

Making Federal Farm Programs Work for You

by Wes and Leslie Burger

As a society, and as individuals, we think of sustainable wildlife populations as an integral component of a healthy environment. We value our encounters with wildlife of all kinds. Whether the sound of rushing wings in a covey rise, the twitter of songbirds about a backyard feeder, or frogs croaking from quiet backwater, all have intrinsic value that is worth protecting. However, as urban areas expand and production demands increase, remaining rural areas face additional pressure to meet commodity, financial, environmental, and recreational demands. Increasingly, the future viability of the environment in the U.S. is inextricably linked to land use decisions by private landowners. A recent study of motivations of non-industrial forest landowners in the Southeast reported that nature/aesthetics, family, and recreational opportunities were among the primary values of ownership. Economic returns, although important, ranked number 6 behind these more intangible values. Yet only 3% of landowners had a written management plan that prescribed how they intended to achieve their conservation objectives.

Conservation planning is becoming more complex as producers, land owners, government agencies, industry, and conservationists work to implement cost-effective production systems that meet landowner and world demands, compete in global markets, and yet maintain the integrity of natural ecosystems. This process is further complicated by the realization that the health of local wildlife populations and ecosystems is not only influenced by local environmental conditions, but also by conditions of the landscape at larger scales (such as watershed or regional levels).

In recognition of these complex and seemingly competing factors, the Natural Resources Conservation Service's (NRCS) Watershed Science and Wildlife Habitat Management Institutes recently published ***Conservation Corridor Planning at the Landscape Level: Managing for Wildlife Habitat, Part 190*** National Biological Handbook (<http://www.wsi.nrcs.usda.gov/products/tools.html>).

The NRCS, an agency within the United States Department of Agriculture (USDA), provides assistance to private landowners who voluntarily participate in federal conservation programs. The Corridor Manual gives an overview of the principles of landscape ecology and shows how these principles can be applied to planning at watershed and larger scales.

Ultimately, the success of area-wide conservation planning is a function of the success of conservation planning and implementation at the farm or property level. However, many landowners do not have a clear vision of their land management objectives or the practices and financial means by which they will achieve these objectives. Federal farmbill conservation programs are an important vehicle for accomplishing conservation on private lands. Numerous studies have shown that lands enrolled in federal conservation programs, such as those administered by the USDA, can provide wildlife habitat and contribute to the stability or enhancement of some wildlife populations.



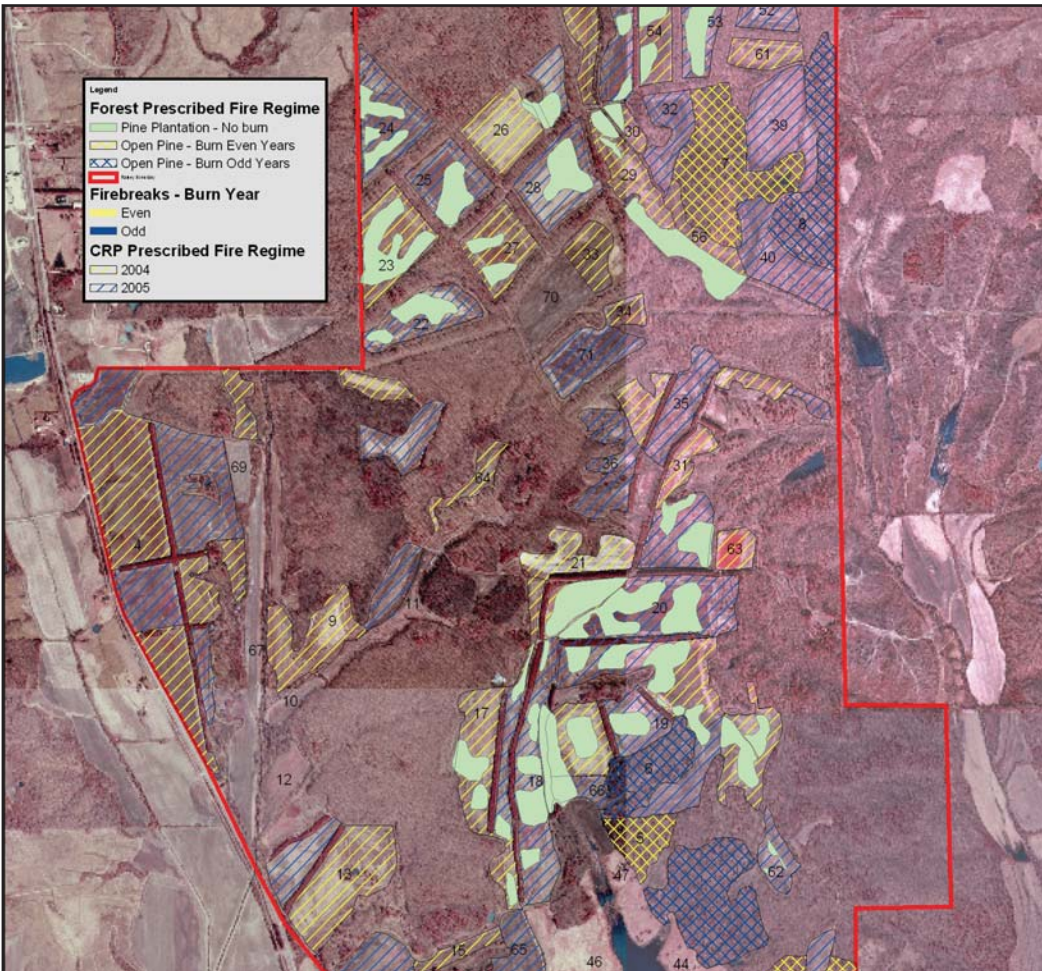
Annual mowing of grass CRP fields eliminates winter roosting cover and early season nesting cover and creates dense duff layer. Provides poor habitat for bobwhite.



