Groundcover Survival Rates on the Sand Hill Lakes Mitigation Bank and Ward Creek West Mitigation Tract

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The District has been aggressively restoring wetland and upland groundcover habitat sites on the Sand Hills Mitigation Bank (SHLMB) tract for over five years and on the Ward Creek West tract for several years. Recently, staff was able to compile five-year survival rates for planted wetland wiregrass tubelings on hydric pine flatwoods sites within the SHLMB. Ten, one-quarter-acre plots were sampled following a burn at each site for a total of 50 sample plots. Wiregrass plants were easily observed during this time from fresh sprouts. Plant survival ranged from 64 percent to nearly 85 percent and averaged 70 percent. In addition, established wiregrass tubelings were commonly seen flowering following early and late growing season burns and plant recruitment from seed was observed at all sites. Although not as impressive, plant recruitment from seed averaged three (3) percent across all site, so natural restoration is occurring on the sites albeit ever so slowly. Hopefully, natural restoration of the groundcover habitat by recruitment will pick up at an exponential pace over the coming years as the sites on the SHLMB continue to be managed with prescribed fire.

In late December, 2012 the District planted three species, i.e. Common Sneezeweed (Helenium autumnale), Rayless Sunflower (Helianthus radula) and Swamp Sunflower (Helianthus angusifolius) on its Ward Creek West mitigation tract. Plants were established on 3-foot centers or 4,840 plants per acre and were sampled for survival from February 1st through February 20th, 2013. A total of five, quarter-acre plots were sampled at three locations for a total of 15 sample plots. Survival over the first year was 13 percent for Common Sneezeweed; 25 percent for Rayless sunflower; and 85 percent for Swamp sunflower. Common sneezeweed did not survive well across all sites, but had good survival in limited pockets where clusters of plants were observed. In areas where survival was good, plants were robust and flowered profusely. Seedlings were observed near established plants and many new shoots were observed near established plants. Rayless sunflower survived best in areas that remained moist or areas with some water seepage through sands. Plants flowered well across all sites, however, few seedlings were observed, though the plant spreads through stolons (stems which grow at the soil surface or just below ground that form adventitious roots at the nodes). Swamp sunflower also had patchy survival across sites, but in many areas survival was excellent giving rise the 85 percent rate. Plants flowered well and many seedlings were observed. Twenty to 85 seedlings were found adjacent to established plants. Established plants also had many offshoots sprouting from the base. Survival of the three planted wildflower species may have been dependent on site micro-hydrology though additional studies would be needed to prove this observation.

These results show that groundcover habitat restoration of hydric wet pine flatwoods sites can be successful utilizing a suite of grass, herbaceous and forb species. So don’t be afraid to let your imagination run wild when planning your restoration activities.
How to sell ecosystem services: A guide for designing new markets
Payments for ecosystem services (PES) can improve environmental quality by aligning the incentives of individual landowners with societal interests in providing valuable ecosystem services such as carbon storage, water quality, flood control, and wildlife habitat. However, for this potential to be realized, many institutional details and technical challenges must be addressed. In this review, we discuss six critical issues for creating effective PES markets: using the appropriate type of market institution, defining suitable spatial and temporal scales for the market, promoting additionality (avoiding payments for services that would have been provided even in the absence of payments) so that payments result in increased services, offering incentives for projects that generate multiple ecosystem services, considering practice-based versus performance-based payments, and eliminating opportunities for strategic behavior aimed at “gaming the system”. We illustrate these issues with an example of how PES could be applied to floodplain restoration.

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