

Cooperators:

Delta Wildlife, Inc.

Forest and Wildlife Research Center, Mississippi State University

Mississippi Department of Wildlife, Fisheries and Parks

Mississippi Fish and Wildlife Foundation

Mississippi Forestry Commission

U.S. Fish and Wildlife Service

USDA, Natural Resources Conservation Service

USDA, Farm Service Agency

conservation reserve
*Conservation
Reserve Program
mid-contract
management*



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**Practices for
Wildlife Habitat Improvement
in Mississippi**

conservation reserve program

mid-contract management

In Mississippi, nearly 1-million acres are enrolled in the Conservation Reserve Program (CRP). However, not all CRP provides good wildlife habitat. Active management of CRP ground cover is essential to produce quality wildlife habitat. Plant communities on CRP fields are not static, but change over time through natural succession. For example, grass stands that have been idle for long periods are susceptible to woody invasion and are characterized by heavy litter accumulation, high stem densities at the ground level, and little bare ground and plant diversity.



Invasive plant species such as kudzu and cogon grass reduce the quality of all CRP covers.



The USDA cost-shares a number of mid-contract management practices that producers may utilize to improve wildlife benefits and plant diversity in established CRP conservation covers.

As pine stands age and the canopy closes, herbaceous ground cover and wildlife forage quality declines. Dense, closed-canopy pine forests in the 10-20 year age range generally provide poor wildlife habitat. High pine stem densities and excessive hardwood midstory competition hinders timber growth and yield. Invasive plant species such as kudzu and cogon grass reduce the quality of all CRP covers. Provision of wildlife habitat is one of the primary objectives of the CRP, and mid-contract management practices can help to ensure that lands enrolled in the CRP provide quality habitat for a diversity of wildlife species.

mid-contract management

conservation reserve program

grassland management practices

In the Southeast, plant succession (transition from one community to another, such as annual- to perennial-dominated plant communities) progresses rapidly. Periodic soil disturbance with light disking or prescribed fire is essential to maintain good grassland wildlife habitat. However, not all disturbance practices are equal. For example, although mowing or clipping is the most common management practice used on CRP, it can actually be detrimental from a wildlife habitat standpoint. Mowing reduces cover height, accelerates grass succession, and creates a dense litter layer. Mowing should only be used to control brush or for road maintenance.

In contrast, the annual weed communities produced by periodic soil disturbance provide essential resources for quail and other early successional species of wildlife. Annual weed communities are characterized by grasses and forbs (especially legumes) that occur following some form of soil disturbance. Some examples of annual plants include ragweed, partridge pea, and panic grasses. These annual plants produce an abundance of seeds used by many birds and mammals. Annual plant communities also support diverse insect communities that provide critical nutrients for nesting birds and growing chicks.



Grass-bound CP10 field dominated by perennial grass. Prescribed fire or light disking would improve the plant community for a number of grassland wildlife species.



Annual mowing eliminates potential winter cover and nesting cover for the following season. Additionally mowing produces a dense litter layer that impedes movement of ground-foraging wildlife such as bobwhite quail.

grassland management

conservation reserve program

grassland management practices



Annual plants such as partridge pea produce an abundance of seeds used by birds and mammals.

However, annual weed communities are short-lived (lasting only one to two growing seasons). In the absence of further disturbance, plant community composition changes to perennial forbs and grasses, and eventually woody plants. Planned soil disturbances on CRP fields are required to maintain a diverse plant community in a managed landscape.



CP10 field during summer following a prescribed burn in March. Note the abundant annual weed growth stimulated by the fire.

In Mississippi, USDA mid-contract management cost-shares are available to manage established grass/forb CRP conservation covers. The following mid-contract management practices may be cost-shared: prescribed fire; light strip-disking; interseeding legumes in introduced grass stands; and herbicidal control of invasive vegetation. Cost-shares of 50% of the actual cost of applying the management practice, not to exceed certain limits, may be available for all of these practices. Check with your county Farm Service Agency office to find out current maximum cost-share amounts. Proper planning is important to achieve your conservation goals. Multiple grassland habitat management practices can be utilized together to accomplish specific objectives and achieve greater conservation benefits.

