

Regional Wildlife Habitat Needs Assessment for the 2007 Farm Bill

A Summary of Successes and Needs of Farm Bill Conservation Programs



*Presented by the Wildlife Management Institute
April 2006*

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Federal Conservation Program Acronyms

CREP—Conservation Reserve Enhancement Program

CRP—Conservation Reserve Program

FLP—Forest Legacy Program

FRPP—Farm and Ranchland Protection Program

GRP—Grasslands Reserve Program

WHIP—Wildlife Habitat Incentives Program

WRP—Wetlands Reserve Program

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Introduction

Farm Bill conservation programs deliver much-needed federal funds to private landowners seeking or willing to improve wildlife habitat. Through the Farm Bill programs, private stewards of forests, wetlands, grasslands, croplands and rangelands have multiple opportunities to protect, restore and enhance wildlife values while enhancing the value of their properties. Improving wildlife habitat imparts a tremendous sense of satisfaction to conservation-minded landowners. Wildlife conservation also imparts a significant economic benefit to state economies and rural communities through wildlife-dependent recreation.

The goal of this publication is to assist agricultural policy makers by means of an assessment of regional wildlife goals and habitat needs for the 2007 Farm Bill. This booklet goes beyond the first and second editions of *How Much Is Enough?* These editions preceded the 1996 and the 2002 Farm Bill authorizations. Wildlife population goals and habitat needs contained within *Regional Wildlife Habitat Needs Assessment for the 2007 Farm Bill* are based mainly on published, pertinent, national, regional and state planning efforts.

In addition, all state fish and wildlife agencies have recently completed comprehensive wildlife conservation strategies. These strategies—called Wildlife Action Plans—prioritize habitat needs, assess threats and prescribe appropriate conservation actions. In this publication, state Wildlife Action Plans have been used to help define the Species of Greatest Conservation Need likely to be found on Farm Bill-affected habitats. Appropriate conservation actions to meet habitat needs also were guided by Wildlife Action Plans.

Most recommendations in this publication are tied directly to the published assessments. Some recommendations simply are based on widespread desire to see continued improvement in resource conditions. Others are the result of species population and habitat modeling. Because of the great diversity of habitats nationwide, assessments and recommendations have been broken into four regional summaries: West, Southeast, Midwest and Northeast.

Farm Bill conservation programs have a direct link to the restoration and enhancement of fish and wildlife habitats across much of the nation. Wildlife populations, private landowners and the American public all will continue to benefit if resources are available to maximize results.

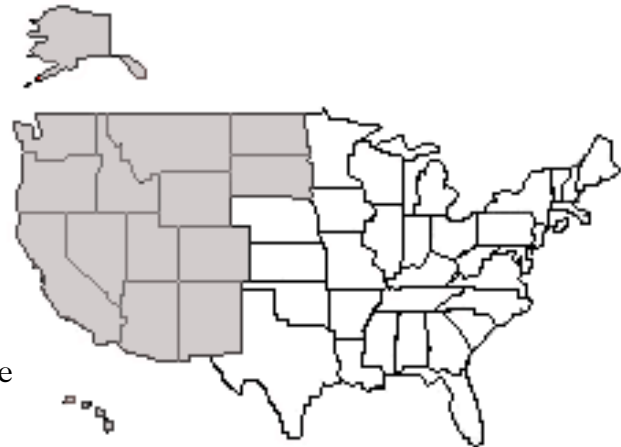
This report was prepared by the Wildlife Management Institute in cooperation with the Association of Fish and Wildlife Agencies. Accomplishments since the last Farm Bill were obtained from U.S. Department of Agriculture, Natural Resources Conservation Service and from the U.S. Farm Service Agency's performance and accomplishment reports.

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Agricultural Wildlife Habitat Needs in the West

Western Landscape

Agriculture has been a dominant force in shaping the landscape of the West. Acreage suitable for nonirrigated cultivation has been converted to cropland for production of wheat, corn and soybeans. Irrigation has transformed semi-arid and arid lands into orchards, vineyards, hay land and fields of specialty crops. Where cultivation is not feasible, livestock grazing is the dominant agricultural use. Wetlands and riparian areas are very important to wildlife in the West. As an example, wetlands and riparian areas comprise less than 2 percent of the surface area in Wyoming, Nevada and Montana, yet more than 80 percent of the wildlife species in those states depend on these systems.



Western states: AK, AZ, CA, CO, HA, ID, MT, ND, NM, NV, OR, SD, UT, WA, WY

Stressed Habitats

Habitat conversion to agricultural land has occurred in the highly productive regions of the West. More than half of the 70 million acres of western cropland and pastures are irrigated. Negative consequences of intensive cultivation of western lands include overgrazing, water diversion, degradation of water quality for both human and wildlife use, and loss of riparian habitats and corridors. Livestock grazing has altered sagebrush habitats; the effects of overgrazing combined with drought on plant communities in the late 1880s and early 1900s still influence current habitats. Energy development also has modified landscapes by construction of wells, access roads, power lines, pipelines and associated housing. Also, urban areas, roads, railroads and power lines have fragmented habitats, have facilitated predator movements and have provided corridors for the spread of exotic species.

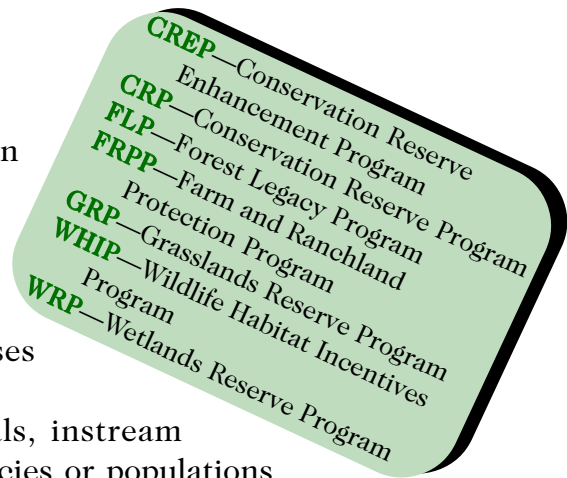
- ◆ The five states in the United States with the largest increase in human populations (during 1990 to 2000) were in the West. For example, in California, 50,000 acres of farmland are lost to urban development each year.
- ◆ The Palouse grasslands of the Pacific Northwest are some of the most endangered ecosystems in the United States. Only 1 percent of the original habitat remains in highly fragmented patches that mostly are smaller than 10 acres.
- ◆ In general, grassland habitats in the Intermountain West have declined dramatically from historic levels, primarily from their conversion to croplands. Remaining grasslands at lower elevations have been heavily impacted by invasive exotic species, such as cheatgrass.

