Environmental Effects of U.S. Department of Agriculture Conservation Programs

A Conservation Effects Assessment Bibliography

Special Reference Briefs Series no. SRB 2004-01

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Abstract

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This bibliography is one in a multi-volume set developed by the Water Quality Information Center at the National Agricultural Library in support of the U.S. Department of Agriculture's (USDA) Conservation Effects Assessment Project (CEAP). The bibliography is a guide to literature examining environmental effects of USDA conservation programs. The information is useful for assessing on-the-ground results of conservation programs from various environmental perspectives.

Keywords: conservation programs, environmental quality, program evaluation, agricultural research, Conservation Reserve Program, Wildlife Habitat Incentives Program, Farm Bill

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August 2004

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Preface

This is one in a series of bibliographies developed by the Water Quality Information Center at the National Agricultural Library in support of the U.S. Department of Agriculture's Conservation Effects Assessment Project (CEAP).

The purpose of CEAP is to study the environmental effects of conservation practices implemented through various U.S. Department of Agriculture conservation programs. CEAP will evaluate conservation practices and management systems related to nutrient, manure, and pest management; buffer systems; tillage; irrigation and drainage practices; wetland protection and restoration; and wildlife habitat establishment. More information about CEAP is available at www.nrcs.usda.gov/technical/nri/ceap/.

The current titles in this series are

- Environmental Effects of U.S. Department of Agriculture Conservation Programs
  Special Reference Brief 2004-01
- Implementing Agricultural Conservation Practices: Barriers and Incentives
  Special Reference Brief 2004-02
- Data and Modeling for Environmental Credit Trading
  Special Reference Brief 2004-03
- Agricultural Conservation Practices and Related Issues: Reviews of the State of the Art and Research Needs
  Special Reference Brief 2004-04

Each of the documents, as well as bibliographies on similar topics, is accessible online from the Water Quality Information Center at www.nal.usda.gov/wqic/.

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In addition, support from the Natural Resources Conservation Service for the development of these bibliographies is greatly appreciated.

Joseph R. Makuch, Ph.D.
Coordinator
Water Quality Information Center

About This Bibliography

This bibliography is a guide to literature examining environmental effects of U.S. Department of Agriculture (USDA) conservation programs. Examples of programs covered are the Conservation Reserve Program, Environmental Quality Incentives Program, Wetlands Reserve Program, and Wildlife Habitat Incentives Program. The purpose of this bibliography is to provide an overview of various environmental outcomes resulting from landowner participation in USDA conservation programs. This information is useful for assessing on-the-ground results of conservation programs from various environmental perspectives.

There are 454 citations with abstracts (when available) in this bibliography. Citations were found through literature searches of the AGRICOLA database, produced by the National Agricultural Library, and several commercial bibliographic databases. Many relevant citations were also found in *Final Programmatic Environmental Impact Statement for the Conservation Reserve Program (CRP)*, citation number 416. In addition, Water Quality Information Center staff created citations for documents that were located by various other means. Documents cited were published from 1985 through 2003 (with a few included from early 2004). URLs are provided for online documents that are freely available. The inclusion or omission of a particular citation does not imply endorsement or disapproval.

Citations are grouped in these categories: Climate Change and Air Quality, Soil, Water, Wildlife Habitat, Other Environmental Effects, and Multiple Environmental Effects. Within these sections, citations are arranged alphabetically by title.

To locate information on a specific topic, for example, conservation tillage, use the subject index beginning on page 113. To ensure that you see all the relevant citations for a particular topic, be sure to also look up related terms in the subject index, for example, no till, ridge till, etc., from the example above. An author index is also available beginning on page 131.

To obtain a specific document, please contact your local library. Information on how to obtain documents from the National Agricultural Library can be found at www.nal.usda.gov/ddsb/.

Climate Change and Air Quality

1. **Assessment of Alternative Management Practices and Policies Affecting Soil Carbon in Agroecosystems of the Central United States.**
Donigian, A. S.; Barnwell, T. O.; Jackson, R. B.; Patwardhan, A. S.; and Weinrich, K. B.
Washington, DC: U.S. Environmental Protection Agency; EPA600R94067, 1994.
Notes: Contract: EPA68CO0019; Prepared in cooperation with Computer Sciences Corp., Athens, GA. and Colorado State Univ., Fort Collins. Natural Resource Ecology Lab. Sponsored by Environmental Research Lab., Athens, GA.
http://www.epa.gov/cgi-bin/claritgw?op-Display&document=clserv:ORD:0762;&rank=4&template=epa
Descriptors: Emissions/ Ecosystems/ Mathematical models/ Economic model/ Conservation/ Reduction/ Carbon dioxide/ Land use/ Farm crops/ Cultivation/ Yield/ Regions/ United States/ Trends/ Tables Data/ Climatic changes/ Soil properties/ Carbon/ Organic matter/ Farm management/ Air pollution and control/ Environmental pollution and control/ Agriculture and food/ Agricultural economics/ Agricultural equipment facilities and operations/ Natural resources and earth sciences/ Soil sciences/ Medicine and biology/ Ecology/ Atmospheric sciences/
Physical meteorology
Abstract: The goal of the U.S. EPA BIOME Agroecosystems Assessment Project is to evaluate the degree to which agroecosystems can be technically managed, on a sustainable basis, to conserve and sequester carbon, reduce the accumulation of carbon dioxide in the atmosphere, and provide reference datasets and methodologies for agricultural assessment. The report provides preliminary estimates of carbon sequestration potential for the central United States including the Corn Belt, the Great Lakes, and portions of the Great Plains. This study region comprises 44% of the land area and 60% to 70% of the agricultural cropland of the conterminous United States. The assessment methodology includes the integration of the RAMS economic model, the Century soil carbon model, meteorologic and soils data bases, and GIS display and analysis capabilities in order to assess the impacts on soil carbon of current agricultural trends and conditions, alternative tillage practices, use of cover crops, and Conservation Reserve Program policy.

2. **Assessment of alternative soil management practices on N2O emissions from US agriculture.**
Mummey, D. L.; Smith, J. L.; and Bluhm, G.
Agriculture, Ecosystems and Environment 70 (1): 79-87. (1998)
NAL Call #: S601 .A34; *ISSN:* 0167-8809
This citation is provided courtesy of CAB International/CABI Publishing.

3. **Carbon and Nitrogen Sequestration in Two Prairie Topochronosequences on Contrasting Soils in Southern Wisconsin.**
Brye, KR and Kucharik, CJ
American Midland Naturalist 149 (1): 90-103. (Jan. 2003)
NAL Call #: 410 M58; *ISSN:* 0003-0031
Descriptors: Conservation Reserve Program/ Organic Matter Recovery/ Grassland Soils/ Cultivation/ Accumulation/ Abandonment/ Dynamics/ Storage/ Sink
Abstract: Prairie restoration has the potential to sequester nitrogen (N) and atmospheric carbon (C) in the soil, but the capability of a site to respond positively to prairie restoration depends on numerous factors such as soil parent material, topography and time. Soil bulk density in the top 10 cm and C and N concentrations at several intervals to a depth of 1 m were measured in a tallgrass prairie topochronosequence at fine- and coarse-textured soil locations to evaluate the role of texture, slope and ecosystem age in controlling C and N sequestration following cessation of cultivation and subsequent prairie restoration. Soil C and N concentrations, contents and C:N ratios were significantly greater in fine-textured soils compared to sites with coarse-textured soil. Soil texture generally did not explain variations in the amounts or rates of C and N sequestration in the restored prairies. Soil surface bulk density was significantly correlated with slope, but not ecosystem age, at sites with coarse-textured soil. Within the limits of this study, neither slope nor ecosystem age were correlated to bulk density at sites with fine-textured soil. Soil C content in the top 25 cm increased significantly as ecosystem age increased for the restored and remnant prairies at the fine-textured location, but not at the coarse-textured location. Results demonstrate that a combination of soil parent material, topography and time since cessation of cultivation control the content and accumulation of C and N following prairie restoration. In the context of this study, the bottom line is that significant C sequestration was not achieved, given the current level and types of restoration management, within two and a half decades following conversion of cultivated cropland to prairie.
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4. **Carbon dynamics of the Conservation and Wetland Reserve Programs.**
Barker, J. R.; Baumgardner, G. A.; Turner, D. P.; and Lee, J. J.
Journal of Soil and Water Conservation 51 (4): 340-346. (July 1996-Aug. 1996)
NAL Call #: 56.8-J822; *ISSN:* 0022-4561 [JSWCA3]
Descriptors: land use/ conversion/ carbon cycle/ woodlands/ grasslands/ farmland/ afforestation/

carbon/ atmosphere/ air pollution/ greenhouse effect/ land management/ federal programs/ forest soils/ grassland soils/ agricultural soils/ trends/ Conservation Reserve Program/ carbon sequestration/ nutrient dynamics/ carbon pools/ global carbon budget/ greenhouse gases/ croplands/ forestlands
This citation is from AGRICOLA.

5. **Climate and weather of the Great Plains.**
Wilken, G. C.
In: General Technical Report RM; Vol. 158.
Fort Collins, Colo.: Rocky Mountain Forest and Range Experiment Station, 1988; pp. 18-20.
Notes: Report Series ISSN: 0277-5786; Proceedings of a Symposium on "Impacts of the Conservation Reserve Program in the Great Plains," held Sept 16-18, 1987, Denver, Colorado. Includes references.
NAL Call #: aSD11.A42
Descriptors: weather/ climate/ northern plains states of USA/ southern plains states of USA
This citation is from AGRICOLA.

6. **Conservation practices in U.S. agriculture and their impact on carbon sequestration.**
Uri, Noel D.
Environmental Monitoring and Assessment 70 (3): 323-344. (2001)
NAL Call #: TD194.E5; *ISSN:* 0167-6369
Descriptors: carbon: soil sequestration practices/ Conservation Reserve Program/ United States agriculture: conservation practices/ comprehensive effort/ conservation buffer strips/ conservation practices: evolution/ soil conservation: individual, site specific
Abstract: Increase in the use of conservation practices by agriculture in the United States will enhance soil organic carbon and potentially increase carbon sequestration. This, in turn, will decrease the net emission of carbon dioxide. A number of studies exist that calibrate the contribution of various individual, site-specific conservation practices on changes in soil organic carbon. There is a general absence, however, of a comprehensive effort to measure objectively the contribution of these practices including conservation tillage, the Conservation Reserve Program, and conservation buffer strips to an change in soil organic carbon. This paper fills that void. After recounting the evolution of the use of the various conservation practices, it is estimated that organic carbon in the soil in 1998 in the United States attributable to these practices was about 12.2 million metric tons. By 2008, there will be an increase of about 25%. Given that there is a significant potential for conservation practices to lead to an increase in carbon sequestration, there are a number of policy options that can be pursued.
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7. **Conservation Reserve Program: Effects on soil organic carbon and preservation when converting back to cropland in northeastern Colorado.**
Bowman, R. A. and Anderson, R. L.
Journal of Soil and Water Conservation 57 (2): 121-126. (2002)
NAL Call #: 56.8 J822; *ISSN:* 0022-4561
Descriptors: United States, Colorado/ Watershed Management/ Agricultural Practices/ Organic Carbon/ Soil Chemistry/ Soil Conservation/ Tillage/ Crops/ Watershed protection
Abstract: Information on the potential for carbon sequestration from the Conservation Reserve Program (CRP) and knowledge concerning the fate of accrued carbon on sod takeout and recropping to a wheat-based rotation are essential. We conducted two separate field studies in northeastern Colorado to quantify the soil organic carbon (SOC) changes after various amounts of time in the CRP program, and to assess problems associated with converting CRP grass to cropland and the potential for loss of accrued SOC with different tillage systems. For our first objective, we assessed six CRP sites, with three sites showing increased SOC content over the adjacent winter wheat/summer fallow sites, and three sites showing no differences. In the conversion study, systems with little or no tillage yielded more winter wheat (Triticum aestivum L.) grain than systems with tillage because of more available soil water at planting time. Furthermore, SOC loss was less with no-till and reduced-till (herbicides plus one tillage) systems than by conventional tillage with numerous sweep plow operations. Thus, NT and reduced-till systems designed to control perennial CRP grasses will enable producers to maintain some of the gains in SOC when CRP land is converted to cropland.
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8. **Considering offsite wind erosion benefits in the decision to implement soil conservation practices: An example using the Conservation Reserve Program.**
Piper, S.
Applied Agricultural Research 5 (3): 153-158. maps. (Summer 1990)
NAL Call #: S539.5.A77; *ISSN:* 0179-0374 [AAREEZ]
Descriptors: wind erosion/ decision making/ soil conservation/ cost benefit analysis/ public expenditure/ social benefits/ program effectiveness/ United States/ offsite benefits/ onsite benefits
Abstract: Wind erosion in the western United States results in substantial offsite and onsite damages. These damages can be reduced by implementing soil conservation measures to decrease the level of wind erosion on agricultural land. Soil conservation decisions by farmers are based primarily on the amount of onsite benefits possible from erosion control. However, both onsite and offsite benefits