cost-shared mid-contract management practices

prescribed fire

light strip-disking

interseeding legumes in introduced grass stands

herbicidal control of invasive vegetation

grassland management

conservation reserve program

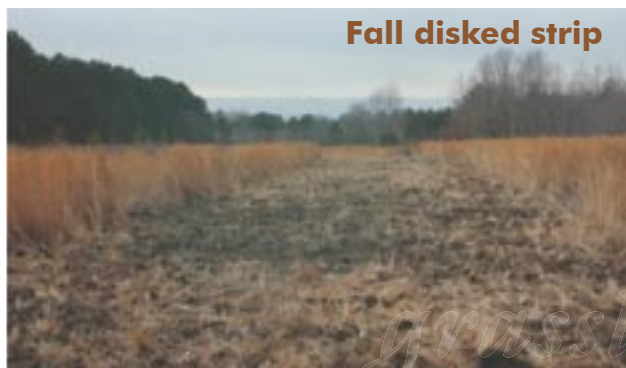
grassland management practices

Prescribed fire

Prescribed fire (or light disking if prescribed fire cannot be used), should be applied every 2-4 years on half to one-third of fields or annually in a rotational strip pattern. Prescribed fire cost-shared through USDA must be conducted in accordance with Natural Resources Conservation Service or Mississippi Forestry Commission practice standards. Currently, the average cost of prescribed fire is about \$20 per acre.

Light strip-disking

To remain in compliance with the soil conservation objectives of the CRP, disking is limited to one-third of the field per year and should be done in a strip fashion on the contour. Light disking should create 50-75% bare ground and leave at least 25% residue. Light disking can be done in either fall or spring. Fall disking tends to stimulate hard-seeded species, including ragweed, partridge pea, and lespedeza. Spring disking tends to stimulate annual grasses. Currently, the average cost of strip disking is about \$18 per acre.



Fall disked strip

Selective herbicide

Over time, invasive vegetation can encroach into grass CRP fields. Invasive exotic vegetation (such as kudzu and cogon grass) and woody brush (such as sweetgum) will require herbicidal treatment for long-term control. Control will be more economical and effective if invasive species are treated when they first show up. Cost-shares for herbicide treatments cannot exceed \$50 per acre.

Interseeding legumes

In stands of introduced grasses, interseeding white clover can enhance the stand for some species of wildlife. Clover provides quality forage for wildlife such as deer and rabbits. During spring and summer, clover stands may also provide insect rich foraging areas for birds. Clover should be interseeded into established stands of introduced grasses in a strip fashion on one-third to one-quarter of the acreage. Cost-shares for interseeding perennial legumes cannot exceed \$50 per acre.



Summer growing season

conservation reserve program

woodland management practices

Thinning dense pine woods is an excellent way to create pine grassland habitat while improving the economic value of the timber. Unthinned, mid-rotation (10-20 years of age) pine plantations are characterized by dense, closed canopies, little to no grass/forb cover, and substantial accumulation of needles and other debris. Timber and wildlife habitat quality may also be improved in hardwood stands by thinning (as allowed by CRP contract).

Thinning woodland stands opens the forest canopy and allows sunlight to reach the forest floor, stimulating development of a grass/forb ground cover and enhancing wildlife habitat value of the stand. Thinning prescriptions should be based on landowner objectives. Heavier thinning is better for grassland wildlife (such as quail) habitat, but the first thinning of CRP pines must leave at least 200 trees per acre. A registered forester can assist you with developing a forest management plan and marketing merchantable timber. Timber thinning cannot be cost-shared, but thinning merchantable timber will usually produce some revenue while improving the structure and growth of the remaining timber stand. During the year of thinning, annual CRP rental payments will not be paid on thinned CRP acres.



Unthinned CP11 pine plantation with little herbaceous ground cover provides poor wildlife habitat. These stands should be thinned when trees are merchantable.



CP11 pine plantation following fifth row thin, with thinning between the rows. Opening the canopy allows sunlight to reach the forest floor, stimulating herbaceous ground cover growth.

woodland management

conservation reserve program

woodland management practices



Hardwood brush encroachment in a pine plantation. Grassland habitat in these stands can be restored with application of selective herbicide followed by prescribed fire.

cost-shared mid-contract management practices

prescribed fire or light disking in pine stands

light disking in forest openings

herbicidal control of invasive woody vegetation in pine stands

herbicidal control of invasive exotic vegetation in pine and hardwood stands

Many CRP pine contracts in Mississippi were developed to convert 10-20% of pine stands to forest openings. These openings may also be managed by prescribed fire or strip disking and herbicidal treatment as necessary.

In Mississippi, USDA mid-contract management cost-shares are available to manage established woodland CRP conservation covers. The following mid-contract management practices may be cost-shared: prescribed fire or light disking in pine stands; light disking in forest openings; herbicidal control of invasive woody vegetation in pine stands; and herbicidal control of invasive, exotic vegetation in pine and hardwood stands. Cost-shares of 50% of the actual cost of applying the management practice, not to exceed certain limits, may be available for all of these practices. Check with your county Farm Service Agency office to find out current maximum cost-share amounts.