- ◆ Washington has lost more than half of its highest-priority functioning habitats, including an estimated 70 percent of estuarine wetlands, 50 to 90 percent of riparian habitat, 90 percent of old-growth forest, 70 percent of arid grasslands and more than 50 percent of shrubsteppe. It is estimated that functional habitat for wildlife continues to be altered at a rate of 30,000 to 80,000 acres per year, not counting impacts due to forest practices or hydroelectric projects.
- ◆ Livestock grazing and real estate development destabilize streambanks, alter or remove natural plant communities, and decrease water quality and quantity, adversely influencing distribution and quality of habitat for numerous species of fish and wildlife.

Impacts on Wildlife

Energy development, urban and exurban expansion, improper management of livestock grazing, and conversion to cropland are key drivers in the loss of western wildlife habitats.

- ◆ At least 55 percent of California's threatened and endangered species uses wetlands.
- ◆ Due to pollution, irrigation withdrawals, instream passage barriers and overfishing, 36 species or populations of salmonid fishes receive protection under the Endangered Species Act.
- ◆ Greater sage-grouse once occupied extensive parts of 12 western states but have undergone long-term population declines due to extensive alteration and loss of habitats.
- ◆ Each year from 1996 to 2002, more than 600 miles of fence were constructed on public lands, restricting access and movement by humans, wildlife and livestock, and resulting in a new, unknown mosaic of landscape disturbance and use.
- ◆ Wildlife Action Plans from Montana and New Mexico have identified:
 - ◆ 83 species that are dependent on forest habitats as Species of Greatest Conservation Need
 - ◆ 52 species that are dependent on grassland habitats as Species of Greatest Conservation Need
 - ◆ 5 species that are dependent on shrubland habitats as Species of Greatest Conservation Need
 - ◆ 48 species that inhabit wetland or riparian habitats as Species of Greatest Conservation Need.



Impacts on Economy and Recreation

Each year, Americans spend tens of millions of dollars on nonconsumptive recreational wildlife activities, hunting and fishing. A large percentage of these funds

directly benefits rural communities. Farm Bill programs provide farmers and ranchers with additional sources of stable income, promote soil and water conservation, and provide substantial benefits for preservation and improvements of fish and wildlife habitats. In addition to the economic benefits realized by those who participate in Farm Bill conservation programs, the American public profits from the wildlife and environmental gains brought by these programs.

- ◆ In 2001, anglers spent over \$6 billion and hunters nearly \$2.8 billion on fishing and hunting in the West. Wildlife-watching participants spent almost \$8 billion.
- ◆ If salmon and steelhead runs were restored to levels recorded in the 1950s in Idaho, the sport fishery for these fish could generate more than \$544 million annually.
- ◆ Direct CRP payments provide western farmers and ranchers with an additional \$366 million in annual income.

Benchmark Success since the 2002 Farm Bill

Federal programs authorized under the 2002 Farm Bill have accomplished improvements in wildlife habitat in the West from 2002 to 2006.

- ◆ Approximately 128,000 acres of wetlands have been created or restored, and 58,000 acres of wetlands have been enhanced. Nearly half of the accomplishments for wetland creation, restoration and enhancement were achieved under the authority of WRP.
- ◆ CRP general sign-up acreage has increased by almost 498,000 acres. CRP-enrolled acreage now stands at more than 14 million acres. In 2004, the Colorado Division of Wildlife initiated a program to establish populations of Columbian sharp-tailed grouse on suitable CRP lands. These lands make up only 3 percent of the overall sharp-tailed grouse range in Colorado, yet they support 27 percent of the active leks. Columbian sharp-tailed grouse population increases related to CRP have been especially evident in Idaho, which currently has more of this subspecies than any other state.
- ◆ More than 36,000 acres of agricultural lands have been enrolled in CREP initiatives; current total CREP enrollment in the West is just under 49,000 acres.
- ◆ An additional 111,800 acres were added in continuous CRP; total acreage enrolled in continuous CRP currently stands at 611,700 acres.
- ◆ For all CRP and CREP programs combined, enrollment has increased by 646,269 acres, to 14,782,516 acres.
- ◆ More than 93,000 acres have been protected from development through conservation easements authorized under the FRPP.
- ◆ Approximately 247,000 acres have been protected from development through conservation easements authorized under the FLP.
- ◆ In excess of 25,000 acres were protected by the GRP.
- ◆ More than 39,000 acres of stream habitat have been improved.
- ◆ Approximately 69,000 acres of riparian buffers have been established.
- ◆ Approximately 2.5 million feet of field borders have been managed to improve wildlife habitat.

- ◆ More than 61,000 acres of filter strips have been planted.
- ◆ Nearly 1 million feet of streambanks have been protected.
- ◆ Management exceeding 10,700,000 acres of upland, wildlife habitat and 444,000 acres of wetland, wildlife habitat has been accomplished.
- ◆ About 22,000 acres of early successional habitat and 102,800 feet of hedgerows have been established through various Farm Bill incentive programs with the majority of accomplishments achieved through WHIP.
- ◆ Approximately 4,600 acres of herbaceous plantings have been established on riparian areas to improve water quality and provide wildlife habitat.
- ◆ Restoration and management of 93,300 acres of declining habitats have been accomplished.

Goals for the 2007 Farm Bill

Grassland Shrubsteppe Species

Population Goals

- ◆ Increase by 100 percent the populations of declining land birds dependent on grasslands and shrubsteppe, such as greater sage-grouse, Gunnison sage-grouse and Brewer's sparrow, per the *Partners in Flight North American Landbird Conservation Plan*.
- ◆ Maintain or increase populations of McCown's longspur, sage sparrow, sage thrasher, gray flycatcher and other land birds dependent on grassland and shrubsteppe habitats, per the *North American Landbird Conservation Plan*.

