

**NATURAL RESOURCES CONSERVATION SERVICE**  
**CONSERVATION PRACTICE STANDARD**  
**Conservation Cover**  
**(Acre)**  
**CODE 327**

**DEFINITION**

Establishing and maintaining permanent vegetative cover.

**PURPOSES**

This practice may be applied to accomplish one or more of the following purposes:

- Reduce sheet, rill, and wind erosion and sedimentation.
- Reduce ground and surface water quality degradation by nutrients and surface water quality degradation by sediment.
- Reduce emissions of particulate matter (PM), PM precursors, and greenhouse gases.
- Enhance wildlife, pollinator and beneficial organism habitat.
- Improve soil health.

**CONDITIONS WHERE PRACTICE APPLIES**

This practice applies on lands needing permanent vegetative cover. This practice does not apply to plantings for forage production, or to critical area plantings.

**CRITERIA****General Criteria Applicable to All Purposes**

Species shall be adapted to soil, ecological sites, and climate conditions that are suitable for the planned purpose and site conditions. Periodic removal of some products such as high value trees, medicinal herbs, nuts and fruits is permitted provided the conservation purpose is not compromised by the loss of vegetation or harvesting disturbance.

Inoculate legume seed at planting. Use five times the recommended rate of inoculants for a first time seeding of Birdsfoot Trefoil.

Choose seeding rates and planting methods adequate to accomplish the planned purpose.

Planting dates, planting methods, and care in handling and planting of the seed or planting stock shall ensure that planted materials have an acceptable rate of survival.

Prepare the site by establishing a consistent seeding depth. Eliminate weeds that would impede the establishment and growth of selected species.

Base the timing and equipment selection on the site and soil conditions.

Apply nutrients as needed to ensure crop establishment and planned growth using a current soil test and following MSUE nutrient recommendations per the Nutrient Management Standard 590.

#### **Additional Criteria to Reduce Sheet, Rill, Wind Erosion and Sedimentation**

Determine and maintain the amount of plant biomass and cover needed to reduce wind and water erosion to the planned soil loss objective by using the current approved wind and/or water erosion prediction technology. See Section 1 of the MI FOTG for the latest water and wind erosion prediction procedures.

#### **Additional Criteria to Reduce Emissions of Particulate Matter (PM), PM Precursors, and greenhouse gasses**

In perennial crop systems, such as orchards, vineyards, berries and nursery stock to minimize generation of particulate matter:

- Establish vegetation to provide full ground cover in the alleyway during mowing and harvest operations.

#### **Additional Criteria to Enhance Wildlife, Pollinator, and Beneficial Organism Habitat**

Plant a diverse mixture grasses and forbs species to promote bio-diversity and meet the needs of the targeted species using approved habitat appraisal guides, evaluation tools, and appraisal worksheets for the respective state.

Locate habitat plantings to reduce pesticide exposures that could harm wildlife, pollinators, and other beneficial organisms.

Consider the benefits of warm season grasses, cool season grasses, and forbs to different species of wildlife when determining which seed mixtures to use (see *Managing Michigan's Wildlife: A Landowner's Guide*). ([Click here](#))

#### Seed Mixtures and Rates

- Use a seeding mixture beneficial for wildlife habitat from Table 4; or a mixture approved for a specific farm bill program, with wildlife considerations; or a mixture developed by wildlife professional that has a minimum of 10-20 grass seeds and 15-25 forb seeds per square foot. Table 5 provides specific examples of those mixes listed in Table 4, including a representative listing of forbs or use the 327 Seed Mixture Estimator ([click here!](#)) found on the eFOTG under Technical tools.
- For pollinators, consider mixtures which are dominated by forbs that provide nectar and pollen sources throughout the growing season. See Table 4 for a recommended mixture, and Table 5 for an example of a specific pollinator mix including forbs. Also see Michigan State University-Extension (MSU-E) Bulletin, *E-2973, Attracting Beneficial Insects with Native Flowering Plants (2007)* for preferred species. ([Click here!](#))

In perennial crop systems such as orchards, vineyards, berries and nursery stock, permanent vegetative cover shall be established and managed according to MSU recommendations for the target species.

### **Additional Criteria to Improve Soil Health**

Select plants that produce high volumes of organic material to maintain or improve soil organic matter. Determine the amount of biomass needed using the Soil Condition Index found in the RUSLE2 Water Erosion Prediction model. See the NRCS Michigan eFOTG, Section I, Water Erosion Prediction RUSLE2 Model or the SOM Calculator available by request from The Ohio State University South Campus at Piketon. (Click here!)

A full description of the Soil Conditioning Index is in the NRCS National Agronomy Manual Part 508 Soils Subpart 508C Soil Management. (Click here)

### **CONSIDERATIONS**

This practice may be used to promote the conservation of wildlife species in general, including threatened and endangered species.

Certified seed and planting stock that is adapted to the site should be used when it is available.

Mowing may be needed during the establishment period to reduce competition from weeds.

On sites where annual grasses are an expected weed problem it may be necessary to postpone nitrogen fertilizer application until the planted species are well established.

Where applicable this practice may be used to conserve and stabilize archeological and historic sites.

Consider rotating management and maintenance activities (e.g., mow only one-fourth or one-third of the area each year) throughout the managed area to maximize spatial and temporal diversity.

