PURPOSE
The purpose of this practice is to restore the functions and values of wetland ecosystems that have been devoted to agricultural use for breeding and/or migratory habitat for sedge wrens and other songbirds, marsh birds, and reptiles and amphibians, and to provide migratory habitat for shorebirds. Wetlands in Indiana include open water, marsh, wet meadow, shrub and forested habitats. An important component of wetlands is the upland areas surrounding the wetland which provide a “buffer”.

WHERE PRACTICE APPLIES
On fields that meet eligibility requirements for the State Acres for Wildlife Enhancement (SAFE) Initiative of the Conservation Reserve Program (CRP) as determined by the Farm Service Agency (FSA).

PLANNING
A wildlife conservation plan will be developed in consultation with the Indiana Department of Natural Resources (IDNR) District Wildlife Biologist, Pheasants Forever Farm Bill Biologist, or other wildlife professional. When selecting plant species, consider the requirements for optimum wildlife habitat, and adaptability to the soils, and moisture conditions in the field being established.

CRP POLICY
- Fields must be located within the 22 counties designated in Indiana as the Sedge Wren/Grasshopper Sparrow Priority Area (refer to Indiana guidance eligibility maps in 2-CRP).
- FLOODPLAIN SITES ONLY: The field must be located within the 100-year floodplain of a permanent river or stream.
- FLOODPLAIN SITES ONLY: The portion of the site to be restored (excluding buffer area) must have 51% hydric (wetland) soils.
- NON- FLOODPLAIN SITES ONLY: Offered acreage must be located outside of the 100-year floodplain.
- NON- FLOODPLAIN SITES ONLY: Offered acreage must not be eligible for enrollment in FWP CP27/CP28.

Applicable to both floodplain and non-floodplain:
- As determined by NRCS, an upland buffer with a maximum ratio of four (4) buffer acres to each restored wetland acre (i.e. 4:1 ratio) may be enrolled if otherwise eligible, needed and feasible for the practice. The buffer should be planned to maximize the availability of nesting cover.
- The contract duration for CP38B is 10-15 years.

RESTORATION OF HYDROLOGY
- The hydrology of the site must be restored to the level determined by the NRCS in consultation with the producer for the benefit of the target species.
- The site must be technically suitable for wetland restoration. The level of hydrology restoration allowed will be based on the best available evidence of what the original hydrology of the site was prior to alteration.
- Wetland Restorations will be established according to the Indiana NRCS Field Office Technical Guide (FOTG) Wetland Restoration (657) Standard.
• The hydrology of the site should be completed prior to establishing the vegetation in the buffer.

• The minimum allowable level of restoration is that which will restore enough hydrology to sustain characteristic hydrophytic (wetland) plants within the CP38B (non-buffer area). The desired level of hydrology restoration should be based on the best available evidence of what the original hydrology of the site was like prior to alteration.

• Neither Wetland Enhancements nor Wetland Creations are eligible under CRP CP38B.

• If surface or sub-surface drainage exists, these must be “plugged” according to the Wetland Restoration (657) Standard.

• Digging, dredging, macrotopography, dikes, etc. are not authorized unless it is documented that the wetland was altered by grading, filling, etc. and these activities are needed to restore the original hydrology.

UPLAND BUFFER PLANTINGS

Permanent Native Grasses (only)
• For example mixtures or suitable species, refer to the Indiana FOTG Upland Wildlife Habitat Management (645) Standard or IN Biology Technical Note - Upland Wildlife Habitat.

• To encourage the forb component, it is strongly encouraged to sow the seeding mixture during the dormant season (12/1 to 4/1).

• Any prepackaged mixes must be approved before seeding. Site-specific requirements are listed on the attached Specifications Sheet.

Companion/Nurse Crops
A companion/nurse crop will be used when erosion control and weed suppression are needed. Companion/nurse crops include Winter Wheat (after the Hessian Fly-free dates), Oats, Barley, Cereal Rye or Annual Ryegrass; native Wildryes (i.e. – Elymus sp. such as Canada, Riverbank, and Virginia Wildrye) are also effective.

Companion crops will be clipped after jointing, but before seed head pollination unless otherwise directed (control of Wildrye species is not necessary so that they persist as part of native seedings). A second and subsequent clipping is necessary if re-growth provides competition. Clipping height should be above developing seedlings. Where excessive growth has accumulated, the vegetation will be chopped rather than swathed.

Lime and fertilizer
Lime and fertilizer typically will not be needed, but that decision should be based on a current soil test (less than four years old). In areas with existing vegetation that shows signs of nutrient deficiencies, or if the soil test shows phosphorus (P) and potassium (K) are in the low to very low range, apply enough fertilizer (organic or inorganic) to raise N, P and K to a level needed for a 1 ton/ac yield goal. Do not apply any nitrogen (N) for warm season grasses. Use Purdue University recommendations from the Crop Fertilizer Recommendation Calculator, or the Indiana NRCS Seeding Tool – Indiana Fertilizer Calculator.