Habitat Needs

- ◆ Restore, enhance and protect 21 million acres of sagebrush steppe within the Intermountain West Joint Venture.
- ◆ State Wildlife Action Plans in the West propose conservation actions:
 - ◆ to protect intact sagebrush-steppe habitat, to stabilize and restore losses of this habitat from wildfire, invasive species, pinyon and juniper succession, improper livestock grazing practices, urban encroachment, roads and transmission lines, tall structures, and energy development, and to maintain sagebrush steppe habitat connectivity
 - ◆ to maintain big sagebrush habitats and to provide habitat corridors for pygmy rabbits between priority populations
 - ◆ to maintain large tracts of native grassland wherever they occur, to restore grassland complexes to expand the size of habitat blocks wherever feasible (particularly on highly erodible soils), and to restore key linkage areas to maintain wildlife habitat connectivity.

Wetland and Waterfowl Species

Population Goals

- ◆ Maintain adequate habitat to support a breeding population of at least 7 million ducks in the Northern Great Plains and an autumn continental flight of at least 90 million ducks.
- ◆ Maintain adequate wintering habitat in the Central Valley of California to support at least 5.9 million ducks.
- ◆ Increase by 100 percent populations of declining land birds dependent on wetland habitats, such as tricolored blackbirds, per the *North American Landbird Conservation Plan*.

Habitat Needs

- ◆ Protect, restore and enhance 1.8 million wetland acres of the more than 13.1 million acres of wetland habitats within the Intermountain West Joint Venture.
- ◆ Within the Central Valley Joint Venture, protect all existing unprotected seasonal wetlands, restore 108,527 of seasonal wetlands and enhance 23,884 acres annually over 12 years once restoration goals have been met.
- ◆ Within the San Francisco Bay Joint Venture, protect 107,000 acres of wetlands and restore and enhance 129,000 wetland acres.
- ◆ Within the U.S. portion of the Pacific Coast Joint Venture, protect 249,000 acres of wetlands and restore and enhance 108,000 wetland acres.
- ◆ Maintain at least 170,000 acres of flooded rice stubble in the Central Valley of California during autumn and winter months.
- ◆ State Wildlife Action Plans in the West propose conservation actions to protect existing wetlands and adjacent uplands in order to maintain existing structure and functional uses and to restore degraded wetland and adjacent upland habitats to compensate for conversion of these habitats.

Aquatic and Riparian Species

Population Goals

- ◆ Aid recovery of salmonid species and populations listed as threatened or endangered under the Endangered Species Act.
- ◆ Increase by 100 percent the populations of declining land birds dependent on riparian areas, such as the rufous hummingbird and Bell's vireo, per the *North American Landbird Conservation Plan*.
- ◆ Increase by 50 percent the populations of declining land birds dependent on riparian areas, such as the willow flycatcher, per the *North American Landbird Conservation Plan*.
- ◆ Maintain or increase populations of migratory birds, such as the calliope hummingbird and Lewis's woodpecker, per the *North American Landbird Conservation Plan*.

Habitat Needs

- ◆ Within the Intermountain West Joint Venture, protect, restore and enhance 1 million acres of riparian habitat. Also needed are the maintenance and expansion of existing large blocks of riparian woodland and the reestablishment of riparian woodland on appropriate floodplain sites.
- ◆ Within the Central Valley Joint Venture, restore 10,000 acres of riparian habitat.
- ◆ State Wildlife Action Plans in the West propose conservation actions:
 - ◆ to protect and enhance meadow-steppe riparian habitats and deciduous forests
 - ◆ to enhance or re-establish the extent and connectivity of existing riparian habitats to provide important movement corridors for wildlife
 - ◆ to preserve and restore buffer areas along tributaries and mainstream waterways to a condition that is adequate to maintain healthy, functioning riparian zones for the region's rivers and estuaries
 - ◆ to restore stream channels or streambanks to a condition that simulates their natural form and function.

Forest Species

Population Goals

- ◆ Increase by 100 percent populations of blue grouse and other declining land birds dependent on forest habitats, such as the olive-sided flycatcher and red-headed woodpecker, per the *North American Landbird Conservation Plan*.
- ◆ Maintain or increase populations of mountain quail and other land birds dependent on forest habitats, such as the flammulated owl, hermit warbler, and Allen's hummingbird, per the *North American Landbird Conservation Plan*.
- ◆ Maintain populations of Steller's jay, Cassin's finch, white-headed woodpecker, red-breasted sapsucker, Clark's nutcracker, Williamson's sapsucker and other land birds dependent on forest habitats, per the *North American Landbird Conservation Plan*.

Habitat Needs

- ◆ Within the Intermountain West Joint Venture, restore 1.5 million acres of aspen habitat.
- ◆ Maintain and restore oak woodlands with open understories, especially large patches of these woodlands.
- ◆ State Wildlife Action Plans in the West propose conservation actions:
 - ◆ to maintain mature and late-successional forests from harvest to protect Species of Greatest Conservation Need, such as fisher and northern spotted owls.
 - ◆ to protect key connectivity areas and wildlife corridors between fragmented habitats and protected areas
 - ◆ to maintain forest and woodland habitats in the condition, connectivity and quantity necessary to sustain viable and resilient populations of Species of Greatest Conservation Need.

Agricultural Wildlife Habitat Needs in the Southeast

Southeastern Landscape

The agricultural landscape in the 11 southeastern states includes approximately 50 million acres in annual crop cultivation, 39 million acres of tame pasture and hay, 34 million acres of pine plantations, and less than 4 million acres of (degraded) rangeland. Modern, intensive management for maximum commodity production has made these 127 million acres generally unsuitable for most wildlife Species of Greatest Conservation Need. Lack of management has diminished the habitat value for priority bird species of nonindustrial private forestland on another 133 million acres. When combined with the habitat challenges of fragmentation, the nearly complete eradication of native tallgrass prairie, the 97-percent conversion of the original longleaf pine ecosystem and the virtual elimination of fire as an ecological force, the cumulative effect of myriad incremental changes in land-use practices has been detrimental for numerous species that once coexisted with working agricultural landscapes.



Southeastern states: AL, AR, FL, GA, KY, LA, MS, NC, SC, TN, VA

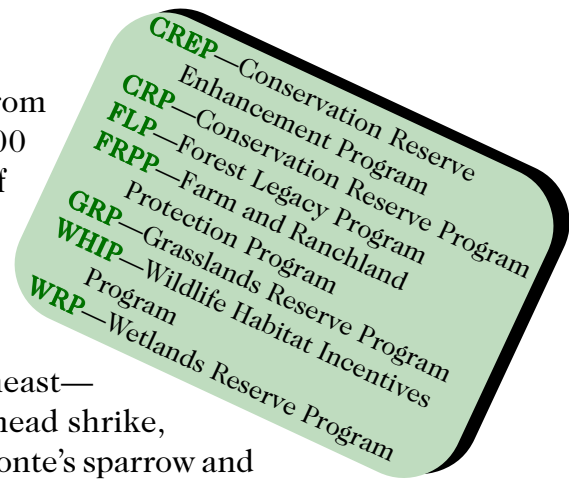
Stressed Habitats

- ◆ Less than 1 percent of the Southeast's native tallgrass prairies, rangelands and savannahs remains as habitat for grassland birds. These habitats have been replaced with invasive monocultures of tame forage grasses, each of reduced value to wildlife.
- ◆ About 97 percent of the historic 90 million-acre longleaf pine ecosystem has been converted to cropland, pasture or other forest types, according to the Longleaf Alliance. The remaining 3 million acres are highly fragmented and degraded by hardwood encroachment and lack of fire.
- ◆ Pine plantations have expanded from about 2 million acres in 1952 to about 34 million acres now, and they are predicted to continue expanding by the U.S. Department of Agriculture, Forest Service's *National Report on Forest Resources*.
- ◆ Virtually all of the 133 million acres of natural, nonindustrial, private forestland is unmanaged during the stand rotation, resulting in closed canopies with little or no shrub understory or herbaceous ground cover.
- ◆ The lower Atlantic Flyway has less than 60 percent of its original wetlands remaining. By 1985 in the Mississippi Alluvial Valley, some 80 percent of the original, forested wetlands were converted to agriculture, according to the Lower Mississippi Valley Joint Venture.

- ◆ Fire has been virtually eliminated as an ecological force in southeastern landscapes, resulting in extensive degradation of grassland habitats as a result of encroachment by trees and shrubs.

Impacts on Wildlife

- ◆ A sample of state Wildlife Action Plans from the Southeast identifies more than 600 vertebrate species as being Species of Greatest Conservation Need. Of these, 130 are dependent on forests, 16 on grassland, 12 on riparian areas, 41 on shrubland and 35 on wetland.
- ◆ Numerous grassland birds in the Southeast—such as the grasshopper sparrow, loggerhead shrike, prairie warbler, eastern meadowlark, LeConte’s sparrow and dickcissel—are declining because of the loss of native grasslands and the exclusion of fire. Henslow’s sparrow is in the highest category of concern on the Partners in Flight *Continental Watch List*. Northern bobwhites have declined 80 to 90 percent across the Southeast. And, eastern painted buntings are a focal species for attention and recovery by the U.S. Fish and Wildlife Service.
- ◆ The loss of the longleaf pine forest ecosystem has caused serious declines—including multiple federal and state listings—in an entire community of wildlife, including red-cockaded woodpeckers, gopher tortoises, gopher frogs, eastern indigo snakes, pine snakes, brown-headed nuthatches, red-headed woodpeckers and Bachman’s sparrows.
- ◆ Widespread drainage, clearing and conversion of wetlands to agriculture, especially in the lower Mississippi Valley, contributed to continental declines in waterfowl populations to historic lows in the 1980s.
- ◆ Some 34 percent of the North American fish species and 90 percent of the native mussels that are designated as endangered, threatened or of special concern are in the Southeast, according to the Southeast Aquatic Resources Partnership.



Impacts on Economy and Recreation

- ◆ The Southeast received \$408.5 million in U.S. Department of Agriculture conservation program payments in 2004.
- ◆ In 2001, more than 18 million hunters, anglers and wildlife watchers spent \$27 billion on wildlife-related recreation in the Southeast.
- ◆ The number of quail hunters in the Southeast has declined in direct proportion to bobwhite numbers. Most remaining southeastern quail hunters now take their vehicles, dogs and money to western states, where huntable quail populations remain.

- ◆ Sportfishing contributed more than \$6.3 billion to the southeastern economy.
- ◆ The Stuttgart (Arkansas) Chamber of Commerce estimates that duck season is worth \$1 million per day to the local economy.

Benchmark Success since the 2002 Farm Bill

- ◆ Nearly 550,000 acres of wetlands have been created, restored or enhanced in the Southeast since 2002. The WRP, alone, has restored more than 680,000 acres in the Mississippi Alluvial Valley since 1991, including more than 260,000 acres since 2002, according to the U.S. Department of Agriculture, Natural Resources Conservation Service.
- ◆ The new CRP practice, CP33 Habitat Buffers for Upland Birds, was created in 2004 to reconnect northern bobwhite quail with working croplands. It will create 250,000 acres of native-vegetation field borders around cultivated cropland. Including the current Habitat Buffers for Upland Birds Program enrollment, CRP has established more than 260,000 acres of native, early successional habitats on marginal cropland across the Southeast since 2002.
- ◆ Approximately 1 million acres of new longleaf pine forest have been planted in the last decade, according to The Longleaf Alliance.
- ◆ About 450,000 acres of riparian forest buffers have been established since 2002.

Goals for the 2007 Farm Bill

Grassland Species

Population Goals

- ◆ Restore northern bobwhite populations to 1980 levels, per the Northern Bobwhite Conservation Initiative.
- ◆ Stabilize and increase populations of declining migratory grassland birds by 50 to 100 percent, per the Partners in Flight *North American Landbird Conservation Plan*.

Habitat Needs

- ◆ Restore and actively manage open, native, warm-season grass/forb/shrub habitats by:
 - ◆ converting the 1.3 million acres of CRP tame grass cover to native, warm-season grass/forb/shrub habitats
 - ◆ establishing an additional 1.8 million acres (4 percent of the total cropland) of native, warm-season grass/forb/shrub habitats in block and linear formations on marginal cropland
 - ◆ converting 2 million acres of tame-grass pasture and hay lands (5 percent of the total) to native, warm-season grasses that are compatible with working livestock operations
 - ◆ retaining the 3.6 million acres of remaining rangelands and improving their management for quality habitat and forage.

- ◆ Develop a robust mechanism to help willing private landowners apply prescribed fire to millions of acres of grassland/shrub habitats each year, on a two- to four-year rotation.

