beaver as a teacher of how to intervene in natural processes for the greater good. Sahpihnüich is considered nearly locally extirpated and in need of reintroduction (Karuk DNR 2010).

Life Cycle & Habitat

Beaver habitat must possess a stable aquatic system, channel gradients of less than 15 percent, and a sufficient supply of quality food species. Normally, beavers don't forage further than 300 ft from water, and prefer herbaceous over woody plant material. Prime food species include quaking aspen, willows, alders, and dogwood. The center of beaver activity is the beaver lodge, often constructed in the water or against a bank. (Tesky 1993)

Sahpihnüich and Fire

Sahpihnüich can benefit from fire if it keeps waterways open, promotes new vegetative growth, and replaces conifers with early successional, non-coniferous species (Tesky 1993). However, in drought conditions, and/or in the presence of large ungulate populations, fire can further strain beaver populations and lead to significant declines in lodge occupancy (Hood et al. 2007)

Effects of High Severity Fire Across Time

Immediate	2-Year	Long-Term
<ul style="list-style-type: none"> May force beavers to forage further from water's edge, increasing predation. Wildfire is more likely to occur in periods of drought, compounding impacts on beaver 	<ul style="list-style-type: none"> Increased debris flows and elevated sedimentation can alter or reduce beaver created habitat, modify hydrology and geomorphology not desired by beavers 	<ul style="list-style-type: none"> Repeated, high severity fire may combine with other environmental stressors to drive beaver from the area
Sources: Hood et al. 2007	Sources: Dwire and Kauffman 2003	Sources: Hood et al. 2007

Effects of Karuk Cultural Burning Across Time

Immediate	2-Year	Long-Term
<ul style="list-style-type: none"> Removal or reduction in riparian wood material that can hinder beaver mobility and foraging Short-term post fire rejuvenation and maintenance of vigorous riparian vegetation between flooding events 	<ul style="list-style-type: none"> Promotes new early successional growth (sprouting hardwoods and shrubs), benefiting sahpihnüich's diet Increased mobility and foraging opportunity 	<ul style="list-style-type: none"> Can be timed to avoid drought and other stressors, thereby protecting beaver populations lodges, and rearing habitat
Sources: Lake 2007	Sources: Tesky 1993	Sources:

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"> Suppression promotes coniferous encroachment and reduces vegetative renewal, affecting beaver diets 	<ul style="list-style-type: none"> Fire suppression related water with drawl/pumping can disturb beaver 	<ul style="list-style-type: none"> Increased erosional sediment and woody material transport can temporarily reduce beaver habitat suitability.
Sources: Tesky 1993	Sources:	Sources: