



## Part I. Potential Wildlife Uses

This supplement provides design and management options for land users and planners seeking to enhance grassed waterways for wildlife. Grassed waterways are strips of grass and other nonwoody perennial vegetation that are established in agricultural fields where water concentrates or flows off of the field.

Grassed waterways established to prevent gully erosion and trap contaminants and field sediments potentially provide many benefits to onsite and offsite aquatic habitats. These benefits to aquatic habitats may include improved water quality, reduced soil erosion, improved floodplain function, and recharge of groundwater aquifers.

When grassed waterways are designed and maintained to be wildlife friendly, they can provide habitat for feeding, nesting, and resting wildlife. They also may serve as important travel corridors that allow animals to move safely between habitats.

Waterways can be further enhanced by establishing additional herbaceous cover along either side.

## Part II. Planning and Design Considerations

### Site Considerations

- Landowner's wildlife objectives (consistent with intended function of the waterway)
- Proximity to available water and other required habitats
- Adjacent land uses
- Soil qualities (texture, depth, moisture content, etc.)
- Frequency and depth of inundation
- Width and length of grassed waterway
- Special wildlife resources (e.g., threatened or endangered species)

### Design Considerations

The primary purpose of grassed waterways is maintenance of soil and water quality. Depending on site characteristics and local conditions, such as timing and extent of runoff events, waterway design may be modified to enhance the value for wildlife. For example, the grassed waterway may need to be wider to accommodate the higher retardance of taller, unmowed grass.

If disturbance to the grassed waterway is frequent and pervasive, then opportunities to manage the waterway for wildlife are greatly limited. For example, late haying or post harvest grazing of adjacent crop residues may eliminate the fall and winter cover value of the waterway for wildlife.

Attention should focus on situations where disturbances can be minimized or timed to avoid the period of planned habitat use. As is true for all linear or strip habitats, wider buffers with diversified stands of different plant types (grasses, grass-likes, and forbs) will accommodate more species of wildlife than narrow buffers comprised of a single species. Although mixes of native grasses and forbs may be desirable from the wildlife standpoint, establishment of native plants in areas of concentrated flow or groundwater discharge may not be practical. Addition of forbs to the seeding mix will generally enhance wildlife value.

If the goal is to provide multiple wildlife benefits, such as travel corridors or year-round cover, then mixes of native grasses and forbs should be emphasized over single species plantings. Note that aggressive introduced plants, such as smooth brome grass, may outcompete other important plants and should be used with care in developing wildlife habitat.

Recommended width for use as travel corridors is 50 feet, with a 20-foot minimum. The recommended width for nesting or escape cover is 100 feet.

## Maintenance Considerations

The amount of maintenance required and the method used to maintain grassed waterway vegetation depends on the engineering design, the wildlife goals, and types of vegetation established in the grassed waterway. Within the above constraints, management should seek to maintain the desired plant community and interspersed structure.

Management should also minimize disturbance to wildlife especially during the period of planned habitat use. Timing of maintenance is particularly critical if ground-nesting birds are using the waterway. Farm operations in surrounding fields should be carried out so as to minimize crossings by farm equipment during the critical reproductive period.

Disturbances necessary for maintaining vegetation or buffer function such as mowing, burning, selective herbicide treatment or grazing should be delayed until after August 1, to avoid the primary nesting period.

Use of chemical pesticides may disrupt the food web and use of such products should be carefully planned. If waterways are frequently crossed by farm equipment or if treatment before August 1 is unavoidable, then treatments should be initiated as soon as possible after spring-runoff to minimize destruction of nests and discourage wildlife use of the grassed waterway.

A flushing bar is recommended for all haying operations. Mowing at night causes high mortality of wildlife and should be avoided at all times.

Maintenance schedules for waterways should be adjusted to account for activities occurring on adjacent areas. For example, if nearby grasslands are hayed or grazed, displaced nesting birds may attempt to re-nest in waterways or other buffer strips. Delaying treatments beyond conventional dates may be necessary to accommodate these late nesting birds.



## Part III. Plants for Grassed Waterways

Develop seeding mixes as appropriate for the soils, range site, ecological site, or pasture suitability group, and the major land resource area, using the plant species approved for this conservation practice as listed in the *South Dakota Technical Guide*.

## Part IV. Specifications Sheet

Use form SD-CPA-26, *Wildlife Habitat Management*, to document the wildlife species that the land user wishes to benefit and to document how and where the species' required habitats are to be established and/or maintained. Follow specification requirements for the practice "Grassed Waterway," as outlined in the *South Dakota Technical Guide*.

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