Wetland Species

Population Goals

- ◆ Restore populations of ducks and geese to meet the 1970s average of the North American Waterfowl Management Plan, especially along the South Atlantic Coast and in the Mississippi Alluvial Valley.
- ◆ Stabilize and increase populations of declining wetland- and forested/wetland-dependent migratory songbirds—including Swainson’s warbler, cerulean warbler and swallow-tailed kite—by 50 to 100 percent, per the *North American Landbird Conservation Plan*.

Habitat Needs

- ◆ “No net loss” of remaining wetlands and bottomland hardwoods.
- ◆ In the Mississippi Alluvial Valley:
 - ◆ institute a net gain of 2 million acres of bottomland hardwood wetlands, to result in a total of 4 million acres of core breeding habitat, defined as 100,000 acres (13 blocks), 20,000 acres (36 blocks) and 10,000 acres (52 blocks)
 - ◆ create an additional 5,000 acres of open herbaceous wetland and mudflat.

Aquatic and Riparian Species

Population Goals

- ◆ Stabilize and restore populations of endangered, threatened and imperiled aquatic species that are impacted by agriculturally impaired water quality, per the Southeast Aquatic Resources Partnership.
- ◆ Improve the quality and sustainability of sport fisheries populations.
- ◆ Stabilize and increase populations of declining migratory riparian birds by 50 to 100 percent, per the *North American Landbird Conservation Plan*.

Habitat Needs

- ◆ Eventually, establish native-vegetation (as opposed to tame-grass) filter strips along all permanent and seasonal waterways.
- ◆ Establish conservation tillage on all erodible cropland.
- ◆ Double the acreage of established riparian forest buffers to 900,000 acres in next five-year Farm Bill cycle.

Forest Species

Population Goals

- ◆ Stabilize and increase populations of declining forest-dependent migratory songbirds by 50 to 100 percent, per the *North American Landbird Conservation Plan*.
- ◆ Recover and delist the red-cockaded woodpecker, gopher tortoise and eastern indigo snake.
- ◆ Restore northern bobwhite populations to 1980 levels, per the Northern Bobwhite Conservation Initiative.

Habitat Needs

- ◆ Curtail conversion of hardwood forests to planted pine.
- ◆ Encourage large, contiguous forest blocks to attract and increase reproductive success of area-sensitive forest interior birds.
- ◆ Restore and actively manage open-canopy forested woodland and savannah habitats with vigorous grass/forb herbaceous understory with limited shrubs by:
 - ◆ heavily thinning to 40 square feet basal area and frequently burning 1.8 million acres of pine plantations currently enrolled in the CRP
 - ◆ thinning and frequently burning 50 million acres of existing planted and natural pine, mixed pine/hardwood and hardwood savannahs.
- ◆ Double the extent of the longleaf pine ecosystem by restoring another 2.5 million acres and by improving the management of the cumulative 6.5 million longleaf acres with frequent controlled burning to limit hardwood encroachment and promote native herbaceous understory.
- ◆ Develop a robust mechanism to help willing private landowners apply prescribed fire to millions of acres of pine and pine/hardwood forests each year, on a two- to three-year rotation.

Agricultural Wildlife Habitat Needs in the Midwest

Midwestern Landscape

The agricultural industry dominates the landscape in the Midwest. Croplands account for the largest component, followed by rangelands, pasturelands, hay lands and forestlands. Increasing urban and industrial developments and human population shifts have affected the distribution and quality of wildlife habitats throughout the region.



Stressed Habitats

Midwestern states: IL, IN, IA, KS, MI, MN, MO, NE, OH, OK, TX, WI

Forests of hardwoods, tallgrass prairies, oak savannahs, and extensive wetlands dominated the landscape in presettlement times. The nation's need for food and fiber, accompanied by federal farm policies favoring conversion of natural habitats, has resulted in a landscape dominated by intense agriculture.

- ◆ Millions of acres of native grasslands have been converted to row crops during the last 20 years, including more than 95 percent of the tallgrass region. Michigan, for example, once had more than 2.3 million acres of grasslands, but more than 99 percent of Michigan's tallgrasses now have been lost.
- ◆ Forests have decreased by 60 percent since early settlement. This loss of habitat has been devastating to forest-dependent wildlife species, such as cerulean warblers and scarlet tanagers.
- ◆ Wetland losses in Illinois, Indiana, Iowa, Missouri and Ohio have approached 90 percent.
- ◆ Spread of introduced vegetation, particularly Old World bluestem, and invasive species, such as native eastern redcedar and the exotic Russian thistle, in the western portion of the region has greatly reduced the quality of wildlife habitats.

Impacts on Wildlife

Fragmentation of forest and grassland habitats due to urban and agricultural developments is a serious impact. Degradations of riparian habitat also are impacting wildlife populations. Altered patterns of water flow from irrigation practices, such as those that permit the lowering of water tables and those that degrade water quality by soil erosion and agricultural chemical runoff, are threats to aquatic systems.

- ◆ Grasslands have been eliminated from most of their historic range, causing a decline in prairie grouse populations that are dependent on large blocks of grassland.
- ◆ Northern bobwhite quail numbers have declined significantly across their range.

The limiting factors effecting bobwhites in the Midwest include adequate nesting and brood-rearing cover—both habitat-related variables.

- ◆ More than 60 percent of the original 90 million acres of native grasslands and more than 50 percent of the original 27 million acres of wetlands have been converted to other land uses, causing a decline in duck production in the prairie pothole region.
- ◆ Loss of shortgrass prairie habitats is negatively impacting numerous species, including black-tailed prairie dog, prairie grouse, grasshopper sparrow and burrowing owl.

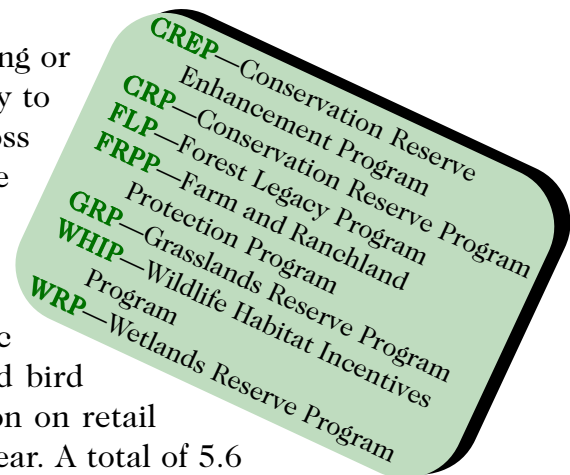
State Wildlife Action Plans from midwestern states have specifically identified the following number of Species of Greatest Conservation Need in relation to various habitats:

- ◆ 148 species that are dependent on grassland habitats
- ◆ 82 species that are dependent upon wetlands
- ◆ 16 species that inhabit riparian habitats
- ◆ 112 species that are dependent on forest habitats.