must be considered in order to attain a socially desirable level of soil conservation. Estimates of the offsite and onsite benefits from the Conservation Reserve Program indicate that excluding offsite benefits from the soil conservation decision results in a substantially lower than socially desirable level of soil conservation.
This citation is from AGRICOLA.

9. **CRP and microbial biomass dynamics in temperate climates.**
Follett, R. F.
In: Management of carbon sequestration in soil/ Lal, R.; Kimble, J. M.; Follet, R. F.; and Stewart, B. A.; Series: Advances in soil science.
Boca Ration, Fla.: CRC Press, 1998; pp. 305-322.
Notes: ISBN: 0849374421; Paper presented at the symposium "Carbon sequestration in soils," held July, 1996, The Ohio State University
NAL Call #: S592.6.C35M35-1998
Descriptors: soil flora/ biomass/ soil/ quality/ land use/ soil management/ federal programs/ soil conservation/ Conservation Reserve Program
This citation is from AGRICOLA.

10. **The CRP increases soil organic carbon.**
Gebhart, D. L.; Johnson, H. B.; Mayeux, H. S.; and Polley, H. W.
Journal of Soil and Water Conservation 49 (5): 488-492. (1994)
NAL Call #: 56.8 J822; *ISSN:* 0022-4561
Descriptors: soil conservation/ soil organic matter/ carbon/ cropland/ pastures/ land use/ cultivated lands/ organic carbon/ crops/ Watershed protection/ Land pollution/ Conservation
Abstract: The land use change from cropland to perennial grass cover associated with the Conservation Reserve Program (CRP) may sequester atmospheric CO sub(2) back into the soil carbon pool, thereby changing formerly cultivated soils from sources to sinks for atmospheric carbon. To evaluate the effect of CRP on soil organic carbon (SOC) levels, samples from adjacent cropland, native pasture, and five year old CRP sites in Texas, Kansas, and Nebraska were analyzed. Across all locations, SOC levels for cropland, CRP, and native pasture were 59.2, 65.1, and 90.8 metric tons C/ha in the surface 300 cm, respectively. CRP lands gained an average of 1.1 tons C/ha/yr suggesting that the 17 million hectares of land enrolled in CRP may have the potential to sequester about 45% of the 38.1 million tons of carbon released annually into the atmosphere from U.S. agriculture. These findings illustrate that agricultural CO sub(2) emissions may be effectively controlled through changes in land use and management systems.
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11. **Evaluating the environmental effects of agricultural policy: The soil bank, the CRP, and airborne particulate concentrations.**
Ringquist, R. J.; Lee, J.; and Ervin, R. T.
Policy Studies Journal 23: 519-533. (Fall 1995); *ISSN:* 0190-292X
Descriptors: United States---Environmental policy/ Air pollution---United States/ Agriculture---United States---Legislation/ Soil conservation---United States Legislation/ United States---Agricultural policy---Legislation/ Soil erosion---Environmental aspects/ Agriculture---Environmental aspects
Abstract: Finds significant improvement in air quality as a result of soil conservation provisions of the 1985 and 1990 Farm bills; some focus on the 1985 Conservation Reserve program; US. Analysis of reduction in air-borne dust in the Southern High Plains region.
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12. **Forest carbon sinks: Costs and effects of expanding the Conservation Reserve Program.**
Parks, P. J. and Hardie, I. W.
Choices 11 (2): 37-39. (1996)
NAL Call #: HD1751.C45; *ISSN:* 0886-5558
Descriptors: forests/ carbon/ federal programs/ program participants/ farmland/ land diversion/ United States/ carbon emission
This citation is from AGRICOLA.

13. **Land management effects on nitrogen and carbon cycling in an Ultisol.**
Torbert, H. A.; Prior, S. A.; and Reeves, D. W.
Communications in Soil Science and Plant Analysis 30 (9/10): 1345-1359. (1999)
NAL Call #: S590.C63; *ISSN:* 0010-3624 [CSOSA2]
Descriptors: ultisols / nitrogen cycle/ carbon cycle/ land management/ soil fertility/ tillage/ conservation tillage/ cover crops/ fallow systems/ cropping systems/ gossypium hirsutum/ triticum aestivum/ pinus taeda/ Alabama
Abstract: Soil carbon (C) content in agro-systems is important in a global context because of the potential for soil to act as a sink for atmospheric CO(2). However, soil C storage in agro-ecosystems can be sensitive to land management practices. The objective of this study was to examine the impact of land management systems on C and nitrogen (N) cycling in an Ultisol in Alabama. Soil samples (0-10,10-20, and 20-30 cm depths) were collected from a Marvyn sandy loam soil (fine-loamy, siliceous, thermic Typic Hapludults) under five different farm scale management systems for at least 5 years. The five systems were cotton (Gossypium hirsutum L.) production managed with 1) conventional tillage only, 2) conventional tillage with a grazed winter cover crop (wheat, Triticum aestivum L.), 3) conservation tillage with a winter cover crop grown for cover only with

strip tillage; or taken out of cotton production with either 4) long-term-fallow (mowed), or 5) Conservation Reserve Program with loblolly pine (Pinus taeda L.) (CRP-pine). Total N, total organic C (TOC), total P, and soil C:N ratios were determined. Potential C mineralization, N mineralization, C turnover and C:N mineralization ratios were determined on samples during a 30-day laboratory incubation study. The fallow system had significantly higher TOC concentration (7.7 g kg(-1) C) while the CRP-pine system had lower TOC concentration (3.1 g kg(-1) C) compared with the farmed management systems (approximately equal to 4.7 g kg(-1) C). The fallow system had a significantly lower C turnover at all three soil depths compared with the other management systems. At the 0-10 cm depth, the highest C:N mineralization ratio levels were observed in management systems receiving the most tillage. Our results indicate that for Ultisols in the Southeast the use of surface tillage in land management systems is a controlling factor which may limit soil C sequestration.
This citation is from AGRICOLA.

14. **National-Scale Estimation of Changes in Soil Carbon Stocks on Agricultural Lands.**
Eve, MD; Sperow, M; Paustian, K; and Follett, RF
Environmental Pollution 116 (3): 431-438. (2002)
NAL Call #: QH545.A1E52; *ISSN:* 0269-7491
Descriptors: Carbon Sequestration/ Global Change/ Land Use Change/ IPCC Inventory/ Carbon Dioxide (CO2) / Greenhouse Gas/ Conservation Tillage/ Organic Carbon/ Sequestration/ Resources/ Dynamics/ Matter/ Sinks
Abstract: Average annual net change in soil carbon stocks under past and current management is needed as part of national reporting of greenhouse gas emissions and to evaluate the potential for soils as sinks to mitigate increasing atmospheric CO2. We estimated net soil C stock changes for US agricultural soils during the period from 1982 to 1997 using the IPCC (Intergovernmental Panel on Climate Change) method for greenhouse gas inventories. Land use data from the NRI (National Resources Inventory; USDA-NRCS) were used as input along with ancillary data sets on climate, soils, and agricultural management. Our results show that, overall, changes in land use and agricultural management have resulted in a net gain of 21.2 MMT C year(-1) in US agricultural soils during this period. Cropped lands account for 15.1 MMT C year(- 1), while grazing land soil C increased 6.1 MMT C year(-1). The land use and management changes that have contributed the most to increasing soil C during this period are (1) adoption of conservation tillage practices on cropland, (2) enrollment of cropland in the Conservation Reserve Program, and (3) cropping intensification that has resulted in reduced use of bare fallow. (C) 2001 Elsevier Science Ltd. All rights reserved.
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15. **Potential carbon benefits of the Conservation Reserve Program in the United States.**
Barker, J. R.; Baumgardner, G. A.; Turner, D. P.; and Lee, J. J.
Journal of Biogeography 22 (4-5): 743-751. (1995)
NAL Call #: QH1.J62; *ISSN:* 0305-0270.
Notes: Conference: 1. GCTE Science Conference, Woods Hole, MA (USA), 23-27 May 1994
Descriptors: USA/ carbon sinks/ land improvement/ vegetation changes/ climatic changes/ Conservation Reserve Program/ Conservation
Abstract: Three scenarios of the Conservation Reserve Program (CRP) were simulated to project carbon (C) pools and fluxes of associated grassland and forestland for the years 1986-2035; and to evaluate the potential to offset greenhouse gas emissions through C sequestration. The approach was to link land-area enrolments with grassland and forestland C densities to simulate C pools and fluxes over 50 years. The CRP began in 1986 and by 1996 consisted of 16.2 x 10 super(6) ha cropland converted to 14.7 x 10 super(6) ha grassland and of 1.5 x 10 super(6) ha forestland. The CRP1 simulated the likely outcome of the CRP as contracts expire in 1996 with the anticipated return of 8.7 x 10 super(6) ha grassland and of 0.4 x 10 super(6) ha forestland to crop production. The CRP2 assumed that the CRP continues with no land returning to crop production. The CRP3 was an expansion of the CRP2 to include afforestation of 4 x 10 super(6) ha new land. Average net annual C gains for the years 1996-2005 were < 1, 12, and 16 TgC yr super(-1) for CRP1, CRP2, and CRP3, respectively. Afforestation of marginal cropland as simulated under CRP3 could provide approximately 15% of the C offset needed to attain the Climate Change Action Plan of reducing greenhouse gas emissions to their 1990 level by the year 2000 within the United States.
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16. **Soil carbon sequestration and the greenhouse effect: Proceedings of a symposium, 90th Annual Meeting.**
Lal, R.
Madison, WI: Soil Science Society of America; xvii, 236. (2001)
Notes: Meeting held 18-22 October 1998 at Baltimore, MD.; *ISBN:* 0-89118-836-3
This citation is provided courtesy of CAB International/CABI Publishing.

