



# Managing private land for climate adaptation

April 2016 Snapshots

---

Did you know that Minnesota's row crop landscape is in many cases only fully covered by vegetation for three months out of the year? The soil is left bare, or nearly bare, after harvest (October) until the next year's crop emerges and forms a full canopy (July). Bare soils are susceptible to wind and water erosion, and eroded sediments and attached nutrients make their way to surface waterbodies. This makes the landscape vulnerable to climate impacts, particularly extreme precipitation. Programs implemented by BWSR have helped to restore vegetation and living cover to sensitive landscapes and protect soil and water quality from climate impacts.

Managing private lands for climate adaptation includes a wide breadth of conservation and working lands practices including: increasing perennial native vegetation, increasing pasture and haylands, cover crop adoption, decreased tillage, and retaining water on the landscape. BWSR has a number of programs and activities that provide climate adaptation benefits by helping landowners increase vegetative cover. Such programs include Reinvest in Minnesota (RIM), the buffer program, wetland restoration, and funding nonstructural management practices like cover crops.

The RIM program pays landowners to voluntarily enroll a number of land types in permanent conservation easements. These easements are managed under a conservation plan which includes items such as native grass plantings and tree plantings. Since these conservation easements are established in perpetuity, they help maintain vitally needed permanent, perennial cover. The network of permanent conservation easements helps build a landscape resilient to climate impacts.



*Cover crops are one way to protect soil and water quality from climate impacts.*

The Statewide Buffer Program establishes new perennial vegetation buffers of up to 50 feet along rivers, streams, and ditches. These buffers increase living cover on the landscape while maximizing water quality and soil health benefits. Having buffer strips around waterways will help filter out phosphorous, nitrogen, and sediment while also helping to capture runoff in the event of a large precipitation event. Extreme weather events are on the rise as a result of climate change so having natural landscapes that can help reduce erosion and control runoff is a major adaptation with a number of benefits.

Of the approximately 20 million acres of row crop agriculture in the State of Minnesota, only 1.5% is managed with cover crops. Cover crops are grasses, small grains, legumes and winter annuals that are provide cover before the primary crop establishes and after it is harvested. Cover crops are a key management tool to protect soil and water quality during extreme weather events. A recent change in Minnesota Statute now allows BWSR to provide cost share grants to local governments to support vegetative management practices like cover crops.

As a member of the Interagency Climate Adaptation Team, BWSR collaborates with other state agencies on climate adaptation efforts throughout the State. The Team provides leadership to state government on

identification and implementation of measures to assist Minnesota in becoming more resilient and adapting to climate change. There is a lot of work to do but these existing BWSR programs help reduce vulnerability and increase resilience to climate impacts, allowing the landscape to be more resilient to climate change-induced events such as precipitation and heat. Over time, these programs and the practices implemented within them will help make the Minnesota landscape better suited to deal with the impacts of climate change.