Unmanaged grass CRP fields develop dense stands of grass with deep litter accumulation and little bare ground. Provides poor habitat for bobwhite.

However, despite the potential conservation benefits of programs such as the Conservation Reserve Program (CRP), millions of acres of CRP provide relatively poor wildlife habitat. This is often because the landowner did not have a vision of the wildlife habitat objectives they intended to accomplish with their program enrollment. Proverbs 29:18 says “Where there is no vision, the people perish.” The same could be said of wildlife populations. Producing wildlife habitat through federal conservation programs requires a vision of desired outcomes.

The value of conservation program lands as wildlife habitat will vary with target animal species, the size and shape of the enrolled parcels, the cover crop selected, the land management regime employed, and the surrounding landscape. For example, in the Southeast



Management plan map illustrating prescribed fire regime on CRP grasslands and thinned mature pine stands. CRP prescribed fire cost-shared with CRP mid-contract management practices, mature pine prescribed fire cost-shared with WHIP.

today more than 980 thousand acres are enrolled in mid-rotation CRP pines (CP11). Many of these stands provide relatively poor wildlife habitat because they are densely stocked, closed canopy pine stands with dense accumulation of litter and no herbaceous ground cover. In short, they are unmanaged. Studies of CRP pine plantations in the Southeast have shown that active management, including thinning, selective herbicide, and prescribed burning, increases ground cover of grasses, forbs, and legumes, biomass of preferred deer forage, nutritional quality, and abundance and diversity of bird species, particularly regionally declin-

ing early successional species. In the Southeast, another 769 thousand acres are enrolled in CRP as either exotic forage grasses or existing grass (CP1 or CP10), much of which is fescue or Bermuda. Exotic forage grasses provide relatively poor habitat quality for grassland birds and lack of management results in dense grass-bound fields. Studies of CRP grasslands in Kentucky, Mississippi, and Missouri, have shown that eradication of exotic forage grasses and conversion to native grasses substantially enhances habitat quality for bobwhite. In the Southeast, even those CRP fields that are not planted to pine trees or forage grasses are seldom intentionally managed. This limits their wildlife habitat value. Studies in Kentucky, Mississippi, and Missouri have shown that on CRP fields without fescue or Bermuda grass, disking and prescribed fire improve wildlife habitat quality by reducing litter accumulation and increasing bare ground, abundance of legumes and seed-producing annuals, and insects. The point is, that simply enrolling land in a conservation program and establishing the prescribed cover does not equate to wildlife habitat. Careful selection of both a cover crop and management regime determine the quality of the wildlife habitat produced. Wildlife habitat does not happen by accident.

These landowners did not intentionally set out to create poor wildlife habitat, they just signed up for a program without much thought as to how it might affect their wildlife management objectives. For many private landholdings, the management practices employed on their property are driven by the requirements of the specific conservation program in which the landowner enrolled. These practices may or may not meet the producers stated or unstated objectives for the property; they are simply required by the program in which he has elected to enroll.