If the pH is 6.0 or less, apply enough lime per acre to bring pH to meet the tolerance range of the planned plant species. Soil amendments will be incorporated during seedbed preparation, or applied before planting if a no-till drill is used. Apply lime according to Tri-State Fertilizer Recommendations - PU AY-9-32, Extension Bulletin E-2567, or Indiana NRCS Seeding Tool – Indiana Fertilizer Calculator.

Site Preparation
It is very important to plant the vegetation into a weed-free seedbed. Use herbicides and/or tillage to eliminate competing vegetation. Weed control efforts should begin as early as 12 months prior to planting, and may require multiple applications or operations in both the fall and spring prior to planting.

Pay particular attention to sites where noxious and potentially invasive species are likely. Many of these species are perennials that spread through seed and roots, and many have rhizomatous root systems that will persist and negatively impact the planting.

Cool season weeds (i.e. Canada thistle, quack grass) are best controlled in the fall (mid-September to early November) with a translocation herbicide. Plants should be actively growing at the time of application. Avoid herbicide application after 3:00 pm if overnight temperatures are expected to drop below 50 degrees (F).

Warm season weeds (i.e. Johnsongrass) are best controlled prior to flower with a follow-up application prior to first frost. Plants should be actively growing at the time of application. Contact your local Purdue University Cooperative Extension Service for specific herbicides. Apply all herbicides according to Label.

Use a nurse/companion crop to control potential weed issues and/or a temporary cover for erosion control.
If prescribed burning is used for site preparation, it must be conducted according to IN NRCS FOTG Standard (338) Prescribed Burning.

**SEEDING DATES**

Selected species will be planted within the dates in the specification sheet that will be provided for the site.

**Seed preparation**

Inoculate legume seed before seeding with the proper rhizobia bacteria specific for the species. Re-inoculate seed if it was pre-inoculated more than 60 days prior to seeding or beyond dates specified on the seed / inoculant tag. Inoculant left in the sun, even for a short period of time can significantly reduce the viability and effectiveness. Pre-inoculated seed will have a coating that changes the pure live seed per pound and thus the bulk seeding rate per acre.

Be aware that blending seed of varying size, shape and weight can make calibration of equipment and seeding uniformity difficult.

Some seeding mixtures contain seed that is extremely small and thus have very low seeding rates. This may make it difficult to set seeding equipment to uniformly seed these low rates. To add enough volume to the mix for proper metering, a carrier or coated seed may be desirable. The carrier should be no larger than the largest seed species and have similar shape, density and texture to the majority of seeds in the mix. The carrier can be an inert material (i.e. cracked corn) that does not have abrasive properties that may cause damage to the equipment or the seed. Inexpensive seed (unimproved varieties) that will have no significant negative impact on the purpose of the seeding may also be used.

**Planting Methods**

**No-Till seeding:** Use a no-till drill with seven (7) inch or less row spacing. Ensure the drill is designed to handle the type of seed being planted (especially important for native grasses). Set the no-till drill to provide good seed-to-soil contact and a planting depth preferred for the desired species (see table below). Soils that are too wet or too dry can also cause improper seed placement.

**Conventional Seeding:** Prepare a firm seedbed to a depth of three (3) to four (4) inches. Incorporate lime and fertilizer during seedbed preparation. Use a drill with seven (7) inch or less row spacing or a culti-packer seeder designed for the seed to be planted. Seed should be drilled uniformly at a proper seeding depth for the desired species.

<table>
<thead>
<tr>
<th>Groups</th>
<th>Seed Size (seeds/lb.)</th>
<th>Optimum (inches)</th>
<th>Max. (in.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brassicas, clovers, small seeded legumes &amp; grasses, native forbs</td>
<td>150,000 – 500,000</td>
<td>¼</td>
<td>½</td>
</tr>
<tr>
<td>Vetches, sorghums, wildryes, trefoils, native legumes, radishes</td>
<td>50,000 – 150,000</td>
<td>½</td>
<td>¾</td>
</tr>
<tr>
<td>Cereal grains</td>
<td>12,000 – 50,000</td>
<td>¼</td>
<td>1</td>
</tr>
<tr>
<td>Beans, peas, corn</td>
<td>1500 – 12,000</td>
<td>1 ½</td>
<td>2</td>
</tr>
</tbody>
</table>

**Broadcast Seeding:** Seed may be broadcast if completed in a uniform manner. Pre-mix the seed with 200 pounds per acre of pelleted lime if using an airflow applicator. Seedbeds should be worked to a minimum depth of three (3) inches and firmed before seeding. The seedbed should be culti-packed before and after seeding. It is acceptable to see up to one-third (⅓) of the seed on the soil surface. Wind speed should be 15 miles per hour or less when broadcasting.