17. **Soil Change and Carbon Storage in Longleaf Pine Stands Planted on Marginal Agricultural Lands.**
Markewitz, D; Sartori, F; and Craft, C
Ecological Applications 12 (5): 1276-1285. (Oct. 2002)
NAL Call #: QH540.E23; *ISSN:* 1051-0761
Descriptors: Carbon Storage/ Conservation Reserve Program/ Longleaf Pine/ Marginal Agricultural Lands/ Soil Cations/ Soil Change/ Soil Nitrogen/ Soil Phosphorus/ Wiregrass Savannas/ Ecosystem Function/ Loblolly Pine/ 3 Decades Forest/ Sequestration/ Patterns/ Turnover
Abstract: An increasing area of marginal agricultural land in the coastal plain of the southeastern United States is being planted to longleaf pine (Pinus palustris Mill.). This chronosequence study in southern Georgia evaluated the effect of pine planting and the associated cessation of agricultural activity such as tillage and fertilization on soil C storage and soil nutrient stocks. Soils are Arenic or Typic Kandiudults with coarse- textured surface soils. Soil C, nutrients, and bulk density from 0 to 50 cm in planted stands 1, 3, 7, and 14 yr old, as well as soils beneath natural longleaf pine stands that were in a never tilled (NT) condition, were evaluated (n = 3 per stand age). No accumulation of soil C was apparent during the first 14 yr of pine growth. The average content of soil C in planted stands (11 +/- 1 Mg/ha; mean +/- 1 SE) was similar to 16 Mg/ha less than that in the NT soils (27 +/- 4 Mg/ha). Soil total N content within planted stands also did not differ by age, although extractable NO, declined rapidly. Despite agricultural N inputs, the mean N content of planted stands (410 +/- 83 Mg/ha) was below that in NT stands (730 +/- 21 Mg/ha). Total P (1507 +/- 21 Mg/ha) and extractable P (113 -_ 21 Mg/ha) contents also did not differ between planted stands but had highly elevated values compared to total P (728 -_ 38 Mg/ha) and extractable P (2 +/- 1 Mg/ha) for NT soils. Soil exchangeable Ca, Mg, and K had generally decreasing contents with stand age but varying patterns related to NT soils. During the first 14 yr of reforestation, soils did not sequester C. Carbon benefits may be gained, however, in above-ground and belowground biomass accumulation and through the cessation of high energy-consumptive activities such as fertilization or tillage. Enhanced P fertility on these marginal lands can improve pine growth, but only if other elements such as N are not limiting to growth.
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18. **Soil management concepts and carbon sequestration in cropland soils.**
Follett, R. F.
Soil and Tillage Research 61 (1/2): 77-92. (2001)
NAL Call #: S590.S48; *ISSN:* 0167-1987
This citation is provided courtesy of CAB International/CABI Publishing.

19. **Statistical Assessment of a Paired-Site Approach for Verification of Carbon and Nitrogen Sequestration on Wisconsin Conservation Reserve Program Land.**
Kucharik, CJ; Roth, JA; and Nabielski, RT
Journal of Soil and Water Conservation 58 (1): 58-67. (Jan. 2003-Feb. 2003)
NAL Call #: 56.8 J822; *ISSN:* 0022-4561
Descriptors: Agricultural Land Management/ Carbon Sequestration / CRP/ Soil Organic Matter/ Wisconsin/ Organic Matter Recovery/ Particle Size Analysis/ Soil Carbon/ Quality/ Switchgrass/ Management/ Grassland/ Storage/ Fields/ Bulk
Abstract: The threat of global climate change has provoked policy-makers to consider plausible strategies to slow the accumulation of greenhouse gases-especially carbon dioxide (CO2)-in the atmosphere. One such idea involves the sequestration of atmospheric carbon (C) in degraded agricultural soils as part of the Conservation Reserve Program (CRP). While the potential for significant C sequestration in CRP grassland ecosystems has been demonstrated, the paired-site sampling approach traditionally used to quantify soil C changes has not been evaluated with robust statistical analysis. In this study, 14 paired CRP (> 8 years old) and cropland sites in Dane County, Wisconsin, were used to assess whether a paired-site sampling design could detect statistically significant differences (ANOVA) in mean soil organic C and total nitrogen (N) storage. We compared 0 to 10 cm (0 to 3.9 in) bulk density and sampled soils (0 to 5 cm, 5 to 10 cm, and 10 to 25 cm [0 to 2 in, 2 to 3.9 in, and 3.9 to 9.8 in]) for textural differences and chemical analysis of organic matter (OM), soil organic C (SOC), total N, and pH. The CRP contributed to reducing soil bulk density by 13% (p < 0.001) and increased SOC and OM storage (kg m(-2) [lb ft(-2)]) by 13% to 17% in the 0 to 5 cm (2 in) layer (p = 0.1). We tested the statistical power associated with ANOVA for measured soil properties and calculated minimum detectable differences (MDD). We concluded that 40 to 65 paired sites and soil sampling in 5 cm (2 in) increments near the surface were needed to achieve an 80% confidence level (a = 0.05; β = 0.20) in soil C and N sequestration rates. Because soil C and total N storage was highly variable among these sites (CVs > 20%), only a 23% to 29% change in existing total organic C and N pools could be reliably detected. While C and N sequestration (247 kg C ha(-1) yr(-1) and 17 kg N ha(-1) yr(-1) [220 lb C ac(-1)

and 15 lb N ac(-1)]) may be occurring and confined to the surface 5 cm (2 in) as part of the Wisconsin CRP, our sampling design did not statistically support the desired 80% confidence level. We conclude that usage of statistical power analysis is essential to insure a high level of confidence in soil C and N sequestration rates that are quantified using paired plots.
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20. **Uncertainty in estimating land use and management impacts on soil organic carbon storage for US agricultural lands between 1982 and 1997.**
Ogle, S. M.; Breidt, F. J.; Eve, M. D.; and Paustian, K.
Global Change Biology 9 (11): 1521-1542. (2003)
NAL Call #: QC981.8.C5G6323; *ISSN:* 1354-1013.
Notes: Number of References: 143;
Publisher: Blackwell Publishing Ltd
Descriptors: Environment/ Ecology/ agroecosystems/ carbon sequestration/ greenhouse gas mitigation/ IPCC/ land use change/ uncertainty analysis/ Conservation Reserve Program/ fine sandy loam/ cultivated grassland soils/ Carbon 13 natural abundance/ fallow tillage systems/ long term tillage/ southwestern Saskatchewan/ crop rotations/ great plains/ nitrogen fertilization
Abstract: Uncertainty was quantified for an inventory estimating change in soil organic carbon (SOC) storage resulting from modifications in land use and management across US agricultural lands between 1982 and 1997. This inventory was conducted using a modified version of a carbon (C) accounting method developed by the Intergovernmental Panel on Climate Change (IPCC). Probability density functions (PDFs) were derived for each input to the IPCC model, including reference SOC stocks, land use/management activity data, and management factors. Change in C storage was estimated using a Monte-Carlo approach with 50 000 iterations, by randomly selecting values from the PDFs after accounting for dependencies in the model inputs. Over the inventory period, mineral soils had a net gain of 10.8 Tg C yr(-1), with a 95% confidence interval ranging from 6.5 to 15.3 Tg C yr(-1). Most of this gain was due to setting-aside lands in the Conservation Reserve Program. In contrast, managed organic soils lost 9.4 Tg C yr(-1), with a 95% confidence interval ranging from 6.4 to 13.3 Tg C yr(-1). Combining these gains and losses in SOC, US agricultural soils accrued 1.3 Tg C yr(-1) due to land use and management change, with a 95% confidence interval ranging from a loss of 4.4 Tg C yr(-1) to a gain of 6.9 Tg C yr(-1). Most of the uncertainty was attributed to management factors for tillage, land use change between cultivated and uncultivated conditions, and C loss rates from managed organic soils. Based on the uncertainty, we are not able to conclude with 95% confidence that change in US agricultural land use and management between 1982 and 1997 created a net C sink for atmospheric CO2.
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21. **Agricultural sedimentation impacts on lakeside property values.**
Bejranonda, S.; Hitzhusen, F. J.; and Hite, D.
Agricultural and Resource Economics Review 28 (2): 208-218. (1999)
NAL Call #: HD1773.A2N6; *ISSN:* 1068-2805
This citation is provided courtesy of CAB International/CABI Publishing.

22. **Agriculture and dynamics of soil erosion in the United States.**
Uri, Noel D and Lewis, James A
Journal of Sustainable Agriculture 14 (3): 63-82. (1999)
NAL Call #: S494.5.S86S8; *ISSN:* 1044-0046
Descriptors: Soil erosion---United States/ Soil conservation---United States/ United States---Agricultural policy---Environmental aspects/ Agriculture---Environmental aspects/ United States---Environmental policy
Abstract: Examines soil conservation programs' effectiveness in reducing erosion; educational, technical and financial assistance, research and development, land retirement, regulation, tax, and incentives policies meant to affect production practices adoption. Some focus on the Food Security Act of 1985, the Federal Agriculture Improvement and Reform Act (FAIR) of 1996, and the Conservation Reserve Program (CRP).
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23. **Assessment of soil quality in Conservation Reserve Program and wheat-fallow soils.**
Staben, M. L.; Bezdicek, D. F.; Smith, J. L.; and Fauci, M. F.
Soil Science Society of America Journal 61 (1): 124-130. (1997)
NAL Call #: 56.9-So3; *ISSN:* 0361-5995 [SSSJD4]
Descriptors: soil/ quality/ assessment/ land use/ land diversion/ grassland soils/ agricultural soils/ wheat soils/ soil organic matter/ carbon/ nitrogen content/ carbon nitrogen ratio/ soil flora/ soil fauna/ biomass/ soil enzymes/ enzyme activity/ soil ph/ mineralization/ respiration/ soil management/ Washington/ soil respiration
Abstract: Chemical and microbial aspects of soil quality are an important consideration when evaluating the benefits of soil conservation efforts such as the Conservation Reserve Program (CRP). The objective of this study was to evaluate the quality of CRP and wheat-fallow (W-F) soils using soil biological and chemical parameters and C and N mineralization processes. The study was conducted on 20 CRP/W-F paired sites in eastern Washington, on Ritzville silt loam (coarse-silty, mixed, mesic Calciorthidic Haploxerolls). Soils collected from the paired fields were analyzed for chemical and biological parameters that have been suggested as indicators of soil quality. Potential enzyme activities and soil N were higher in the CRP soil than the W-F soil. Although there were no significant differences in total organic carbon (TOC) or microbial biomass carbon (MBC) the C mineralization potentials and C pools were significantly different between the CRP and W-F soils. Soil biota measurements showed there was greater active bacterial biomass in the CRP soil but greater fungal-feeding nematodes, flagellates, and amoebae in the W-F soil. The C mineralization study suggests that there is a significant increase in the secondary C pool of the CRP soil, which may indicate a buildup of higher quality soil organic matter and the potential for higher enzyme levels. When grass or straw was added to each soil type, the W-F soil produced more CO2 with either substrate than the CRP soil, indicating C limiting conditions in the W-F soil. Since it is unknown what constitutes good soil quality, these shifts in chemical and biological parameters may seem subtle. However, in general, trends in the data indicated that soil quality in the CRP was improved after 4 to 7 yr, compared with its previous management in W-F cropland.
This citation is from AGRICOLA.

