

## **Inter-specific variation in salinity effects on germination in Pacific Northwest tidal wetland plants**

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Environmental stressors such as salinity may affect plant germination and early growth, eventually impacting the distribution and abundance of more mature individuals. In a lab study we evaluated germination sensitivity to salinity in 13 tidal wetland species found in the Pacific Northwest and then compared germination responses with the distributions of established plants along a soil salinity gradient. For two species we also tested whether seeds from wetlands with different salinity regimes varied in their tolerance of higher salinity. All species examined, except *Sarcocornia perennis* and *Symphyotrichum subspicatum*, showed maximum germination and seedling lengths under fresh to oligohaline (0-5 ppt) conditions. Other species, including those commonly distributed in more saline wetland soils as adults, had reduced germination at salinities  $\geq 10$  ppt. Sensitivity to elevated salinity in *Triglochin maritima* and *Hordeum brachyantherum* did not differ markedly between sampled populations. Our results show a mismatch between germination sensitivity and adult tolerance for about half of the species tested. The temporal or spatial occurrence of low salinity may lead to optimal germination rates in these species. Future increases in estuarine salinity, perhaps in response to sea-level rise or reduced precipitation in coastal areas, may change germination in marsh species and thereby shift plant composition.