

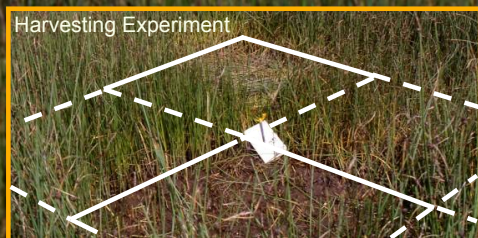
Is Sweetgrass (*Schoenoplectus pungens*, Formerly *Scirpus americanus*) on the Decline? Answering the Question at the Intersection of Culture & Ecology at Several Temporal & Spatial Scales in Grays Harbor, WA

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QUESTION	SPATIAL SCALE	TEMPORAL SCALE	PRELIMINARY FINDINGS & CONCLUSIONS
What harvesting regime is sustainable?	1 m ² Plant	2-3 Years	<ul style="list-style-type: none"> •No effect on stem height if <25% stems are selectively harvested or if stems are >130 cm tall. •Initial negative effect on stem height is followed by recovery if allowed to rest for at least 1 year.
What is the natural range of variation of sweetgrass, & which factors contribute to that variation?	Patch Stand	Decade	<ul style="list-style-type: none"> •Many environmental & anthropogenic factors (e.g., substrate texture, salinity, sulfide concentration, erosion, sedimentation) affect plant attributes and create change & annual variation in those attributes. •Effect of harvesting on height is within the range of current annual variation.
What critical context do environmental & cultural history provide?	Shoreline Bay	Centuries	<ul style="list-style-type: none"> •Large-scale variation in <i>S. pungens</i> populations and habitat results from sea-level rise, earthquake-generated subsidence, shoreline alteration due to human action (e.g., fill for RR). •Before European contact, <i>S. pungens</i> stands would have withstood greater harvesting pressure from much larger populations of Native Americans than exist today. •Native American access to this cultural resource has been limited by changes in land use, property ownership, and the cessation of canoe-travel by these historically waterborne cultures.



TREATMENTS IN EXPERIMENTAL BLOCKS
 Harvesting intensity (25, 50 & 100%) & frequency (1 & 2 yrs)
 Trampling intensity (1 & 2 yrs)

Harv 2 yrs 25%	Harv 1 yr (1 st) 25%	Harv 1 yr (2 nd) 25%	Tramp 2 yrs	Tramp 1 yr (1 st)	Tramp 1 yr (2 nd)
Harv 2 yrs 100%	Harv 1 yr (1 st) 100%	Harv 1 yr (2 nd) 100%	Harv 2 yrs 50%	Harv 1 yr (1 st) 50%	Harv 1 yr (2 nd) 50%

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