Objective-driven Planning Process

The USDA-NRCS National Planning Procedures Handbook (NPPH) and the Corridor Manual provide an alternative to this approach. This objective-driven approach is illustrated in a new planning product from the NRCS Wildlife Habitat



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Management Institute, called “Creating Early Successional Wildlife Habitat Through Federal Farm Programs” (<http://www.whmi.nrcs.usda.gov/technical/fieldborder.html>) . Under this objective-driven approach,



Strip disking renovates dense sod-bound grassfields, creates bare ground, can stimulate germination of important annual weeds and legumes. Strip-disking is a cost-shared mid-contract management practice on CRP fields.

landowner objectives drive management practices, and management practices lead to conservation program selection, instead of program requirements driving management practices. In this scenario, the landowner’s objectives for the property are clearly defined, the desired state of the landscape is visualized, the management practices required to produce this landscape are identified, and then the conservation programs under which these practices can be implemented are selected. Often, the necessary management practices can be accomplished under more than one government program, and in many cases, conservation practices from multiple programs are required to meet landowner objectives. Additionally, various programs differ in their eligibility requirements, cost share, incentive payments, or duration. This approach allows selection of programs that optimize both wildlife and economic objectives.

Clearly, this scenario is more involved than simply signing up for an appropriate conservation program and planting the required cover crop. However, this method has the additional benefits of providing quality wildlife habitat, improving overall local environmental quality, maximizing financial incentives as well as maintaining adequate commodity production.

The NPPH and the Corridor Handbook thoroughly describe a 9-step planning process (see side bar) that assists landowners in implementing objective-driven, rather than program-driven, management on their property. A brief summary of this process will be introduced here.

The process begins with meetings between the landowner and a natural resource professional to identify and document the resource problems and opportunities of the property under consideration (Step 1). If federal farm programs are involved the NRCS District Conservationist will be an essential resource professional. However, if wildlife is a landowner objective, a competent wildlife biologist should be involved early in the process. Additionally, in the Southeast, most wildlife management involves forested lands, therefore, a competent registered forester should provide input. The resource professionals help the landowner to identify their objectives. These objectives, including production and conservation concerns, are clearly outlined and recorded (Step 2). The next steps require gathering all necessary

NRCS Planning Process

Pre-planning

- Identify conditions that triggered the planning process
- Collect materials and information needed for planning process

Phase 1. Collection and analysis at the conservation planning scale

- Step 1. Identify problems and opportunities
- Step 2. Determine objectives
- Step 3. Inventory resources
- Step 4. Analyze resources

Phase 2. Decision support at the conservation planning scale

- Step 5. Formulate alternatives
- Step 6. Evaluate alternatives
- Step 7. Make decisions

Phase 3. Application at the conservation planning scale

- Step 8. Implement the plan
- Step 9. Evaluate the plan

information (Step 3) and analyzing the current, baseline conditions of the area with respect to landowner objectives (Step 4). This process will include identifying the presence or distribution of wildlife species of interest, mapping existing plant communities and land use types, and inventorying those resources specifically related to the landowner's goals. Aerial imagery and Geographic Information Systems (GIS) are indispensable tools for this step. It is important at this stage that the resource professional have a good understanding of the basic habitat requirements of the focal species. To be effective, District Conservationists need an understanding of basic wildlife biology and wildlife biologists need an understanding of federal farm programs. Landowners may need to put together a team of resource professionals that bring the desired set of skills to the planning table. This baseline information is then used to make comparisons between existing conditions and potential future opportunities that might be accomplished through management (Step 5). These comparisons allow for formulating various alternative management regimes

that address the landowner's objectives (Step 6). The alternative management scenarios are evaluated individually to determine their ability to solve resource problems, meet the landowner's objectives, and provide financial compensation and incentive. Finally, a conservation management system is finally selected (Step 7), and the landowner should have adequate information and understanding to implement, operate and maintain the planned conservation system (Step 8). Periodic evaluations of the success of the plan, including ecological, economic, and social values, will need to be performed, and, if necessary, adaptations made to the plan.

