

Early Successional Habitat Development/Management Strip Disking for Wildlife

Conservation Practice *WV Job Sheet*

Code 647



Definition

Manage early plant succession to benefit desired wildlife or natural communities.

Purpose

The purpose of this practice is to increase plant diversity and provide wildlife habitat for those species of wildlife that benefit from early successional vegetation and the insects that these communities attract. Strip disking involves the purposeful disturbance of the soil to release sod-bound fields, reduce litter accumulation, create bare ground, stimulate germination of desirable seed-producing plants, and increase insect populations including pollinators. Many wildlife species that depend on these types of plant communities are declining nationwide.

Conditions Where Practice Applies

Disking is one of the simplest, most effective, and least expensive techniques available to the land manager for improving wildlife habitat. It may be used in a variety of places and may benefit several wildlife species. Quail, pheasants, turkey, rabbits, and songbirds are some primary species that may benefit. Light disking provides additional bare ground for dusting and brood rearing. On pastures, hay lands, or other areas where the landowner desires to improve conditions for wildlife that benefit from ground disturbance, disking is a primary management tool.

It is most often used along timber edges or on large tracts of grassland where there is little or no agricultural cropland. Disking sets back natural plant succession by cutting up grassy vegetation, thus preventing an area from maturing into briars, shrubs, and trees. It can eliminate or reduce a thick mat or carpet of grass, such as fescue, brome, or reed canary grass, which is a barrier to movement and feeding for many wildlife species. As the soil is exposed, seeds of annual plants can germinate and grow, adding plant diversity. Many of these annual plants produce seeds or vegetable matter that provide food or cover during various times of the year for a variety of species.

Considerations for Establishment

Used alone or in combination with the other techniques such as strip mowing, disking can successfully manipulate vegetative succession. Although every wildlife management plan differs, some general guidelines are:

- Strip disking is most beneficial when conducted just prior to spring green-up. However, disking may be performed between September and December with good results depending on your objectives.
- If the existing cover is too dense to allow adequate soil disturbance with a disk, a herbicide application, intense flash grazing, haying, plowing, or any combination may

be used to remove vegetation prior to disking.

- Position disked strips in close proximity to adequate cover for the desired species. Refer to the WV Wildlife Habitat Evaluation Technique Distribution Tables and WV Practice Standard (645) Upland Wildlife Habitat Management for specific recommendations.
- Disking should be performed in long, linear strips. To prevent soil erosion, disked strips should follow the contour of the land (Figure 1).

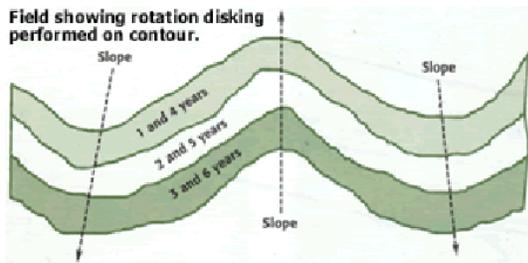


Figure 1. Illustrates rotational strip disking performed on the contour. (After Missouri NRCS Light Disking, JS-Biol-24 April 2004)

- Areas of undisturbed vegetation (i.e. forest riparian buffer, grass sod, filter strip, etc.) must be left adjacent to water bodies to maintain water quality. The width of this area should be a minimum of 35 feet to the closest point of the strip from the top of the streambank.
- When utilizing strip disking in large areas of grassland, irregularly shaped patches or strips randomly scattered through the grassland or along the contours may be used.
- The ground should be disked deep enough to destroy the majority of existing vegetation (usually no more than 4 inches in depth) and provide 40% to 70% bare soil, equally distributed throughout the area of disturbance.
- No more than 1/3 of a total field or grassland component should be treated with this practice in any year. Strips should be a minimum of 25 feet in width and no more than 75 feet wide.
- Strip disking should be set up on a rotational basis so that as one or more strips reach brood habitat maturity, other strips are in the beginning or intermediate

stages of succession. Depending on the fertility of your land, strips should be set up on a 4-6 year rotation to maximize wildlife habitat (Figure 2).

- Immediately following strip disking, fields may be enhanced for wildlife by seeding a variety of herbaceous plants and/or annual plants by broadcasting them onto the exposed strip (Table 1). Refer to WV Conservation Practice Standards (645) Upland Wildlife Habitat Management to determine wildlife species that may benefit from this practice and (342) Critical Area Planting for specific information regarding planting.