Proper planning is important to achieve your conservation goals. As with grassland habitat management practices, multiple woodland habitat management practices can be utilized together to accomplish specific objectives and achieve greater conservation benefits.

woodland management

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woodland management practices

Prescribed fire

Prescribed fire (or light disking along thinned rows if prescribed fire cannot be used), along with thinning, is essential to maintain grassland plant communities within pine woodlands. Pine stands may be managed with prescribed fire every 2-4 years. Prescribed fire cost-shared through USDA must be conducted in accordance with Natural Resources Conservation Service or Mississippi Forestry Commission practice standards. Currently, the average cost of prescribed fire is about \$20/acre.

Selective herbicide

If hardwood species are abundant in the understory or midstory of pine stands after thinning, treat these stands with the selective herbicide imazapyr. The combination of

selective herbicide and fire is often called Quality Vegetation Management. Both pine and hardwood stands are eligible for treatment with selective herbicides to control invasive, exotic vegetation such as privet or kudzu. Herbicide treatments cannot exceed \$50 per acre per year.

Light strip-disking

Light strip-disking is limited to one-third of forest openings or one-third of rows between mid-rotation aged pines per year. Woodland strip-disking is not as efficient as prescribed fire, but can be an effective tool for early successional habitat management where prescribed fire is not an option. Take care not to disk too deeply, which could injure tree roots, or otherwise damage trees with equipment. Currently, the average cost of disking is about \$18/acre.



CP11 pine plantation following thinning, burning, and selective herbicide.



Light strip-disking along a thinned pine plantation row.

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mid-contract management

Technical Assistance

Landowners can apply for mid-contract management practices at any time. However, it is important to note that these mid-contract management practices must be incorporated into your conservation reserve program contract and management plan. Contract holders must modify their Conservation Plan of Operation (CPO) to reflect the timing, frequency, and extent of approved mid-contract management practices. This requires visiting your county USDA Service Center, describing to the Farm Service Agency (FSA) personnel the suite of management practices you wish to apply, and developing a prescription and schedule of activities. This prescription and schedule will be incorporated into your contract CPO. The FSA personnel will involve the Natural Resources Conservation Service district conservationist and/or Mississippi Forestry Commission forester to provide technical guidance in developing an approved CPO. Prescribed burning should be conducted by or under the supervision of a certified prescribed burn manager. Light strip-disking and prescribed fire should be limited to October-February to produce desirable annual weeds and grasses. No management activities can be applied during the primary nesting period of April 1-August 15. Total cost-share payments for mid-contract management may not exceed \$50 per acre per year or \$100 per acre for the entire 10-year CRP contract

period. For contracts that exceed 10 years, the cumulative limit is \$125 per acre.

A written wildlife habitat management plan can greatly improve your chances of achieving your wildlife management objectives. A wildlife biologist can provide valuable assistance with planning and implementing these practices for wildlife habitat. Contact the FSA office at your county USDA Service Center for more information about mid-contract management practices for established CRP conservation covers. Contact information for your local FSA field office can be found at www.fsa.usda.gov or by contacting the state office at 601.965.4300.



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The following agencies are available to provide wildlife and forest management planning or technical assistance:

Natural Resources Conservation Service

Area 1 (Northeast Mississippi)

Wildlife Biologist

John DeFazio, 662.534.7651

Forester

Lynn Ellison, 662.844.2341

Area 2 (Central Mississippi)

Wildlife Biologist

Jeffrey Lee, 601.965.4559

Forester

Ramsey Russell, 601.965.4559

Area 3 (South Mississippi)

Wildlife Biologist

Barry Pessoney, 601.296.1173

Area 4 (Delta)

Wildlife Biologist

Kevin Nelms, 662.453.7841

State office

State Wildlife Biologist

Glynda Clardy, 601.965.4339

Forester

Alan Holditch, 601.965.4339

Mississippi Forestry Commission

Visit www.mfc.state.ms.us/ or contact the state office at 601.359.1386 to obtain contact information for your county Mississippi Forestry Commission office.

Mississippi Department of Wildlife, Fisheries and Parks

Dave Godwin, 662.325.5119

Mississippi Fish and Wildlife Foundation

Daniel Coggin, 662.256.4486

Randy Browning, 601.296.1173

Delta Wildlife, Inc.

Trey Cooke, 662.686.3372

Mississippi State University, Forest and Wildlife Research Center

Wes Burger, 662.325.8782

Rick Hamrick, 662.325.5470

A complete list of eligible technical assistance providers can be found at techreg.usda.gov

Photographs courtesy of:

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USDA Natural Resources Conservation Service

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