Case Study

Perhaps the best way to illustrate the methodology of this planning process is through an example from actual experience. The authors worked with a landowner who acquired a 3100 acre property in north Mississippi. The property had historically been managed for bobwhite and up until the mid

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nineties carried good bird densities, supporting as many as 140 coveys (1 bird/1.8 acres) in some years. During the late nineties, the property traded hands and during the transition the management program was in flux. As they say, natural succession happens, and in the absence of a regular disturbance regime, things grew up and quail populations declined to less than 1/3 of their previous levels. About 3 years into their ownership, the new owners decided they needed a plan to follow to ensure that their bobwhite population objectives were achieved. They engaged a professional wildlife biologist to develop this plan and help identify financial assistance programs to carry out the plan. The property was approximately 1/3 CP10 grass CRP, 1/3 second-growth hardwoods, and 1/3 open pine, mixed pine hardwood, and pine plantings. The 1000 acres of grass CRP was predominantly broomsedge, with very little fescue or Bermuda, however, the fields were annually clear-mowed and as such provided little bird habitat. The hardwoods had been high-graded and fire damaged. About 220 acres of

mature pine had been thinned and regularly burned, but in recent years an irregular fire regime had allowed understory hardwoods to creep in. About 245 acres of mature pines had a substantial midstory and understory hardwood problem. About 50 acres of 25-yr old pine corridors badly needed to be thinned. The landowners purchased the property explicitly for quail hunting and did not mind investing additional resources in habitat management, however, they were interested in any cost-share or incentive programs that might be available.

Analysis

This was a perfect example of land enrolled in a conservation program producing very little wildlife habitat value. The quickest and easiest habitat improvement was to shift the CRP CP10 fields from an annual mowing regime to a strip-disking and prescribed fire regime. The annual mowing eliminated standing residual cover essential during winter and early breeding season. Additionally, annual mowing shifts the plant com-



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munity to a grass-dominated stand with thick thatch. The strip-disking would maintain approximately 1/3 of each field in an annual weed community providing brood habitat and winter food resources. The prescribed fire would manage litter accumulation and maintain the broomsedge at an appropriate density for nesting cover. Both diskings and fire would manage succession. In Mississippi, strip-disking and prescribed fire are cost-shared mid-contract management practices on CRP (\$9/ac and \$10/ac, respectively). After modifying the CRP Conservation Plan of Operation (CPO), the landowners were eligible for approximately \$1000/year for strip-disking and \$3500/yr for prescribed fire. As a result of the long-term mowing, sweet-gum thickets had become a problem in some of these CRP fields. The mowing was in part to control woody invasion, but had the effect of simply top-killing the trees, leaving a living below-ground root-mass that would resprout with a vengeance. Long-term control of the trees required an initial herbicide treatment. With a second modification to the CPO, the owners received \$50/ac for selective herbicide (Imazapyr) control of invasive woody species. The thinned, mature pines were not enrolled in CRP, so they were not eligible for this cost-share. However, in Mississippi prescribed fire and selective herbicide are eligible practices under both the Wildlife Habitat Incentive Program and the Forest Land Enhancement Program. Separate contracts (on different stands) under WHIP and FLEP provided about \$5000 each to apply selective herbicide to control the hardwoods and implement a 2-year prescribed fire rotation. A substantial thin, followed by herbicide and fire was planned for 50 acres of pine corridors. The thinning would open the canopy, allowing sunlight to hit the forest floor. This would stimulate herbaceous ground cover. The one-time herbicide application was planned to control the sweetgum which would also respond to the sunlight availability. The prescribed fire would maintain the desired herbaceous ground cover. The herbicide and fire would be cost-shared under WHIP. The net result of thoughtful implementation of prescribed management practices was a dramatic improvement in wildlife habitat quality across the property. The landowners were able to achieve their wildlife habitat objectives and use federal farm conservation programs

to ease the financial burden.

In a recent USDA News release, the Secretary of Agriculture touted the conservation achievements of federal conservation programs. These programs have certainly provided substantive environmental benefits. However, it does not happen by accident. Careful planning, using an objective-driven approach, followed by thoughtful and selective enrollment in these programs can help to accomplish landowner wildlife objectives and provide economic assistance as well. Programmatic enrollment should involve development of a conservation plan of operation that maintains the desired wildlife habitat over the life of the contract. As illustrated in this case study, involvement of a wildlife biologist who is knowledgeable about federal farm programs will increase both wildlife habitat value and economic returns from federal farm program participation. For additional information on the objective-driven planning process and 3 more case studies see "Creating Early Successional Wildlife Habitat Through Federal Farm Programs" (<http://www.whmi.nrcs.usda.gov/technical/fieldborder.html>).

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