24. **Assessment of soil quality in fields with short and long term enrollment in the CRP.**
Baer, S. G.; Rice, C. W.; and Blair, J. M.
Journal of Soil and Water Conservation 55 (2): 142-146. (2000)
NAL Call #: 56.8 J822
This citation is provided courtesy of CAB International/CABI Publishing.

25. **Comparing performance of the 1985 and the 1990 Conservation Reserve Programs in the West.**
Young, D.; Bechtel, A.; and Coupal, R.
Journal of Soil and Water Conservation 49 (5): 484-487. (1994)
NAL Call #: 56.8 J822; *ISSN:* 0022-4561
Descriptors: soil conservation/ government supports/ cropland/ cost analysis/ environmental effects/ policy making/ soil management/ Western/ erosion control/ government programs/ economics/ environmental impact/ United States/ Watershed protection/ Environmental action/ Conservation/ United States
Abstract: Despite its widespread popularity, the Conservation Reserve Program (CRP) has been criticized for its cost ineffectiveness in achieving soil conservation goals. The objective of this study was to compare how the more targeted revision of the CRP

in the 1990 Farm Bill compares with the 1985 Farm Bill CRP in concentrating enrollment in highly erodible western U.S. counties. Correlations between CRP enrollment and erodibility for counties in California, Idaho, Oregon, and Washington show that the 1990 CRP has been more successful than the 1985 CRP in concentrating enrollment in erodible counties. Fixed bid caps in the 1985 CRP often directed enrollment to counties with lower productivity and modest erodibility, which reduced cost-effectiveness. While the 1990 reforms appear to have improved the targeting of the CRP, the 1 million ha (2.3 million ac) 1990 CRP is small in terms of economic and environmental impact compared to the 14 million ha (34 million ac) 1985 CRP.
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26. **Conservation Reserve Program effects on soil quality indicators.**
Karlen, D. L.; Rosek, M. J.; Gardner, J. C.; Allan, D. L.; Alms, M. J.; Bezdicek, D. F.; Flock, M.; Huggins, D. R.; Miller, B. S.; and Staben, M. L.
Journal of Soil and Water Conservation 54 (1): 439-444. (1999)
NAL Call #: 56.8 J822
Descriptors: Conservation Reserve Program/ State conservation programs/ Regional conservation programs/ Iowa/ Minnesota/
North Dakota/ Washington
Abstract: Reviewed soil data from areas in the U.S. for their responses to the CRP and whether the soil quality indicators currently used are an accurate measure of ecosystem responses to CRP.

27. **Cost effectiveness and equity aspects of soil conservation programs in a highly erodible region.**
Young, D. L.; Walker, D. J.; and Kanjo, P. L.
American Journal of Agricultural Economics 73 (4): 1053-1062. (Nov. 1991)
NAL Call #: 280.8-J822; *ISSN:* 0002-9092
Descriptors: erosion/ soil conservation/ cost effectiveness analysis/ federal programs/ farmers/ agricultural regions/ economic impact/ social costs/ profits/ integer programming/ program participants/ Washington/ food security act of 1985/ distribution of costs/ taxpayers mixed integer programming models/ Whitman County, Washington
Abstract: The Conservation Reserve (CRP) and Conservation Compliance Programs could divide the soil conservation burden between farmers and taxpayers. In a highly erodible southeastern Washington region, however, a uniform region-wide CRP bid cap and relaxed compliance requirements resulted in little or no projected burden for farmers in arid, less productive subregions. In contrast, farmers in a more productive subregion were projected to bear 50% or more of the costs of soil conservation. The projected government cost per ton of soil conserved also increased threefold from the most to the least productive subregion.
This citation is from AGRICOLA.

28. **Earthworm (Lumbricidae) survey of North Dakota fields placed in the U.S. Conservation Reserve Program.**
Deibert, E. J. and Utter, R. A.
Journal of Soil and Water Conservation 58 (1): 39-45. (2003); *ISSN:* 0022-4561
This citation is provided courtesy of CAB International/CABI Publishing.

29. **Effects of long-term cropping on chemical aspects of soil quality.**
Eck, H. V. and Stewart, B. A.
Journal of Sustainable Agriculture 12 (2/3): 5-20. (1998)
NAL Call #: S494.5.S86S8; *ISSN:* 1044-0046
This citation is provided courtesy of CAB International/CABI Publishing.

30. **Enzyme activities in semiarid soils under Conservation Reserve Program, native rangeland, and cropland.**
Acosta-Martinez, V.; Klose, S.; and Zobeck, T. M.
Journal of Plant Nutrition and Soil Science / Zeitschrift fur Pflanzenernahrung und Bodenkunde 166 (6): 699-707. (2003)
NAL Call #: 384 Z343A; *ISSN:* 1436-8730.
Notes: Number of References: 39;
Publisher: Wiley-V C H Verlag Gmbh
Descriptors: Agriculture/ Agronomy/ specific enzyme activities/ arylamidase activity/ beta glucosaminidase activity/ crop rotations/ cotton/ sunflowers/ beta glucosaminidase activity / microbial biomass/ residue management/ cropping systems/ arylamidase activity/ organic matter/ chloroform fumigation/ cotton yield/ tillage/ nitrogen
Abstract: There is limited knowledge of biochemical processes in low carbon content soils of semiarid regions under different land use and management. This study investigated several enzyme activities of C, N, P, and S transformations in semiarid soils with different clay (10-21 %) and sand (59-85%) contents that were under Conservation Reserve Program (CRP), native rangeland (NR), and cropland (CL) under sunflowers (Eriophyllum ambiguum (Gray)), continuous cotton (Gossypium hirsutum L.), or in rotations with wheat (Triticum aestivum L.) or sorghum (Sorghum bicolor L.) in West Texas, USA. Soils under CRP and NR showed higher total C and N contents than cultivated soils under continuous cotton, but soil pH (6.7-8.4) was not affected by the management or land use studied. The activities of beta-glucosidase, beta-glucosaminidase, arylamidase, acid and alkaline phosphatase,

phosphodiesterase, and arylsulfatase (mg product (kg soil)(-1) h(-1)) were lower in CL under continuous cotton compared to cotton in rotation with other crops, CRP, and NR. The enzyme activities were also lower when compared to soils from other regions. Linear regression analyses indicated positive correlations between enzyme activities and total C (r values up to 0.96, P < 0.01). There was a positive relationship between enzyme activities and total N, but soil pH showed the opposite trend. Enzyme activities were significantly intercorrelated with r values up to 0.98 (P < 0.001). The specific enzyme activities (mg product (g organic C)(-1)) were lower in continuous cotton in comparison to the uncultivated soils (i.e., NR and CRP) reflecting differences in organic matter quantity and quality due to cultivation. Among the enzymes studied, the specific activities of beta-glucosidase and arylamidase showed a more pronounced decrease with increasing soil depth. In general, soils under CRP or wheat-cotton rotations revealed higher enzyme activities than soils under the common agricultural practice for these regions, i.e., continuous cotton under conventional tillage.
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31. **Erosion estimates and the effects of land use changes on soil savings estimates--Insights from the 1992 National Resources Inventory: Benefits.**
Kellogg, R. L. and Wallace, S.
In: Proceedings of the 50th Annual Meeting of the Soil and Water Conservation Society. (Held 7-9 Aug, 1995 at Des Moines, Iowa.); pp. 37-38; 1995.
Descriptors: USA/ natural resources/ erosion rates/ cropland/ wind erosion/ land use/ sheet erosion/ rill erosion/ soil conservation/ 1992 National Resources Inventory/ Conservation Reserve Program/ Erosion and sedimentation
Abstract: The 1992 National Resources Inventory shows that average erosion rates on cropland fell dramatically during the 10-year period from 1982 to 1992. The sheet and rill erosion rate fell from an average of 4.1 tons per acre per year on 421 million acres of cropland in 1982 to 3.1 tons per acre per year on 382 million acres of cropland in 1992. At the same time, the average rate of wind erosion fell from 3.3 tons per acre per year to 2.4 tons per acre per year. The combined wind and water erosion rate reduction translates to a saving of nearly 1 billion tons of soil per year, with approximately equal savings arising from reductions in sheet and rill erosion rates and wind erosion rates. Of this, about 395 million tons per year is due to the enrollment of land in the Conservation Reserve Program, 529 million tons per year is due to improved conservation practices on croplands acres, 158 million tons per year is due to conversion of cropland to other uses (such as developed land, pastureland, etc.). These savings are offset to some extent by an increase in erosion of 102 million tons per year on noncropland in 1982 converted to cropland by 1992. The paper includes a detailed breakdown of these soil savings estimates for eight major field crops-corn, cotton, soybeans, wheat, potatoes, sorghum, barley, and rice.
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32. **Erosion potential of a Torrertic Paleustoll after converting Conservation Reserve Program grassland to cropland.**
Unger, P. W.
Soil Science Society of America Journal 63 (6): 1795-1801. (1999)
NAL Call #: 56.9-So3; *ISSN:* 0361-5995 [SSSJD4]
Descriptors: mollisols/ clay loam soils/ wind erosion/ water erosion/ erodibility/ grassland soils/ land use/ conversion/ tillage/ soil management/ grasses/ plant residues/ Texas/ grass management
Abstract: Extensive cropland areas were covered by the Conservation Reserve Program (CRP) in the semiarid southern Great Plains. Because soils were highly erodible, would erosion again become a problem when CRP land was converted to cropland? The erosion potential due to tillage methods used to convert CRP grassland to cropland was determined on Pullman clay loam (Torrertic Paleustoll). Tillage methods were no-, sweep, disk, and moldboard + disk tillage with CRP grass retained or removed (mowing and baling), and grass burning followed by sweep or disk tillage. Wind erosion potential was based on percentage of > 0.84-mm diam. and mean weight diameter (MWD) of dry aggregates at 2 to 3 yr after converting to cropland. Water erosion potential was based on MWD and percentage of < 0.25-mm water-stable aggregates, and water stability of 1-to 2-mm aggregates at crop planting and harvest. Few differences due to tillage methods were significant. For dry aggregates, more than 60% were > 0.84-mm diam. and MWD was >10 mm with all tillage methods, indicating a low wind erosion potential. Wet aggregate stability and MWD values at some sampling times indicated water erosion could occur. Although erosion potential was low, continued use of residue-incorporating tillage could lead to greater potentials. Because of initially low potentials, CRP land on Pullman and similar soils could be converted to cropland by any tillage method. Then, a conservation tillage system (e.g., no-tillage) could be implemented before erosion by wind or water became a serious problem.
This citation is from AGRICOLA.

33. **Establishment of range plants in the northern Great Plains.**
Reis, R. E.; White, R. S.; and Lorenz, R. J.
In: General Technical Report RM.
Fort Collins, Colo.: Rocky Mountain Forest and Range Experiment Station, 1988; pp. 29-34.
Notes: Report Series ISSN: 0277-5786; Proceedings of a Symposium on "Impacts of the Conservation Reserve Program in the Great Plains," held Sept 16-18, 1987, Denver, Colorado. Includes references.
NAL Call #: aSD11.A42
Descriptors: resource conservation/ soil conservation/ legislation/ replanting/ northern plains states of USA/ food security act of 1985/ Conservation Reserve Program
This citation is from AGRICOLA.