Impacts on Economy and Recreation

Hunting, fishing, camping, wildlife viewing or other outdoor activities, contribute significantly to the economic health of rural communities across the Midwest. Public recreational access to private lands has increased revenues for many Midwest farmers and ranchers.

- ◆ In Kansas, landowners have leased more than 1 million acres to the state for public hunting access, allowing 186,000 upland bird hunters to spend more than \$121 million on retail purchases accruing \$245 million each year. A total of 5.6 million hunters purchased \$25 billion worth of goods and services in 2001.
- ◆ The number of ring-necked pheasants on CRP lands in Wisconsin was 10 times higher than on surrounding farmland not enrolled in the program. Nest success in Iowa CRP fields resulted in a population increase of 34 percent. Autumn pre-season pheasant numbers in South Dakota increased from 1.4 million to 8 million in 2004, affording 168,000 hunters the opportunity to harvest 1.6 million birds, accruing \$90 million in associated revenue for South Dakota.



Benchmark Success since the 2002 Farm Bill

A national survey of CRP contractees, conducted by the U.S. Geological Survey in 2003, found that more than 70 percent of respondents from midwestern states reported

“positive changes in wildlife populations” as a result of the program. In addition, the following specific successes are notable.

- ◆ CRP provides the greatest conservation benefit of all Farm Bill programs in the Midwest. Enrollment in the CRP was 35.8 million acres nationwide in 2006, of which 17.2 million acres (48 percent) were in the Midwest.
- ◆ Approximately 194,000 acres in general CRP sign-ups were added in midwestern states from 2002 to 2006.
- ◆ Approximately 433,000 acres in continuous CRP were added from 2002 to 2006.
- ◆ Nearly 190,000 additional acres were enrolled in the CREP from 2002 to 2006.
- ◆ An additional 2.1 million ducks entered the autumn flight each year since 1992, in part resulting from 4.7 million acres being enrolled in the CRP.
- ◆ The CP33 Habitat Buffers for Upland Bird program has enrolled 1.4 million acres.
- ◆ Approximately 270,000 acres of riparian buffers were added from 2002 to 2006.
- ◆ National enrollment in the WRP is 1.5 million acres, of which 495,000 (33 percent) are in the Midwest.
- ◆ Approximately 219,000 acres of wetlands were created, restored or enhanced in the Midwest from 2002 to 2006.
- ◆ More than 20,000 acres of wetland wildlife habitat were placed under enhanced management in the Midwest from 2002 to 2006 via all farm programs.
- ◆ More than 46,000 acres of forest and rangeland have been protected through conservation easements during 2005 and 2006
- ◆ In excess of 8,000 acres were protected by the GRP and more than 47,000 acres were placed in the FLP during 2005 and 2006.
- ◆ The lesser prairie chicken—a candidate for listing under the Endangered Species Act—has substantially increased its range in Kansas due to Farm Bill programs.

Goals for the 2007 Farm Bill

Grassland Species

Population Goals

- ◆ Restore and maintain grassland-nesting bird populations equal to those in the 1966 to 1968 U.S. Fish and Wildlife Service Midwest Breeding Bird Survey, by maintaining and restoring adequate grassland habitats.
- ◆ Stabilize or increase populations of declining grassland-dependent species, especially those listed as Species of Greatest Conservation Need in state Wildlife Action Plans.

Habitat Needs

- ◆ Restore 30 million acres of cropland to grasslands that benefit wildlife.
- ◆ Protect and enhance 11 million acres of existing grasslands.
- ◆ Enlarge buffer and manage restored grassland habitats as a complex with other grassland types.

- ◆ Significantly increase GRP or CRP enrollments of cropland converted to native grasses.

Wetland Species

Population Goals

- ◆ Stabilize or increase declining wetland-dependent species, especially those listed as Species of Greatest Conservation Need.
- ◆ Restore populations of ducks and geese to meet the goals of the North American Waterfowl Management Plan.

Habitat Needs

- ◆ Restore 2 million acres of wetlands.
- ◆ Increase protection of existing functional wetlands from drainage, development and siltation.

Aquatic and Riparian Species

Population Goals

- ◆ Restore self-sustaining populations of native and recreational fishes to all major streams and river systems.
- ◆ Aid recovery efforts of Species of Greatest Conservation Need.
- ◆ Reverse population declines of riparian birds.

Habitat Needs

- ◆ Restore an additional 3.5 million acres of riparian habitat, with emphasis on those drainages associated with Species of Greatest Conservation Need or high-quality sport fisheries.
- ◆ Retain and promote riparian zone management on 1 million acres of cropped floodplain.
- ◆ Promote no-till and other conservation farming techniques to address soil and water quality problems.
- ◆ Reduce erosion and nonpoint pollution adjacent runoff.
- ◆ Promote buffers adjacent to aquatic and riparian habitats.
- ◆ Adopt irrigation practices that improve altered patterns of water flow to enhance water quality and to raise water tables.
- ◆ Significantly increase the number of riparian areas managed under improved livestock grazing practices.

Forest Species

Population Goals

- ◆ Stabilize or increase declining forest-dependent species, especially those listed as Species of Greatest Conservation Need.
- ◆ Maintain viable populations of sensitive forest wildlife species.

Habitat Needs

- ◆ Enhance 1 million acres of hardwood and 130,000 acres of shelterbelts in the southern portion of the region.
- ◆ Increase hardwood forest acreage by 350,000 acres in the region's northeastern part.
- ◆ The draft North American Ruffed Grouse Conservation Plan establishes a goal of achieving a ruffed grouse drumming male population density at the 1980 level. Achieving this density in the Midwest will require maintaining 13.5 million acres of small-diameter forest. Currently, there are 13.3 million acres of small-diameter forest—a deficit of 200,000 acres.
- ◆ Focus forest restoration in the northeastern portion of the region to areas larger than 7,000 acres, to reduce fragmentation.
- ◆ Prevent further conversion or degradation of private forestland within the region.
- ◆ Implement best forest management practices throughout the region.