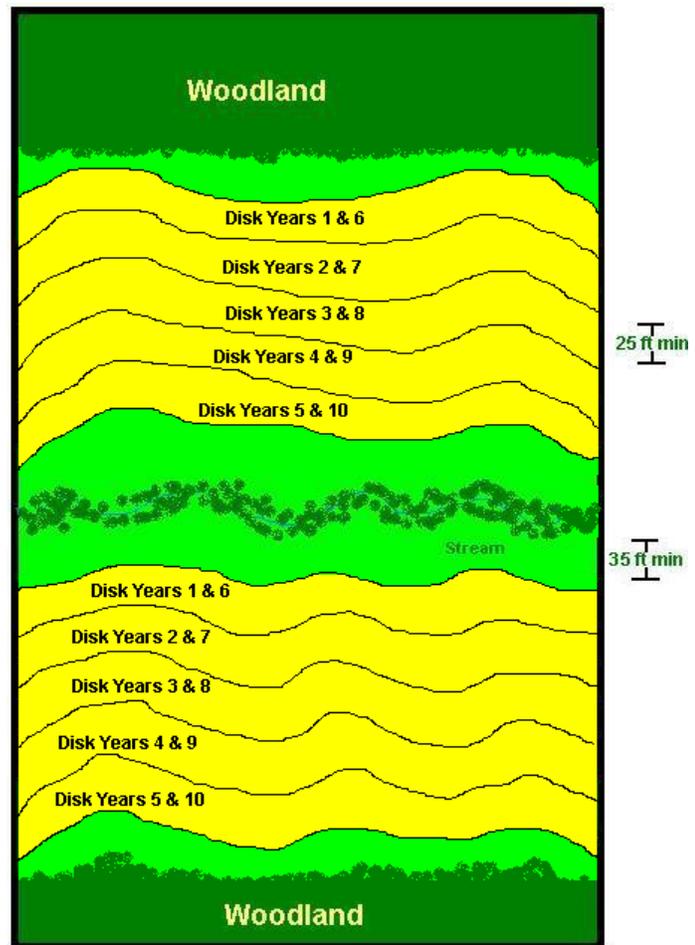


Figure 2. Illustrates a simplified example of strip disking on a five year rotation. Note the undisturbed areas adjacent to the stream and irregular patterns disked on the contour.

- Suitable equipment for wildlife habitat creation may include a disk 6 to 8 feet wide, and pulled by a 20 to 40 horsepower tractor. Disks narrower than 6 feet may not be heavy enough to cut through thick sod. Disks wider than 8 feet may be difficult to



transport, especially along narrow farm lanes and woodland trails.

maintenance of existing stands and/or establishment of pollinator habitat.

SPECIES	RATES/ACRE	SEEDING DATES
Ladino Clover	2 - 3 lbs	March-June OR August -September
White Dutch Clover	2 - 3 lbs	March-June OR August -September
Red Clover	6 - 8 lbs	March-June OR August -September
Hairy Vetch	5 - 10 lbs	March-June OR August -September
Flat Pea	5 - 10 lbs	March-June OR August -September
Bicolor Shrub Lespedeza	0.25 - 0.5 lbs	March-June
Birdsfoot Trefoil	4 - 5 lbs	March-June OR August -September
Grain Sorghum	5 - 8 lbs	May -June

Table 1. Species that are suitable for seeding into strip disked areas. Other species or combinations of those listed above may be suitable depending upon the objectives and fertility of the area. The rates listed above are based on a broadcast method and may be adjusted on a site specific basis. Those species listed in gray are beneficial to pollinators. For pollinator habitat refer to the species listed in the West Virginia Pollinator Handbook.

Disking should occur on a regular schedule and should be implemented in phases disturbing only 30-50% of an entire stand at any given time.

Inter-seeding of non-native, non invasive species beneficial to pollinators is acceptable. However, this alone is usually not sufficient to establish the required diversity in pollinator enhancements. Additional planting or other complimentary practices are generally required to create pollinator enhancements and ensure that flowering forbs are present throughout each bloom period.

Operation and Maintenance

This practice or components of this practice may require periodic inspection and maintenance.

To maintain the diversity and various stages of succession of diskings, it may require the periodic application of lime and/or fertilizer. This should be performed according to recommendations based on a periodic soil test. Nutrients, if required, should be applied outside the primary ground nesting season (March 15 – July 15).

The rotation should be maintained and evaluated to determine the effectiveness of providing the desired habitat component(s) and stages of plant succession.

Pollinators

Used alone or in combination with other techniques, mechanical methods can successfully manipulate vegetative succession to maintain pollinator habitat or create and maintain cover for various wildlife species.

This practice may be utilized as a maintenance practice for retaining pollinator or terrestrial wildlife habitat or where it is feasible, to establish habitat through inter-seeding.

Strip disking should be used to revitalize rank stands and improve vegetative structure and density. Refer to the West Virginia Pollinator Handbook for information regarding the



Specifications

Early Successional Habitat Management/Development – WV Job Sheet

Site-specific requirements are listed on the following pages of this job sheet. Specifications are prepared in accordance with the WV NRCS Field Office Technical Guide.

Client:	Farm #:
Field(s):	Tract #:
Designed By:	Date:
Targeted Wildlife Specie(s):	

Purpose (check all that apply)	
<input type="checkbox"/> Create habitat for grassland and ground nesting songbirds	<input type="checkbox"/> Create brood rearing and foraging habitat for rabbits, turkey, pheasants or other species
<input type="checkbox"/> Create habitat for bobwhite quail	<input type="checkbox"/> Component of a wildlife management plan developed using the (645) Upland Wildlife Habitat Management standard
<input type="checkbox"/> Create or maintain habitat for native pollinators	

Does this strip disking management scheme involve strip mowing practices as part of the management?	<input type="checkbox"/> YES <input type="checkbox"/> NO	If YES , refer to the Cool Season Grassland Management for Wildlife Job Sheet and corresponding harvest schedule for additional information.
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Layout			
Total acreage of strip disking to be created: _____ ac	Total number of areas to be created: _____		
Pre-Treatment Requirements: List the existing cover and average slope within the field or portion of the field to be managed. List the dates or timeframes of any pre-treatment(s) necessary under the appropriate heading.			
	Field _____	Field _____	Field _____
Average % Slope			
Existing Cover			
Herbicide Application Required ¹			
Flash Grazing Required			
Haying/Mowing Required			
Plowing Required			
Other (specify)			

¹ Note: Any herbicide application must be applied in accordance with the label directions and appropriate precautions. Contact the local WVU County Extension Service office for herbicide recommendations.



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If needed, an aerial view, map or a sketch of the practice can be shown below. Other relevant information, complementary practices and measures, and additional specifications may be included.

Additional Specifications and Notes: (i.e. herbicide application, operation and maintenance specifics, etc.)

Questions regarding the operation, harvest schedule or establishment of this practice should be directed to:

_____ at _____

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