34. **Evaluating Agricultural Nonpoint-Source Pollution Programs in Two Lake Erie Tributaries.**
Forster, D. L. and Rausch, J. N.
Journal of Environmental Quality 31 (1): 24-31. (2002)
NAL Call #: QH540.J6; *ISSN:* 0047-2425
Descriptors: Economics/ Agriculture/ Nonpoint pollution/ Soil erosion/ Water pollution control/ Water conservation/ Government programs/ tributaries/ Costs/ Performance assessment/ Governments/ Erosion control/ Pollution control/ Agricultural pollution/ North America, Erie L/ United States, Maumee River/ United States, Ohio, Sandusky River/ Agricultural Watersheds/ Nonpoint Pollution Sources/ Best Management Practices/ Government Supports/ Expenditures/ Economic Evaluation/ Economic Efficiency/ Catchment areas/ Erosion/ Pollution (Nonpoint sources)/ United States, Erie L/ United States, Ohio, Sandusky River/ United States, Ohio, Maumee River/ Environmental action/ Prevention and control/ Watershed protection/ Water Quality/ Water Pollution: Monitoring, Control & Remediation/ Water quality control
Abstract: During the past three decades, numerous government programs have encouraged Lake Erie basin farmers to adopt practices that reduce water pollution. The first section of this paper summarizes these state and federal government agricultural pollution abatement programs in watersheds of two prominent Lake Erie tributaries, the Maumee River and Sandusky River. Expenditures are summarized for each program, total expenditures in each county are estimated, and cost effectiveness of program expenditures (i.e., cost per metric ton of soil saved) are analyzed. Farmers received nearly $143 million as incentive payments to implement agricultural nonpoint source pollution abatement programs in the Maumee and Sandusky River watersheds from 1987 to 1997. About 95% of these funds was from federal sources. On average, these payments totaled about $7000 per farm or about $30 per farm acre (annualized equivalent of $2 per acre) within the watersheds. Our analysis raises questions about how efficiently these incentive payments were allocated. The majority of Agricultural Conservation Program (ACP) funds appear to have been spent on less cost-effective practices. Also, geographic areas with relatively low (high) soil erosion rates received relatively large (small) funding.
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35. **An ex post evaluation of the conservation reserve, federal crop insurance, and other government programs: Program participation and soil erosion.**
Goodwin, B. K. and Smith, V. H.
Journal of Agricultural and Resource Economics 28 (2): 201-216. (2003)
NAL Call #: HD1750.W4; *ISSN:* 0162-1912
This citation is provided courtesy of CAB International/CABI Publishing.

36. **Impacts of tillage and no-till on production of maize and soybean on an eroded Illinois silt loam soil.**
Hussain, I.; Olson, K. R.; and Ebelhar, S. A.
Soil and Tillage Research 52 (1/2): 37-49. (1999)
NAL Call #: S590.S48; *ISSN:* 0167-1987
This citation is provided courtesy of CAB International/CABI Publishing.

37. **Integrated dryland crop and livestock production systems on the Great Plains: Extent and outlook.**
Krall, J. M. and Schuman, G. E.
Journal of Production Agriculture 9 (2): 187-191. (Apr. 1996-June 1996)
NAL Call #: S539.5.J68; *ISSN:* 0890-8524 [JPRAEN].
Notes: Paper presented at the symposium "Cropping Systems of the Great Plains" held during the ASA-CSSA-SSSA annual meetings 1994, Seattle. Includes references.
Descriptors: dry farming/ sustainability/ farming systems/ integrated systems/ livestock farming/ crop production/ land use/ censuses/ trends/ environmental impact/ soil organic matter/ farm management/ soil fertility/ great plains states of USA
Abstract: Soil organic carbon levels have declined 24 to 60% on many Great Plains soils since initial cultivation. Integrated crop and livestock systems could help reverse this trend, therefore we examined the extent of use, the factors affecting use, and the potential for this system. The 1992 U.S. Department of Commerce data indicate that land in integrated systems is limited to less than 10% of the agricultural land. However, expiration of the USDA Conservation Reserve Program (CRP) has created interest in integrated systems. Economists report that after CRP contracts expire, perennial forages and livestock systems may be the most profitable; however, a

survey of growers indicates that 63% of all CRP acres will go back to crop production. Recent research in Wyoming shows that returning CRP land to production using wheat (Triticum aestivum L.)-fallow practices quickly degrades soil quality. A doubling of grazing fees would mean an 18% reduction in demand for public land, which could mean more options for CRP acreage after contract expiration. Exemplified successful systems are the Australia wheat-sheep (Ovis aries L.) system, perennial legume-wheat rotation in southern Alberta, grass community establishment on marginal Wyoming cropland, and an alternative (organic) farming system in South Dakota. Benefits include the opportunity for soil quality improvement, economic diversity, and pest control. However, tradition, lack of managerial experience, and necessary alteration in farm-ranch infrastructure may slow adoption. Generally, dryland integrated systems are agriclimatic zone specific, and represent a potential ecologically and economically sustainable form of agriculture. Scientists and producers have to identify and develop appropriate integrated systems that fit the natural resource base.
This citation is from AGRICOLA.

38. **Land use biodiversity index as a soil quality indicator.**
Bloodworth H; Sobecki T; and Santen E van.
In: Making conservation tillage conventional: Building a future on 25 years of research -- Proceedings of 25th Annual Southern Conservation Tillage Conference for Sustainable Agriculture. (Held 24 Jun 2002-26 Jun 2002 at Auburn, AL.);
pp. 219-221; 2002.
This citation is provided courtesy of CAB International/CABI Publishing.

39. **Land-use management using a soil survey geographic database for Finney County, Kansas.**
Wu, J.; Ransom, M. D.; Kluitenberg, G. J.;
Nellis, M. D.; and Seyler, H. L.
Soil Science Society of America Journal 65 (1): 169-177. (2001)
NAL Call #: 56.9-So3; *ISSN:* 0361-5995 [SSSJD4]
Descriptors: land use / geographical information systems/ databases/ soil surveys/ land management/ land use planning/ aquifers/ thickness/ land banks/ remote sensing/ satellite imagery/ fallow/ grasslands/ physiographic features/ soil organic matter/ soil texture/ surface layers / ground cover/ agricultural land/ crop production/ triticum aestivum/ sorghum bicolor/ zea mays/ medicago sativa/ horizons/ irrigated farming/ maps/ Kansas/ Conservation Reserve Program/ land cover/ land use
land cover maps
Abstract: The determination of best management practices for land resources is often complicated by the lack of a means for evaluation and lack of quality data. Soil surveys are an important source of data that can be used to improve farm and ranch planning and environmental protection. In this study, we examined the use of a soil survey geographic (SSURGO) database within a geographic information system (GIS) coupled with remote sensing data for land-use management in Finney County, Kansas. The objectives were (i) to identify land-use change; (ii) to evaluate the influence of soil, groundwater, and physiography on land use; and (iii) to assess land-use potential and present management alternatives. Land-use/land-cover (LULC) maps for 1987, 1989, and 1992 were derived from Landsat Thematic Mapper data. These LULC layers were manipulated with layers: organic matter content, thickness, and texture of the surface soil horizon; land capability class; aquifer thickness (AT); and physiography. The acreage of fallow land decreased and the acreage of grassland increased from 1987 to 1992 because of an increase in the acreage of land used in the Conservation Reserve Program (CRP). Broad cropping patterns (irrigated vs. nonirrigated) did not change significantly between 1987 and 1992 and were related to AT. Some currently cropped areas had high erosion potential, whereas some grasslands had relatively low erosion hazards. These grasslands could be used as alternatives for cropping. The study demonstrates the potential of using SSURGO within a GIS coupled with remote sensing information in planning and management for natural resources.
This citation is from AGRICOLA.

40. **Legume, grass, and Conservation Reserve Program effects on soil organic matter recovery.**
Robles, M. D. and Burke, I. C.
Ecological Applications 7 (2): 345-357. (1997)
NAL Call #: QH540.E23; *ISSN:* 1051-0761
Descriptors: United States, Wyoming/ legumes/ grasses/ soil conservation/ organic matter/ Reclamation
Abstract: Active pools of soil organic matter (SOM) can recover to native levels on formerly cultivated fields that are abandoned for approximately 50 yr, but the short-term (<10 yr) recovery dynamics of SOM and nutrient supply have not been widely investigated. In several fields on a farm in southeastern Wyoming that had been involved in the Conservation Reserve Program (CRP, a federal program that pays landowners to convert cultivated land into revegetated grasslands), we compared C and N in several SOM pools (coarse particulate organic matter [POM, between 500 mu m and 2 mm], fine POM [53-500 mu m], and total SOM), and we compared potential C and N mineralization in active pools responsible for nutrient supply. The two CRP treatments, planted 6 yr prior to this study, were an approximately 80% legume:20% grass mixture (HL CRP) and a 20% legume:80% grass mixture (LL CRP). To quantify SOM accumulations directly due to

increased plant inputs within CRP fields, we also compared SOM pools under legumes and grasses relative to plant interspaces, where we expected plant inputs to be minimal. The net impacts of increased plant inputs and the cessation of tillage generally increased pools of mineralizable and coarse-POM C and N by factors of two to four relative to wheat-fallow fields (alternate years in winter wheat and in fallow), but had negligible effects on total SOM. Recovery of microsite (approximately 10-cm scale) soil heterogeneity, an important structural attribute of native arid and semiarid ecosystems, was accelerated under legumes, which produced more labile tissue than grasses. Soils under legumes contained larger pools of coarse-POM C and N and exhibited higher net N mineralization rates than soil under grasses or in plant interspaces. Grasses grown in HL CRP soils, which had the highest rates of potential net N mineralization, produced more labile tissue than the same grasses grown in the more nutrient-depleted LL CRP fields, suggesting that plant/soil feedbacks were important. Therefore, recovery of labile soil and plant N was enhanced when the proportion of legumes was high, and this may lead to improved grain or animal N nutrition if these CRP fields are subsequently cropped or grazed.
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41. **Management considerations for returning CRP lands to crop production.**
Lindstrom, M. J.; Schumacher, T. E.; and Blecha, M. L.
Journal of Soil and Water Conservation 49 (5): 420-425. (1994)
NAL Call #: 56.8 J822; *ISSN:* 0022-4561
Descriptors: soil conservation/ agriculture/ erosion control/ government supports/ cropland/ soil management/ crop production/ government programs / crops/ Watershed protection/ Environmental action
Abstract: The Conservation Reserve Program (CRP) was initiated in 1985 under the Food Security Act with the intention of converting up to 18 million hectares (45 million acres) of highly erodible land (HEL) to permanent cover. Twelve sign-up periods has resulted in 377,000 contracts nationally. Eight percent of the cropland in the U.S. is enrolled in CRP. By 1993, 14.8 million hectares (36.5 million acres) of highly erodible or environmentally sensitive land were enrolled in CRP. The first contracts will begin to expire in 1995. By 1997, 8.9 million hectares (22 million acres) will be released from their CRP contracts. Fifty-five percent of CRP acres (8.1 million hectares or 20 million acres) are located in the 10 Great Plains States. Average erosion reduction is estimated to be 42.6 Mg ha super(-1)/yr (19 t/ac) for land enrolled in CRP. As the year 1995 nears and CRP lands become eligible for release, landowners will be faced with many options, including leaving the lands in grass for hay or livestock production, or establishing some type of wildlife or recreation practices. However, recent surveys show that many acres will be cropped if CRP contracts are not renewed. As global concern about soil degradation increases, landowners will be directed toward maintaining the environmental benefits of CRP, even on land returning to crop production.
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42. **Microbial diversity along a transect of agronomics zones.**
Ibekwe, A. M.; Kennedy, A. C.; Frohne, P. S.; Papiernik, S. K.; Yang, C. H.; and Crowley, D. E.
FEMS Microbiology Ecology 39 (3): 183-191. (Mar. 2002)
NAL Call #: QR100.F45; *ISSN:* 0168-6496 [FMECEZ]
Descriptors: soil management/ soil flora/ soil bacteria/ community ecology/ precipitation/ Washington/ ammonia oxidizing bacteria/ soil quality
Abstract: The diversity of microbial communities constitutes a critical component of good soil-management practices. To characterize the effects of different management practices, molecular indicators such as phospholipid fatty acid (PLFA), denaturing gradient gel electrophoresis (DGGE) and composition of ammonia-oxidizing bacteria were used to analyze bacterial community structure and diversity from four eastern Washington State soils. Samples from four sites were collected representing a transect of high-precipitation to low-precipitation areas that covered different agronomic zones with different management and cropping practices. Biomass amounts estimated from extractable PLFA were significantly higher in the no-till (NT) soil than in the conventional-till (CT) soil. Similarities among the different 16S rDNA DGGE band profiles were analyzed quantitatively using correspondence analysis and this confirmed that the CT soil was the most dissimilar soil. DGGE analysis of 16S rDNA ammonia-oxidizing bacteria from the four soils revealed two identical bands, indicating little effect of agronomic practices and precipitation on these species. A second set of primers, specific for amoA (ammonia monooxygenase) genes, was used to examine ammonia oxidizers in the samples. Six banding patterns (clusters) from amplified rDNA restriction analysis of 16S rDNA fragments were observed after restriction analysis with HinfI. Sequencing of these clones revealed the presence of only Nitrosospira-like sequences. Analysis of the sequences showed that ammonia oxidizers from the NT soil were more diverse compared to those from the CT and Conservation Reserve Program soils. Our data showed that management and agronomic practices had more impact on bacterial community structure than annual precipitation.
This citation is from AGRICOLA.