Agricultural Wildlife Habitat Needs in the Northeast

Northeastern Landscape

The Northeast is a diverse landscape comprised of about 26 million acres of farmlands, 78 million acres of forestlands and 7 million acres of wetlands and deep-water habitats. Developed land throughout the Northeast currently consists of more than 16 million acres. Nearly 22 percent (61.5 million) of the U.S. human population reside on approximately 6 percent of the nation's land base.



Northeastern states: CT, DE, MA, MD, ME, NH, NJ, NY, PA, RI, VT, WV

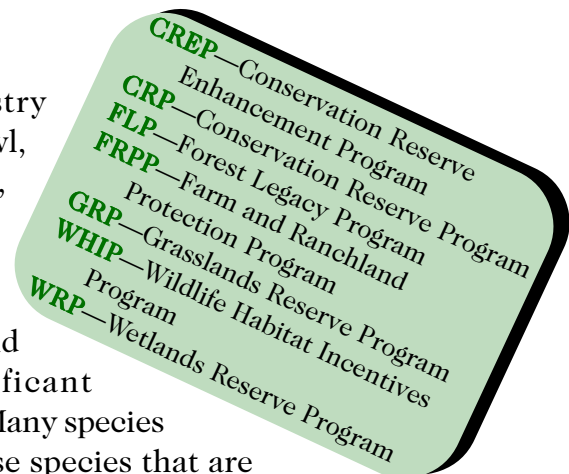
Stressed Habitats

Less than 1 percent of the region's old-growth forests remain, 99 percent of the grasslands have been lost, and a large percentage of precolonial wetlands are gone in the Northeast. The number of farms in the Northeast has declined by more than 68 percent since 1950, and the total acreage in farmland has declined by more than 79 percent. In addition, certain habitats, such as wetlands and coastal ecosystems, are being further stressed by invasive plant and animal species.

- ◆ One of the most dramatic examples of habitat loss in the Northeast is the elimination of riparian habitats. Riparian buffers have been reduced by 50 percent regionally—although most significantly along portions of the Atlantic seaboard. The loss is so great that the Chesapeake Bay Commission has set a goal of establishing 2,010 miles of riparian buffers by 2010.
- ◆ Pasture acreage has declined by more than 70 percent since the 1950s. Most remaining pastures are now dominated by cool-season grasses, which are grazed intensively.
- ◆ Grassland bird populations have declined more than any other group of bird species in the past 30 years.
- ◆ About 14 percent of wetlands in the Chesapeake Bay watershed were eliminated between 1980 and 1989, and the loss continues.
- ◆ Although agriculture practices create and maintain valuable grasslands, recent intensification of these practices has had negative impacts on their quality and availability. Small diversified farming, which provided a range of suitable habitat types, has given way to larger, more intensively managed farms as a result of improved agricultural techniques. Advances in equipment, fertilizers and extensive use of potent pesticides and herbicides have resulted in greater management of hay fields (early and frequent cutting which disrupts nesting activity), conversion of hay fields to row crops or legumes, and intensive grazing.

Impacts on Wildlife

The impacts of agricultural and forestry practices, combined with escalating urban sprawl, have dramatically altered wildlife habitats and, subsequently, wildlife diversity and abundance in the Northeast. Species requiring large blocks of scrub and early successional forests, and those species requiring open, secure, grassland habitats have experienced the most significant population declines in the past several decades. Many species that depend on mature, forested habitat or those species that are habitat generalists have thrived or have maintained their population levels.



State Wildlife Action Plans from northeastern states have identified:

- ◆ 54 species of grassland-dependent vertebrates as Species of Greatest Conservation Need; due to 99 percent of the grasslands in the Northeast being lost, the northern bobwhite quail has declined by 95 percent and the grasshopper sparrow, eastern meadowlark and ring-necked pheasants have declined by 80 percent
- ◆ 36 Species of Greatest Conservation Need that require viable wetland habitats
- ◆ 52 Species of Greatest Conservation Need that are only found in riparian habitats
- ◆ 58 species that require young forest or shrubland habitats; 10 of the 58 young forest- and-shrubland-habitat-dependent Species of Greatest Conservation Need are state listed as endangered in one or more states, 4 are state listed as threatened, and 17 are listed in one or more states as species of special concern; within the 58 young-forest and shrubland habitat-dependent species, 37 birds, 14 mammals and 7 reptiles were identified
- ◆ 121 species that are dependent on forestland; state Wildlife Action Plans, especially from states in southern sections of the Northeast, frequently cited the importance of large blocks of unfragmented forest.

Impacts on Economy and Recreation

During the past decade, farmland has become more valuable for housing and commercial development. Farms are being lost to home and commercial development, despite the fact that hunting, fishing and wildlife-associated recreation continue to provide an economic boost to the economies of northeastern states, especially in rural communities. Development is reducing the patch size of nonindustrial forest lands, limiting opportunities for commercial management of forest habitats and curtailing use by species requiring large blocks of forestland. Large tracts of industrial forestland in northern New England and New York are changing ownership, and second-home development is encroaching on habitat values in some areas.

- ◆ Values for farmland real estate in the Northeast in 2003 averaged \$2,918 per acre, significantly higher than in other regions and 130 percent higher than the national average.
- ◆ More than 17 million people annually participate in hunting, fishing and wildlife-associated recreation in the Northeast, and they annually contribute in excess of \$15 billion to the region's economy.

Benchmark Success since the 2002 Farm Bill

Federal programs authorized under the 2002 Farm Bill have registered accomplishments in wildlife habitat in the Northeast.