Where wildlife management is an objective, enhance the food and cover value of the planting by using a habitat evaluation procedure. To aid in selecting plant species and providing or managing for other habitat requirements necessary to achieve the objective, see the Michigan Biology Tech Note on Wildlife Habitat Evaluation. Encouraging plant species diversity and establishing plantings that result in multiple structural levels of vegetation within the conservation cover will maximize wildlife use.

Where pollinator and wildlife habitat are primary purposes consider less dense seeding rates as long as soil loss is within tolerable soil loss limits.

To provide habitat for natural enemies of crop pests, select a mix of plant species that provide year round habitat and food (accessible pollen or nectar) for the desired beneficial species. Consider habitat requirements of predatory and parasitic insects, spiders, insectivorous birds and bats, raptors, and terrestrial rodent predators. Consult Land Grant University Integrated Pest Management recommendations for beneficial habitat plantings to manage the target pest species.

Use a diverse mix of cover plant species that come into bloom at different times and provide a sequence of bloom throughout the year (e.g., plant at least three flowering species from each of the three bloom periods (spring, summer, and fall).

Where practical, use native species that are appropriate for the identified resource concern and management objective. Consider trying to re-establish the native plant community for the site.

If a native cover (other than what was planted) establishes, and this cover meets the intended purpose and the landowner's objectives, the cover should be considered adequate.

During vegetation establishment, natural mulches, such as wood products or hay, can be used to conserve soil moisture, support beneficial soil life, and suppress competing vegetation.

Where triazine herbicide or other herbicide carryover is a concern, a bioassay test may be used to determine chemical carryover and seeding injury potential.

## **PLANS AND SPECIFICATIONS**

Prepare specifications for this practice for each site. They shall include, but are not limited to:

- Recommended species.
- Seeding rates and dates.
- Establishment procedures.
- Management actions needed to insure an adequate stand

Specifications, operation and maintenance shall be recorded using approved Implementation Requirement documents based on Michigan Seeding Table as of September 2015 Conservation Cover 327 Tables 1-5.

## **OPERATION AND MAINTENANCE**

Mowing and harvest operations in a perennial crop system such as orchards, vineyards, berries, and nursery stock shall be done in a manner which minimizes the generation of particulate matter.

If wildlife habitat enhancement is a purpose, maintenance practices and activities shall not disturb cover during the reproductive period for the desired species.

Maintenance practices and activities should not disturb cover during the primary nesting period for grassland species in Michigan. Exceptions should be considered for periodic burning or mowing when necessary to maintain the health of the plant community.

Control noxious weeds and other invasive species. For a list of weeds prohibited by Act 359 of 1941 – Noxious Weeds – see the Michigan Department of Agriculture (MDA) website:

<http://www.michigan.gov/mda>

Mowing may be needed during the establishment period to reduce completion from weeds.

Control noxious weeds and other invasive species.

To benefit insect food sources for grassland nesting birds, spraying or other control of noxious weeds shall be done on a “spot” basis to protect forbs and legumes that benefit native pollinators and other wildlife.

Re-vegetate bare spots.

Maintenance practices and activities shall not disturb cover during the reproductive period for grassland wildlife species as follows:

- First Year (establishment year) - Mow or use approved chemicals to control undesirable plants. Mow high (4-6 inches for cool-season grasses (CSG) and 8-10 inches for warm-season grasses (WSG) to control weeds but prevent damage to the permanent seeding. For CSG, mow between August 1 and August 15, if feasible. For WSG, mow between June 15 and July 15, if feasible. Otherwise mow as needed during the first summer to control weeds and promote growth of target species. Mow weeds that exceed 10 inches during the first year even if it is before the August 1 date.
- After the seeding year, spot mow or spot spray herbicides to control undesirable plants rather than mowing the entire field. When necessary to control weeds in CSG stands, spot mow before April 1 or between August 1 and August 15 to protect nesting and brood-rearing wildlife. If necessary to control weeds in WSG stands, spot mow between June 15 and July 15 to ensure establishment of the stand.
- Annual mowing is not recommended, since it greatly reduces residual wildlife cover through the winter and early spring.

Only those pesticides that are labeled for the specific use will be recommended. Refer to the MSU publications and specific label instructions for guidance on pesticide selection and use.

If the cover meets the intended purpose and the landowner's objectives, the cover should be considered adequate.

Use of any fertilizers, pesticides, and other chemicals shall not compromise the intended purpose.

Re-establish weak stands due to chemical drift, winter injury, sediment burial, or other injuries.

Treat concentrated flow areas by shaping and seeding if necessary.

Re-seed areas damaged by prolonged flooding during establishment.

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**REFERENCES**

Renard, K.G., G.R. Foster, G.A. Weesies, D.K. McCool and D.C. Yoder. 1997. Predicting Soil Erosion by Water: A Guide to Conservation Planning with the Revised Universal Soil Loss Equation (RUSLE), Agricultural Handbook Number 703.

Revised Universal Soil Loss Equation Version 2 (RUSLE2) website:

<http://www.nrcs.usda.gov/wps/portal/nrcs/main/national/technical/>

Wind Erosion Prediction System (WEPS) website:

<http://www.nrcs.usda.gov/wps/portal/nrcs/main/national/technical/>

Preventing or mitigating potential negative impacts of pesticides on pollinators using IPM and other conservation practices. Nat. Agron. Tech Note 9. Washington, DC. <http://directives.sc.egov.usda.gov/>