43. **A note on the use of conservation practices in U.S. agriculture.**
Boyd, R. and Uri, N. D.
Environmental Monitoring and Assessment 72 (2): 141-178. (Nov. 2001)
NAL Call #: TD194-.E5; *ISSN:* 0167-6369 [EMASDH]
Descriptors: agriculture/ conservation tillage/ conservation/ agricultural production/ productivity/ carbon/ soil organic matter/ federal programs/ economic sectors/ mathematical models/ United States/ carbon sequestration/ Conservation Reserve Program/ conservation buffer strips/ dynamic computable general equilibrium models
This citation is from AGRICOLA.

44. **On-site and off-site impacts of soil erosion: Their implications for soil conservation policy.**
Segarra, E.; Ervin, R. T.; Dicks, M. R.; and Taylor, D. B.
Resources, Conservation and Recycling 5 (1): 1-19. (1991); *ISSN:* 0921-3449
Descriptors: erosion/ conservation/ federal policies/ environmental management/ soils/ Land pollution/ Landslides and erosion/ Environment
Abstract: Using dynamic optimization modeling, impacts of the Conservation Reserve Program (CRP) and the Conservation Compliance Provision (CC) contained in the Conservation Title of the 1985 US Food Security Act was evaluated for a representative farm in South-Central Virginia. Results provide insights on the optimal course of action with respect to what, how, and when to produce agricultural commodities, such that maximization of net present value of returns is achieved when considering the alternatives of enrolling in CRP, meeting CC requirements, or neither.
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45. **Post-contract land use effects on soil carbon and nitrogen in conservation reserve grasslands.**
Dao, T. H.; Stiegler, J. H.; Banks, J. C.; Boerngen, L. B.; and Adams, B.
Agronomy Journal 94 (1): 146-152. (Jan. 2002-Feb. 2002)
NAL Call #: 4-AM34P; *ISSN:* 0002-1962 [AGJOAT]
Descriptors: bothriochloa ischaemum/ triticum aestivum/ land use/ soil fertility/ nitrogen/ soil organic matter/ grasslands/ nature reserves/ nature conservation/ erosion/ cultivation/ semiarid zones/ tillage/ conservation tillage/ no-tillage/ mineralization/ land banks/ Oklahoma
Abstract: Carbon and N changes in highly erodible croplands (HELs) under the Conservation Reserve Program (CRP) and the effects of reverting to cultivation in semiarid regions are not well understood. The effects of four transitional production systems [Old World bluestem (Bothriochloa ischaemum L.)-unfertilized (OWBUF), Old World bluestem-fertilized (OWBF), conservation-tillage (CT), and no-till (NT) wheat (Triticum aestivum L.)] on soil C and N were determined in two CRP fields in western Oklahoma. Soil potentially mineralizable C (PMC) and N (PMN) were determined in cores collected before and after the reinitiation of cultivation in 1994 and in 1997. Compared with soils of the same series from adjoining cultivated fields, Old World bluestem (OWB) cover increased soil PMC, primarily in the 0- to 0.1-m depth of Dalhart (Aridic Haplustalfs) and La Casa-Aspermont (Typic Paleustolls) soils before 1994. Negative PMN required a high level of fertility management to improve stand productivity. Shift from OWB to wheat increased soil PMC and PMN in the short-term. No-till and CT treatments had PMC averaging 8.9 and 9.6 g m(-3) d(-1) or 23 to 32% higher than those from OWB treatments in the 0- to 0.3-m depth of Dalhart soil. Soil PMC of the CT treatment averaged 7.2 g m(-3) d(-1) or 73% higher than that of the La Casa-Aspermont under OWB. The trend of higher mineralizable C and N suggested that post-CRP conservation practices, in particular NT, contributed to HEL restoration by also controlling the upward movement and loss of CO3-C, maintaining these lands as C sinks in semiarid regions.
This citation is from AGRICOLA.

46. **Properties and productivity of recently tilled grass sod and 70-year cultivated soil.**
Zobeck, T. M.; Rolong, N. A.; Fryrear, D. W.; Bilbro, J. D.; and Allen, B. L.
Journal of Soil and Water Conservation 50 (2): 210-215. (1995)
NAL Call #: 56.8 J822; *ISSN:* 0022-4561
Descriptors: cultivated lands/ soil erosion/ productivity/ grasslands/ trees/ soil physical properties/ cropland/ erosion control/ Conservation Reserve Program/ Watershed protection
Abstract: The 1985 Food Security Act established the Conservation Reserve Program (CRP) whereby highly erodible land was placed into sod or trees for 10 years. Detailed information on the effects of grass sod on soil properties and productivity is needed in order to fully understand the impact of returning the retired land to production. In this study, land that had been in grass sod for about 30 years was converted to cotton and sorghum production in 1985. Yields were measured from 1985 through 1991 on that land and land that was continuously cultivated for 70 years. Selected soil properties were also measured after the study. Silt content, organic matter, and wet soil stability were higher in the surface soil of the grass sod than in the cultivated fields. Clod density was lower in the grass sod than in the cultivated fields. Sorghum biomass was higher in the recently converted field but yield differences between the converted and continuously cultivated field were not observed after fertilization. Cotton lint yields did not increase on the recently converted grassland. These

results suggest economists must consider the crop grown when estimating yields of crops grown on land previously in the CRP. Crops may differ in yield and how they respond to management after conversion.
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47. **Restoration of microbial residues in soils of the Conservation Reserve Program.**
Amelung, W.; Kimble, J. M.; Samson Liebig, S.; and Follett, R. F.
Soil Science Society of America Journal 65 (6): 1704-1709. (2001)
NAL Call #: 56.9-So3; *ISSN:* 0361-5995 [SSSJD4]
Descriptors: land banks/ arable soils/ grassland soils/ agricultural land/ soil flora/ biomass/ nitrogen content/ carbon/ amino sugars/ chemical composition/ carbon nitrogen ratio/ soil organic matter/ soil conservation/ great plains states of USA/ western states of USA/ Minnesota
Abstract: To elucidate the role of microorganisms for C and N sequestration in arable soils converted to grassland (sites of the Conservation Reserve Program; CRP), we determined amino sugars as indicators for microbial residues in surface samples (0-5 cm) obtained from each of 10 adjacent native grassland, CRP, and cropland sites across the U.S. Great Plains. The CRP sites were 6 to 10 yr and the cropland sites were >80 yr old. Compared with native grasslands, the CRP sites had lost between 17 and 50% and the cropland sites between 32 and 94% of their surface soil organic matter (SOM). The C/N ratio was not significantly different among the three land-use systems, indicating that C and N losses occurred at similar intensity. The mean amino sugar concentrations decreased in the order native grassland (70 g kg(-1) C; 750 g kg(-1) N) > CRP (53 g kg(-1) C; 570 g kg(-1) N) > cropland (47 g kg(-1) C; 450 g kg(-1) N). This decrease in the element-normalized concentrations of amino sugars indicated that they responded faster to management than other C or N containing compounds. The response of individual amino sugars related to soil compaction and the temperature regime. We suggest that the resequestration of C and N into the residues of bacteria and fungi requires several years, but as it depends on land use it could be manipulated using, for example, soil decompacting techniques to improve CRP efficiency.
This citation is from AGRICOLA.

48. **Soil C and N changes on Conservation Reserve Program lands in the central Great Plains.**
Reeder, J D; Schuman, G E; and Bowman, R A
Soil and Tillage Research 47 (3-4): 339-349. (1998)
NAL Call #: S590.S48; *ISSN:* 0167-1987
Descriptors: carbon/ soil storage/ nitrogen/ soil change/ Conservation Reserve Program lands/ crop management/ fallow/ soil technology/ crop (Angiospermae)/ wheat (Gramineae)/ Monocots/ Plants/ Spermatophytes/ Vascular Plants
Abstract: The Conservation Reserve Program (CRP) was initiated to reduce water and wind erosion on marginal, highly erodible croplands by removing them from production and planting permanent, soil-conserving vegetation such as grass. We conducted a field study at two sites in Wyoming, USA, in order to quantify changes in soil C and N of marginal croplands seeded to grass, and of native rangeland plowed and cropped to wheat-fallow. Field plots were established on a sandy loam site and a clay loam site on wheat-fallow cropland that had been in production for 60+ years and on adjacent native rangeland. In 1993, 6 years after the study was initiated, the surface soil was sampled in 2.5 cm depth increments, while the subsurface soil was composited as one depth increment. All soil samples were analyzed for total organic C and N, and potential net mineralized C and N. After 60+ years of cultivation, surface soils at both study sites were 18-26% lower (by mass) in total organic C and N than in the A horizons of adjacent native range. Six years after plowing and converting native rangeland to cropland (three wheat-fallow cycles), both total and potential net mineralized C and N in the surface soil had decreased and NO3-N at all depths had increased to levels found after 60+ years of cultivation. We estimate that mixing of the surface and subsurface soil with tillage accounted for 40-60% of the decrease in surface soil C and N in long-term cultivated fields; in the short-term cultivated fields, mixing with tillage may have accounted for 60-75% of the decrease in C, and 30-60% of the decrease in N. These results emphasize the need to evaluate C and N in the entire soil solum, rather than in just the surface soil, if actual losses of C and N due to cultivation are to be distinguished from vertical redistribution. Five years after reestablishing grass on the sandy loam soil, both total and potential net mineralized C and N in the surface soil had increased to levels equal to or greater than those observed in the A horizon of the native range. On the clay loam soil, however, significant increases in total organic C were observed only in the surface 2.5 cm of N-fertilized grass plots, while total organic N had not significantly increased from levels observed in the long-term cultivated fields.
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49. **Soil erosion potential of former Conservation Reserve Program sites.**
Gilley, J. E. and Doran, J. W.
Transactions of the ASAE 41 (1): 97-103. (Jan. 1998-Feb. 1998)
NAL Call #: 290.9-Am32T; *ISSN:* 0001-2351 [TAAEAJ]
Descriptors: erodibility/ water erosion/ estimation/ simulation models/ computer simulation/ conservation areas/ soil conservation/ federal programs/ land use/