- ◆ 30,000 acres of wetlands have been created or restored, and 11,000 acres of wetlands have been enhanced. About one third of the accomplishments for wetland creation, restoration and enhancement has been achieved under authority of WRP.
- ◆ 181,500 acres have been protected from development through conservation easements authorized under the FRPP.
- ◆ 732,000 acres have been protected from development through conservation easements authorized under the FLP.
- ◆ 11,000 acres of early successional habitat and 20,000 feet of hedgerows have been established through various Farm Bill incentive programs, with the majority of accomplishments achieved through the WHIP.
- ◆ CRP general sign-up acreage has decreased by 15,000 acres; CRP enrolled acreage now stands at 143,400 acres.
- ◆ 1,300 acres of herbaceous plantings have been established in riparian areas to improve water quality and to provide wildlife habitat.
- ◆ 138,100 acres of agricultural lands have been enrolled in CREP initiatives; total CREP enrollment in the region is 242,000 acres.
- ◆ 6,400 acres of restoration and management of declining habitats have been accomplished under Farm Bill programs.
- ◆ 2,800 acres of grasslands have been enrolled in continuous CRP; the total acreage enrolled in continuous CRP is 15,900 acres.
- ◆ For all CRP and CREP programs combined, enrollment has increased from 275,775 to 401,708 acres, an increase of 125,933 acres.
- ◆ 700 acres of shallow water management have been established for wildlife habitat purposes.
- ◆ 36,000 acres of riparian buffers have been established.
- ◆ 2.5 million feet of field borders have been managed to improve wildlife habitat.
- ◆ 7,000 acres of grassed waterways and 30,000 acres of filter strips have been planted and managed.
- ◆ 1.8 million feet of stream banks have been protected.
- ◆ 370,000 acres of upland wildlife habitat management and 41,000 acres of wetland wildlife habitat management have been accomplished.

Goals for the 2007 Farm Bill

There is a need and a drive in the Northeast to protect important habitats identified through state Wildlife Action Plans from conversion to developed lands through fee-simple acquisition, conservation easements or purchase of development rights. The 2002 edition of *How Much is Enough?*⁹ established a goal of protecting 1 million acres of farmland and 600,000 acres of forestland from development. The cumulative total of acres protected in the Northeast from development from Farm Bill programs is slightly more than 900,000 acres. Therefore, protection of additional farmland and forest acreage still is needed.

Many state Wildlife Action Plans already have or will have prioritized land-protection goals to establish a land conservation initiative that focuses on certain counties and priority habitats. Those priority actions identified in state Wildlife Action Plans should drive application of Farm Bill land conservation programs.

Grassland Species

Population Goals

- ◆ Maintain suitable habitat distributed across the landscape to support viable metapopulation structure for grassland birds identified in state Wildlife Action Plans.
- ◆ Continue efforts to develop grassland management protocol to maintain and enhance nesting habitat for grassland-nesting species.

Habitat Needs

- ◆ 2.4 million acres of grasslands are needed in the Northeast to support the suite of grassland species identified in the Partners in Flight *Physiographic Assessments* and are frequently identified in Wildlife Action Plans as Species of Greatest Conservation Need. As the Vermont Wildlife Action Plan points out, a variety of grasslands and hedgerows are needed to conserve the suite of species dependent on these habitat types.
 - ◆ Bobolinks, for example, utilize large expanses of grassland or fallow hay fields with little or no alfalfa, high litter cover and scattered broad-leafed forbs for nest-site cover.
 - ◆ Northern harrier habitat includes marshy meadows, wet, lightly grazed pastures, old fields, mesic grasslands and drained marshlands.
 - ◆ Upland sandpipers prefer large grassland areas with a mosaic of grassland types because areas of short grass are used for feeding; whereas, areas of taller grass are used for nesting.

Wetland Species

Population Goal

- ◆ Stabilize or increase declining wetland-dependent species.

Habitat Needs

- ◆ Double the number of acres of wetlands created and restored in the region to 15,000 acres per year.
- ◆ Protect, restore and enhance existing functional wetlands.
 - ◆ The U.S. Fish and Wildlife Service estimated 9 million acres of wetlands were present in 1990, including 4 million acres of forested wetlands and 1.5 million acres of shrub-scrub wetlands.
 - ◆ The goal of the Atlantic Coast Joint Venture is to protect 945,000 acres of wetlands and to restore or enhance 210,000 acres of wetlands. This goal transcends the Northeast region but represents the magnitude of wetland management and enhancement needs.
 - ◆ The Maine Wildlife Action Plan describes an appropriate approach to achieving protection of existing functional wetlands. Although intended for Maine, the approach will work in all jurisdictions.
 - ◆ Support enforcement of existing environmental laws.
 - ◆ Cooperate with federal and state agencies, nongovernmental organizations, landowners, local land trusts, municipalities and other partners to conserve habitat for priority species, by means of fee acquisition, conservation easements, purchase of development rights, incentives, cooperative management agreements, management plans, improved comprehensive planning, habitat restoration and enhancements, and other conservation tools.

Aquatic and Riparian Species

Population Goals

- ◆ Restore native species and maintain declining populations of aquatic and riparian-dependent species.

Habitat Needs

- ◆ Protect existing riparian areas within the region.
- ◆ Establish 15,000 acres of new riparian buffers per year.
- ◆ Establish 2,000 acres of new grassed waterways per year.
- ◆ Establish 15,000 acres of new planted filter strips per year.
- ◆ Protect 500,000 feet of streambanks per year.
- ◆ The New York Wildlife Action Plan contains two conservation strategies that reflect the importance of aquatic and riparian habitat protection to states.
 - ◆ Implement best management practices on farms along stream corridors statewide to protect water quality, reduce excessive soil erosion, protect habitat and improve nutrient management.
 - ◆ Work with landowners to increase the percentage of streams statewide that have vegetated buffers of more than 50 feet.

Forest Species

Population Goal

- ◆ Stabilize or increase declining populations of early successional and old-growth forest species.

Habitat Needs

- ◆ The draft Ruffed Grouse Conservation Plan calls for an increase of 587,000 acres of young forest and shrubland, to return ruffed grouse populations to 1980 levels in the Northeast.
- ◆ The draft American Woodcock Conservation Plan calls for an increase of 9 million acres of young forest, shrubland and nonstocked habitats, to return woodcock populations to the 1970 levels.
- ◆ 17 million acres of mature coniferous, deciduous or mixed forestlands are needed to fulfill the requirements of the suite of forest-dependent species identified as priority species in the *Physiographic Assessments* and frequently identified in Wildlife Action Plans as Species of Greatest Conservation Need.
- ◆ State Wildlife Action Plans prioritize conservation actions intended for both early- and late-successional Species of Greatest Conservation Need and should be used to focus Farm Bill programs that influence creation and management of these habitats.