**Inter-seeding:**

1. **Legumes/Forbs (frost seeding):** No-till drill or broadcast as above into existing vegetation or residues. Broadcasting relies on freeze/thaw cycles, rain and/or snow to incorporate the seed. This method does not include a seedbed preparation. This is most commonly used during the dormant seeding period.

2. **Cover Crops:** No-till drill or broadcast as above into existing vegetation or residues. Broadcasting relies on freeze/thaw cycles, rain and/or snow to incorporate the seed. Inter-seeding does not include a seedbed preparation. This method can be used to establish cover crop species or combination mixes into relatively light (e.g. soybean) and weed free crop residues, or to establish vegetation into standing crops.

3. **Grasses:** No-till drill into existing covers only if prior-treated with herbicides or tillage, or if existing cover is diminishing (i.e. – older alfalfa plantings).

**Weed Control during Establishment**

Control competing vegetation as needed until a Final Status Review is issued or three (3) years (whichever comes first). Mowing multiple times during this establishment period is critical to the success of the native grass planting. Mow when competing weeds are taller than the planted vegetation, and at a height above the planted vegetation. Use selective herbicides and/or spot spraying to protect the desired species. Refer to the Purdue/Ohio State *Weed Control Guide for Ohio and Indiana* for herbicide timing and treatment.
**Weed Control in Tree/Shrub Plantings:** Weed control is also important to ensure survival and maximum growth of the trees after they are planted. Nine (9) ft² around each tree should remain weed-free to maximize tree growth. **Mowing is not recommended for weed control for trees.** CRP cost share is authorized for one weed control application within 24 months after planting.

**OPERATION AND MAINTENANCE**

Operation and maintenance begins with the purchase of the seed. Purchase seed from reputable dealers, carefully read seed tags to check not only the target species, but the contents of other seeds present, including weed seed. Verify seed does not include troublesome weeds such as Palmer Amaranth, a highly invasive weed. Do not plant seed with unknown sourcing or weeds, as it could result in long-term management problems. Noxious weeds and other undesirable plants, insects, and pests shall be controlled, including such maintenance as necessary to avoid detrimental effects to the surrounding land.

**After** the Final Status Review or three (3) years (whichever comes first), maintain the planting according to your CRP conservation plan. Maintenance activities are allowed only on a spot basis and only if necessary to maintain stand health, maintain stand diversity, or control pests that will damage the CRP cover or adjacent lands. Burning must be in accordance with a prescribed burn plan. **Mowing and other maintenance activities are not authorized between April 1 to August 1** to protect ground-nesting wildlife (i.e. - the Primary Nesting and Brood-Rearing season). If maintenance activities are needed (allowed on a spot basis only) during these times, the FSA County Committee must approve the maintenance activity prior to the activity occurring. Native grasses will not be mowed lower than 12 inches. **Mowing for generic weed control or for cosmetic purposes is prohibited.**

Exclude all acres from haying and grazing year round, unless authorized. Fences may need to be constructed and maintained to exclude livestock throughout the entire year.

The contract area cannot be used for field roads or other uses that will damage or destroy the cover.

**MID-CONTRACT MANAGEMENT**

Mid-Contract Management (MCM) is required on this practice. If the CRP acres are less than 5 acres, the entire acreage can be managed in a single year; otherwise, the maximum amount that can be disturbed during any one year is ½ of the contract acreage. For maximum habitat value, disturb no more than 1/3 of the contract acreage in any given year.

Areas devoted to grass have the following options:
- Prescribed Burning
- Strip Disking
- Strip Spraying
- Inter-seeding forbs/legumes/pollinator habitat

MCM activities will be avoided on environmentally sensitive areas including:
- Concentrated flow areas,
- Critical areas,
- Within the first 20 feet of a practice that borders a water resource to avoid water quality resource concerns, and
- Other areas where gully erosion is likely.

Environmentally sensitive areas will be marked on the plan map to ensure Mid-Contract Management activities are avoided on these areas.

Grassland areas must be established for a minimum of three (3) years before initiating MCM activities.

MCM activities operations will not be performed from April 1 through August 1 to protect the primary nesting period for grassland bird species. It is also recommended, but is not required, to delay MCM activities until after August 15 to reduce the chance of harming fledgling birds and other young wildlife.

MCM activities operations will be performed along field contours, or across the slope, when practical.

Strips will parallel brushy or woody escape cover when feasible.

**Managed Haying and Grazing**

CP38E plantings will not be used for Managed Haying or Grazing.