universal soil loss equation/ Mississippi/ Nebraska/ South Dakota/ water erosion prediction project (WEPP)/ revised universal soil loss equation (RUSLE)
Abstract: Conservation Reserve Program (CRP) areas that are returned to crop production will initially be much less erodible than fields which were farmed using conventional practices. In this study, a rainfall simulator was used to measure runoff and erosion from former CRP areas in Mississippi, Nebraska and South Dakota over approximately a two year period. Soil loss rates measured immediately following tillage on each of the three sites were similar to values obtained on the undisturbed CRP treatments. However, when left in a fallow condition, the erosion-reducing effectiveness of the sod appeared to have lasted less than one year. The rapid increase in soil erodibility following tillage was attributed to a reduction in surface cover and organic material. The WEPP and RUSLE models are currently used extensively in conservation planning and assessment. The experimental data collected in this study were used to derive selected parameter values for use in these models.
This citation is from AGRICOLA.

50. **Soil hydraulic properties of cropland compared with reestablished and native grassland.**
Schwartz, R. C.; Evett, S. R.; and Unger, P. W.
Geoderma 116 (1-2): 47-60. (2003)
NAL Call #: S590.G4; *ISSN:* 0016-7061.
Notes: Number of References: 32
Descriptors: Agriculture/ Agronomy/ hydraulic properties/ porosity/ hydraulic conductivity/ soil management/ tillage/ infiltrometers/ unsaturated soils/ tillage/ infiltration/ conductivity/ infiltrometers/ model/ disc
Abstract: Conversion of cropland to perennial grasses will, over time, produce changes in soil hydraulic properties. The objective of this study was to characterize and compare hydraulic properties of fine-textured soils on adjacent native grassland, recently tilled cropland, and reestablished grassland in the Conservation Reserve Program (CRP) at three locations in the Southern Great Plains. A tension infiltrometer was used to measure unconfined, unsaturated infiltration over a range of supply pressure heads (nominally, h = -150, -100, -50, and -5 mm H2O) at the soil surface. Intact soil cores were sampled within the Ap and Bt horizons to determine bulk density and water desorption curves, theta(h), at potentials ranging from -0.15 to -100 kPa. Unsaturated hydraulic conductivity K(h) over the range in supply pressure heads was estimated using Wooding's equation for steady-state flow from a disc source. The van Genuchten water retention model was fitted to theta(h) data to estimate parameter values. Soils in CRP had greater surface bulk densities than their grassland and cropland counterparts. The shape of the soil water retention curve for grassland and CRP land were similar, suggesting that converted croplands had fully reconsolidated. Mean near-saturated hydraulic conductivities of cropland at h = -5 mm were not significantly different from grassland. However, at -150 mm supply pressure head, cropped soils had a mean unsaturated conductivity 2.3 and 4.1 times greater than CRP land and grassland, respectively. Sites in CRP had the lowest ($P < 0.05$) near-saturated hydraulic conductivities (h = -5 mm), which suggest that after 10 years, grasses had not fully ameliorated changes in pore structure caused by tillage. Comparison of unsaturated conductivities for grassland and CRP land suggest that long-term structural development on native grasslands was principally confined to effective pore radii greater than 300 mum. Land use practices had a greater effect on water movement than did soil series, indicating that the modifying effects of tillage, reconsolidation, and pore structure evolution on hydraulic properties are important processes governing water movement in these fine-textured soils. (C) 2003 Elsevier Science B.V. All rights reserved.
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51. **Soil organic matter recovery in semiarid grasslands: Implications for the Conservation Reserve Program.**
Burke, I. C.; Lauenroth, W. K.; and Coffin, D. P.
Ecological Applications 5 (3): 793-801. (1995)
NAL Call #: QH540.E23; *ISSN:* 1051-0761
Descriptors: grasslands/ soil/ organic matter/ cultivation/ regeneration/ United States, Colorado/ Conservation/ Reclamation
Abstract: Although the effects of cultivation on soil organic matter and nutrient supply capacity are well understood, relatively little work has been done on the long-term recovery of soils from cultivation. We sampled soils from 12 locations within the Pawnee National Grasslands of northeastern Colorado, each having native fields and fields that were historically cultivated but abandoned 50 yr ago. We also sampled fields that had been cultivated for at least 50 yr at 5 of these locations. Our results demonstrated that soil organic matter, silt content, microbial biomass, potentially mineralizable N, and potentially respirable C were significantly lower on cultivated fields than on native fields. Both cultivated and abandoned fields also had significantly lower soil organic matter and silt contents than native fields. Abandoned fields, however, were not significantly different from native fields with respect to microbial biomass, potentially mineralizable N, or respirable C. In addition, we found that the characteristic small-scale heterogeneity of the shortgrass steppe associated with individuals of the dominant plant, Bouteloua gracilis, had recovered on abandoned

fields. Soil beneath plant canopies had an average of 200 g/m super(2) more C than between-plant locations. We suggest that 50 yr is an adequate time for recovery of active soil organic matter and nutrient availability, but recovery of total soil organic matter pools is a much slower process. Plant population dynamics may play an important role in the recovery of shortgrass steppe ecosystems from disturbance, such that establishment of perennial grasses determines the rate of organic matter recovery.
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52. **Soil organic matter recovery on Conservation Reserve Program fields in southwestern Wyoming.**
Robles, M. D. and Burke, I. C.
Soil Science Society of America Journal 62 (3): 725-730. (1998)
NAL Call #: 56.9-So3; *ISSN:* 0361-5995 [SSSJD4]
Descriptors: land management/ land use/ land diversion/ semiarid soils/ grassland soils/ wheat soils/ soil organic matter/ carbon/ nitrogen/ mineralization/ soil fertility/ Wyoming/ soil carbon pools/ mineralizable carbon/ mineralizable nitrogen/ soil nitrogen pools
Abstract: Soil C and N changes following cessation of cultivation in semiarid soils is not well understood. We hypothesized that returning cultivated fields in southeastern Wyoming to perennial grasses through the Conservation Reserve Program (CRP) would (i) increase labile pools of soil organic matter (SOM), and (ii) increase small-scale heterogeneity of SOM. Carbon and N in labile and passive pools of SOM were measured in CRP fields seeded with perennial grasses intermediate wheatgrass (Elytrigia intermedia [Host] Nevski ssp. intermedia), pubescent wheatgrass (Elytrigia intermedia [Schur.] A. Love ssp. barbulata) and smooth brome (Bromus inermis Leysser), and in winter wheat (Triticum aestivum L.)-fallow fields. Mineralizable C increased from 0.37 g m-2 d-1 in wheat-fallow fields to 0.99 g m-2 d-1 in CRP fields; mineralizable N and coarse particulate C were consistently but not significantly higher in CRP fields. Fine particulate and total soil C and N were not significantly different between CRP and wheat-fallow. Within CRP fields, mineralizable C was significantly higher under grasses than in interspaces (1.96 vs. 0.73 g m-2 d-1, respectively), and mineralizable N and coarse particulate C and N were consistently but not significantly higher under grasses than in interspaces. Soil C and N have increased only slightly after 6 yr of CRP management, and future changes in land use management on these CRP fields, including grazing and cropping, may accrue some small benefits associated with improved soil fertility status.
This citation is from AGRICOLA.

53. **Soil property changes during conversion from perennial vegetation to annual cropping.**
Wienhold, B. J. and Tanaka, D. L.
Soil Science Society of America Journal 65 (6): 1795-1803. (2001)
NAL Call #: 56.9-So3; *ISSN:* 0361-5995 [SSSJD4]
Descriptors: crop production/ hay/ medicago sativa/ agropyron/ triticum aestivum/ pisum sativum/ rotations/ tillage/ no-tillage/ perennials/ bulk density/ soil water/ soil organic matter/ soil chemistry/ soil fertility/ biomass/ carbon/ mineralization/ North Dakota/ return-to-crop production/ haying/ Conservation Reserve Program
Abstract: Management practices for conversion of land supporting perennial vegetation to crop production are needed. Effect of haying (hayed or not hayed), cropping (annual crop with no-tillage, minimum tillage, or conventional tillage, and no-tilled perennial crop), and N fertilization (0 or 67 kg ha(-1)) on soil properties were measured in 1995 and 1997 at a Conservation Reserve Program (CRP) site in North Dakota having an Amor loam (Fine-loamy, mixed, superactive, frigid, Typic Haplustoll) soil in a spring wheat (Triticum aestivum L.), winter wheat, pea (Pisum sativum L.) rotation. Soil physical properties were not affected negatively by the management practices used. Haying and tillage practices influenced soil chemical properties. Organic C and total N content declined (1.2 Mg ha(-1) for C and 0.1 Mg ha(-1) for N) from 1995 to 1997. In hayed plots, organic C and total N increased as tillage intensity decreased while in non-hayed plots no pattern was observed. Haying and tillage influenced soil biological properties. Potentially mineralizable N at 0 to 0.05 m increased as tillage intensity decreased in 1997. In the 0.05- to 0.15-m depth, potentially mineralizable N increased from 1995 (118 kg ha(-1)) to 1997 (146 kg ha(-1)). By 1997, soil properties in hayed plots responded to cropping practices similarly to those in established cropping systems in this region. In non-hayed plots, management induced patterns had not developed by 1997. Haying, conservation tillage, and annual cropping are viable approaches for converting land to annual crop production.
This citation is from AGRICOLA.

54. **Soil quality changes in eastern Washington with Conservation Reserve Program (CRP) take-out.**
Gewin VL; Kennedy AC; Veseth R; and Miller BC
Journal of Soil and Water Conservation 54 (1): 432-438; 30 ref. (1999)
NAL Call #: 56.8 J822
This citation is provided courtesy of CAB International/CABI Publishing.

