

Temporary Cover for Restoration

Document Purpose – This fact sheet is a companion to BWSR’s Native Vegetation Establishment and Enhancement Guidelines and provides detailed considerations for project planning and design with an emphasis on vegetation selection, installation and management.

Introduction – Temporary covers are used as part of restoration projects to stabilize soils, build soil health, allow agricultural chemicals to break down and provide weed suppression prior to establishing native seed mixes.

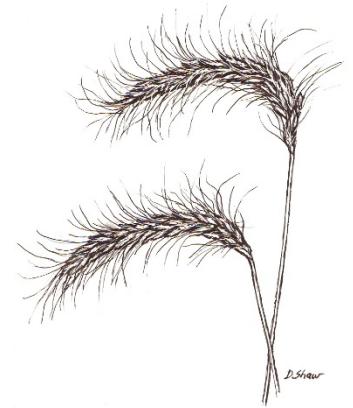
Site Selection – Temporary covers are beneficial in areas of steep slopes where there is a risk of soil movement that can cover native seed and prevent establishment. Forbs and sedges with tiny seed need to be near the surface for germination so they are particularly susceptible to soil movement. Sites where there has been significant soil erosion from water or wind also benefit from increases in root structure and associated increases in organic content. Sites transitioning from conventional agriculture also benefit from temporary covers. Chemicals that are commonly used for corn and soybean production inhibit the germination of native seed for around a year before they break down in the soil.

General Planning Considerations – Temporary covers are used in a wide variety of situations related to conservation plantings. In some cases, cereal grains may be planted to stabilize sites in preparation of seeding permanent seed mixes. In other cases, perennial native grasses are planted in low diversity stands to stabilize construction areas to prepare sites for adding more species after weeds are controlled. Native grass species such as switchgrass and Virginia wild rye may also be planted as part of floodplain forest restorations to stabilize soils and allow colonization of native trees and shrubs. Annual species such American Slough grass can also be used to stabilize areas to be established with shallow and deep marsh plant communities or where native seedbanks will aid establishment.

Structural Design Considerations – Temporary covers can play an important role in stabilizing structures such as berms and embankments that are part of conservation projects. In some cases, the cover species are clipped prior to seeding native species. In other cases, herbicides may be used to decrease competition from covers prior to seeding permanent mixes.

Plant and Seed Selection – The goal of temporary stabilization involves promoting sufficient establishment of grass species to hold soil and prevent sediment loss while creating favorable growing conditions (such as allowing microbial populations to increase) for native vegetation establishment. Once additional species are added to (or colonize) a site additional wildlife and plant community functions can be attained.

Annual and perennial grasses as well as perennial legumes play a key role in providing temporary cover



Canada wild rye providing temporary cover

Commonly Used Species for Temporary Cover

<i>Cereal grain annual grasses:</i>	Oats (<i>Avena sativa</i>), Winter wheat (<i>Triticum aestivum</i>), Barley (<i>Hordeum vulgare</i>)
<i>Non-native annual legumes:</i>	Field peas (<i>Pisum sativum</i>)
<i>Perennial Grasses:</i>	Big bluestem, Side oats grama, Fringed brome, Nodding Wild Rye, Slender Wheat grass, Virginia wild rye, Switch grass, Fowl bluegrass, Indian grass
<i>Perennial legumes:</i>	Canada milk vetch, Partridge pea, American vetch

Plant and Seed Source Considerations – Seed source is generally not a concern for short lived, non-native cereal grains. These species are grown in different part of North America and Canada. Seed source is a consideration for short lived native species that are sometimes used for stabilization and the seed source sequence in the BWSRs Native Vegetation Establishment and Enhancement Guidelines should be followed.

Vegetation Establishment – Seeding with agricultural seed drills or broadcast seeders in fields that were in corn or soybeans is commonly conducted to aid establishment of cover species. The use of a seed drill can increase seed to soil contact and decrease predation of seed by birds and rodents. When grass seed is broadcast seeded it is often beneficial to harrow the site to increase seed to soil contact.

Operations and Maintenance – Little maintenance is typically needed in established temporary cover plantings. The use of temporary covers can allow for additional time to manage weeds before permanent native seed mixes are seeded.

Information Sources

Minnesota Wetland Restoration Guide www.bwsr.state.mn.us/publications/restoration_guide.html