

**Water Matters**  
**Land Cover Affects Water Quality**  
**Warm Season Grasses**

Native warm season grasses are grasses indigenous to the local ecosystem that carry out most of their growth during the summer months. In Virginia, these grasses include big bluestem, little bluestem, indiagrass, eastern gamagrass, switchgrass, side oats grama, and broomsedge. As we have described in our previous Water Matters articles, land use and land cover affects water quality. The more diverse the biodiversity, particularly adjacent to or near a water body, the better the water quality.

Warm season grasses make great wildlife habitat because they grow in clumps as opposed to sod. This structure allows wildlife, and especially grassland songbirds, to move easily through the meadow, around and between the clumps. The spacing of the clumps also allows the germination of wildflowers and other important annuals. Their seeds serve as food sources and their flowers benefit pollinators. This contrasts with the dense, thick, uniform fields of cool season grasses like tall fescue and orchardgrass.

Grasslands make up more than half of the ecosystems experiencing the greatest decline in the U.S. and are one of the rarest habitats in Virginia. They are largely absent from many of the landscapes in the Shenandoah Valley, having been replaced by exotic cool season forage grasses like tall fescue. The absence of fire as a regular part of the ecosystem has also played a major role in the loss of these grasslands.

Recent breeding bird survey data shows an alarming decline among grassland birds in the eastern United States. The 2004 National Audubon Society "State of the Birds" report states that up to 85% of grassland species are declining. The report details that since 1966 Grasshopper Sparrow populations have declined by 77%, Field Sparrow populations have declined by 68%, and Northern Bobwhite populations have declined by 67%.

Riparian areas, field borders, and idle fields are all good places to establish warm season grasses. They do very well on poor soils and do not usually need any fertilizer. Their deep roots are very effective at preventing erosion (which contributes to protecting water quality), and they also can be used as dependable summer forage for livestock.

Warm season grasses are usually planted in the spring, between mid-April and mid-June. The existing vegetation is first killed, either mechanically or with an herbicide. Then the seed is planted by a special no-till seed drill, specifically designed to handle the fluffy seeds and plant them at the proper depth. During the first year, selective herbicides can be used to keep initial weed competition under control.

Growth during the first year will look patchy and weedy. This is normal and a good sign. By the summer of the second year most stands will have completely filled in.

Some type of regular disturbance is needed to set back woody plant succession and maintain a healthy and functioning meadow. Prescribed burning is the best way to accomplish this, as well as to clear up accumulated thatch which may inhibit wildlife movement and annual plant germination. Usually meadows do not need to be burned until five years after establishment, and then one third of the meadow is burned every year after that. Other options include discing, flail chopping, haying or mowing.

Financial assistance from the USDA is available for establishing warm season grasses, particularly in agricultural settings.

This is the thirteenth in a series of articles addressing Page County's Water Resources and was written by Austin Jamison, Habitat Planner in the Blue Ridge Division of Chesapeake Wild Heritage, an organization dedicated to creating, restoring and protecting wildlife habitat and establishing a more sustainable agriculture through direct action, education and research in partnership with private landowners. For more information contact Austin Jamison at 434-825-7587, [ajamison@cheswildlife.org](mailto:ajamison@cheswildlife.org) or the Page County Water Quality Advisory Committee at 540-743-4808, [canderson@pagecounty.virginia.gov](mailto:canderson@pagecounty.virginia.gov)