

Presented Info

The Controlled and "Real World" Testing of Wetland Sod in the Intermountain West

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Abstract: Establishment of native, weed-free wetland plant communities is often challenging in the Intermountain Western U.S. Weather extremes, strict seed germination requirements, fluctuating hydrology, weed competition, erosion and animal damage can all contribute to poor revegetation outcomes. In 1999 and 2000 we evaluated seven wetland revegetation methods ranging from low to high cost and effort: passive revegetation (unplanted control), seeded, salvaged marsh surface (SMS), greenhouse-propagated (ghp) bareroot and containerized plants, wild transplants, and prevegetated nursery-grown coir mats (aka. WETLAND SOD). Except for control and SMS treatments, Nebraska sedge (*Carex nebrascensis*), beaked sedge (*C. utriculata*) and hardstem bulrush (*Scoenoplectus acutus*) were planted. The research was done at an alluvial site with controlled hydrology near Jackson, Wyoming. Relative success (higher abundance of planted species, lower abundance of weedy species) generally increased with cost or effort invested in planting methods, but performance depended on planting density. Treatments relying on seed (passive, seeded and SMS) were unsuccessful at establishing the target species. Vegetative treatments (ghp bareroot and containerized plants, wild transplants and wetland sod) successfully established the target species, however wetland sod displayed some unique advantages over the other treatments. Wetland sod most quickly established a mature plant community; it was almost completely resistant to invasion by exotic species (including noxious weeds); and it spread the greatest amount outside of the initial planted area. In 2000 through 2002, we field tested wetland sod under typical "real-world" project conditions that included: fluctuating hydrology; periodic drought conditions, grazing and trampling by livestock, excessive wave and current action, high goose herbivory and human disturbance (foot traffic). Under these "real world" stresses, wetland sod resulted in the establishment of a diverse, native wetland plant community resistant to weed invasion.