55. **A soil quality framework for evaluating the impact of CRP.**
Karlen, D. L.; Gardner, J. C.; and Rosek, M. J.
Journal of Production Agriculture 11 (1): 56-60. (Jan. 1998-Mar. 1998)
NAL Call #: S539.5.J68; *ISSN:* 0890-8524 [JPRAEN]
Descriptors: soil organic matter/ soil fertility/ soil structure/ soil biology/ sustainability/ monitoring/ respiration/ no-tillage/ tillage/ biomass/ government policy/ land banks/ United States/ Conservation Reserve Program
Abstract: The book entitled "Soil and Water Quality: An Agenda for Agriculture" by the U.S. National Academy of Sciences caused people to ask whether soil quality assessments could be used to evaluate the impact of public policies such as the Conservation Reserve Program (CRP). However, differences in scale, perception of soil quality, and the inability to directly measure soil quality led to significant uncertainty among several potential users. A major challenge was determining how to evaluate and combine information from different indicators to make an overall soil quality assessment that is meaningful. Our objectives are to present a structured approach for interpreting soil quality indicator data and to introduce a conceptual frame-work that can be used to link the various scales of evaluation, including those needed for assessing effectiveness of public policies such as the CRP. The framework and its use are discussed and demonstrated using soil quality indicator data from published and unpublished studies. On-farm measurements suggest that biological indicators such as microbial biomass and respiration were affected most quickly and to the greatest extent when cultivated land was converted to grassland. Applying the conceptual framework to this data suggests that enrolling fragile lands into CRP had a positive soil quality effect. It also indicates that using no-till practices to return CRP land to row-crop production will preserve soil quality benefits of the CRP, but tilling to prepare a seedbed will destroy the benefits almost immediately.
This citation is from AGRICOLA.

56. **Soil quality of two Kansas soils as influenced by the Conservation Reserve Program.**
Huang, X.; Skidmore, E. L.; and Tibke, G. L.
Journal of Soil and Water Conservation 57 (6): 344-350. (Nov. 2002-Dec. 2002)
NAL Call #: 56.8 J822; *ISSN:* 0022-4561
Descriptors: United States, Kansas/ Soil Conservation/ Land Management/ Cultivated Lands/ Best Management Practices/ Indicators/ Soil Properties/ Carbon/ Agriculture/ Techniques of planning
Abstract: Achieving and maintaining a good soil quality is essential for sustaining agricultural production in an economically viable and environmentally safe manner. The transition of land management provides an opportunity to measure soil-quality indicators to quantify the effects of those management practices. This study compared soil chemical and physical properties after 10 years of grass on Conservation Reserve Program (CRP) land with those in continuously cropped land (CCL). The sample sites, located in central Kansas, have two mapping units, Harney silt loam (fine, montmorillonitic, mesic Typic Arigiustolls) and Naron fine sandy loam (fine-loamy, mixed, thermic Udic Argiustolls). Soil samples were collected at two depth increments, 0 to 5 cm and 5 to 10 cm. Soil-quality indicators measured were soil acidity (pH), exchangeable cations, nutrients, total carbon, structure, and aggregation. Soil pH was significantly lower in CCL than in CRP. Soil total C and N in the surface layer (0 to 5 cm) was much greater than in the deeper layer (5 to 10 cm) in the CRP site. The mass of total carbon of Naron soil was significantly higher for 0 to 5 cm and lower for 5 to 10 cm depth in CRP land than in CCL. However, the mass of total carbon of Harney soil was significantly higher in no-tilled CCL than in CRP. Bulk density significantly increased in CCL. Based on dry and wet aggregate stability analysis, the results indicated that CRP land had a greater resistance to erosion by both water and wind than CCL. The improvements in soil quality resulting from CRP included reducing soil acidification, alleviating compaction, and reducing topsoil susceptibility to erosion. However, when CRP was taken out for crop production with conventional tillage, total carbon in the surface layer (0 to 5 cm) and aggregate stability gradually decreased. This suggested that appropriate land management practices are needed to extend residual benefit from CRP on soil quality.
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57. **Tillage and fallow effects on selected soil quality characteristics of former Conservation Reserve Program sites.**
Gilley, J. E.; Doran, J. W.; and Eghball, B.
Journal of Soil and Water Conservation 56 (2): 126-132. (2001)
NAL Call #: 56.8 J822; *ISSN:* 0022-4561
This citation is provided courtesy of CAB International/CABI Publishing.

58. **Tillage effects on soil erosion potential and soil quality of a former Conservation Reserve Program site.**
Gilley, J. E. and Doran, J. W.
Journal of Soil and Water Conservation 52 (3): 184-188. (June 1997)
NAL Call #: 56.8 J822; *ISSN:* 0022-4561
Descriptors: USA/ Mississippi/ tillage/ soil erosion/ land management/ soil conservation/ simulated rainfall/ fallowing/ degradation/ soil properties / nutrients/ runoff/ Conservation Reserve Program/ soil quality/ Erosion and sedimentation
Abstract: This study was conducted to determine the effects of tillage on soil erosion potential and soil quality characteristics of a former Conservation Research Program (CRP) site. Following tillage, the study area in Northern Mississippi was maintained in a fallow condition for nine months. Soil loss from simulated rainfall events was minimal on recently tilled plots and an adjoining, undisturbed CRP area. In contrast, soil loss from the former CRP site which had been tilled nine months previously was similar to values obtained before the CRP program when the area had been cropped for several years. Tillage and over-winter fallowing caused a degradation in soil quality resulting from the decomposition of biological nutrient reserves. The conservation and soil quality benefits derived from the CRP may rapidly decline once an area is tilled and then left fallow during the non-cropped period.
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Water

59. **Accomplishments of the USDA hydrologic unit area projects.**
Ebodaghe, Denis Abumere
Washington, D.C.: U.S. Dept. of Agriculture, Agricultural Stabilization and Conservation Service; Extension Service; Soil Conservation Service; 128 p.: maps. (1993)
Notes: Cover title. "Compiled by Denis Ebodaghe"--Foreword. "June 1993."
Alternate pages are numbered.
NAL Call #: aTD223.A26--1993
Descriptors: Water quality management---United States/ Nonpoint source pollution---United States/ Agricultural pollution---United States
This citation is from AGRICOLA.

60. **Achieving restoration success: Myths in bottomland hardwood forests.**
Stanturf JA; Schoenholtz SH; Schweitzer CJ; and Shepard JP
2nd International Congress on Restoration Ecology 9 (2): 189-200; 62 ref. (2001)
This citation is provided courtesy of CAB International/CABI Publishing.

61. **Benefit-cost analysis of best management practices implemented to control nitrate contamination of groundwater.**
Yadav, S. N. and Wall, D. B.
Water Resources 34 (3): 497-504. (Mar. 1998)
NAL Call #: 292.8 W295; *ISSN:* 0043-1397 [WRERAQ]
Descriptors: nitrates / nitrate nitrogen/ groundwater pollution/ pollution control/ water quality/ cost benefit analysis/ control programs/ Minnesota/ Garvin Brook Rural Clean Water Program
Abstract: Implementing best management practices (BMPs) can reduce nitrate concentration in groundwater, but does it pay to invest in programs that reduce nitrate by encouraging increased adoption of BMPs? In this paper we evaluate water quality improvement by benefit-cost analysis of adopting BMPs under such a program. The analysis shows that under current levels of contamination, costs of the program to foster BMP implementation will be equal to annually accrued benefits over a period of 6 years. However, under the worsening scenarios of increased nitrate-N concentrations, the same costs will be equal to the benefits in a 4- to 5-year period. If water quality improves to acceptable levels through adoption of BMPs, the results reveal that in the long run, investing in a BMP program will be more cost effective to reduce contamination than to seek alternative sources of safe drinking water supplies.
This citation is from AGRICOLA.

62. **Beyond Swampbuster: A permanent wetland reserve.**
Heimlich, Ralph E; Carey, Marc B; and Brazee, Richard J
Journal of Soil and Water Conservation 44: 445-450. (1989)
NAL Call #: 56.8 J822; *ISSN:* 0022-4561
Descriptors: Wetland conservation---United States
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63. **Biological responses to wetland restoration: Implications for wildlife habitat development through the Wetlands Reserve Program.**
Rewa, C.
In: A comprehensive review of Farm Bill contributions wildlife conservation, 1985-2000/ Heard, L. P; Hohman, W. L.; Halloum, D. J.; and Wildlife Habitat Management Institute (U.S.); Series: Technical Report USDA/NRCS/WHMI.
Madison, MS: U.S. Department of Agriculture, 2000; pp. 95-116
NAL Call #: aS604.6 .C66 2000
Descriptors: Wetland Reserve Program/ wetlands/ riparian areas/ wildlife habitats/ California/ Mississippi

64. **Buffered wetlands in agricultural landscapes in the Prairie Pothole Region: Environmental, agronomic, and economic evaluations.**
Rickerl, D. H.; Janssen, L. L.; and Woodland, R.
Journal of Soil and Water Conservation 55 (2): 220-225. (2000)
NAL Call #: 56.8 J822
This citation is provided courtesy of CAB International/CABI Publishing.

65. **Calibrating Benefit Function Transfer to Assess the Conservation Reserve Program.**
Feather, P. and Hellerstein, D.
American Journal of Agricultural Economics 79: 151-162. (1997)
NAL Call #: 280.8 J822
Descriptors: Conservation Reserve Program/ National conservation programs/ State conservation programs/ Indiana/ Nebraska/ Pennsylvania/ Washington
Abstract: A benefit transfer function was calibrated to corrected for bias and used to estimate the water-based recreation benefits of CRP.

66. **Changes in groundwater quality in a conduit-flow-dominated karst aquifer, following BMP implementation.**
Currens, J. C.
Environmental Geology 42 (5): 525-531. (2002)
NAL Call #: QE1.E5; *ISSN:* 1073-9106 [ENGOE9]
Descriptors: aquifers / watersheds/ water quality/ agriculture/ pesticides/ pollution/ USDA/ governmental programs and projects/ Kentucky/ best management practices/ nonpoint source pollution/ Water Quality Incentives Program (WQIP)
Abstract: Water quality in the Pleasant Grove Spring karst groundwater basin, Logan County, Kentucky, was monitored to determine the effectiveness of best management practices (BMPs) in protecting karst aquifers. Ninety-two percent of the 4,069-ha (10,054-acre) watershed is used for agriculture. Water-quality monitoring began in October 1992 and ended in November 1998. By the fall of 1995 approximately 72% of the watershed was enrolled in BMPs sponsored by the US Department of Agriculture Water Quality Incentive Program (WQIP). Pre-BMP nitrate-nitrogen concentration averaged 4.65 mg/l. The median total suspended solids concentration was 127 mg/l. The median triazine concentration measured by immunosorbent assay was 1.44 microgram/l. Median bacteria counts were 418 colonies per 100 ml (col/100 ml) for fecal coliform and 540 col/100 ml for fecal streptococci. Post-BMP, the average nitrate-nitrogen concentration was 4.74 mg/l. The median total suspended solids concentration was 47.8 mg/l. The median triazine concentration for the post-BMP period was 1.48 microgram/l. The median fecal coliform count increased to 432 col/100 ml after BMP implementation, but the median fecal streptococci count decreased to 441 col/100 ml. The pre- and post-BMP water quality was statistically evaluated by comparing the annual mass flux, annual descriptive statistics, and population of analyses for the two periods. Nitrate-nitrogen concentration was unchanged. Increases in atrazine-equivalent flux and triazine geometric averages were not statistically significant. Total suspended solids concentration decreased slightly, whereas orthophosphate concentration increased slightly. Fecal streptococci counts were reduced. The BMPs were only partially successful because the types available and the rules for participation resulted in less effective.
This citation is from AGRICOLA.

67. **Cleaner water in the Chesapeake Bay: Can CRP help?**
Ligon, Polly C.
Blacksburg, Va.: Virginia Polytechnic Institute and State University, 1993.
Notes: Original title: "Cleaner water in the Chesapeake Bay: Can CRP help?: A case study of the Conservation Reserve Program in Richmond County, Virginia 1985-1989." Vita. Abstract. Report (M.S.)--Virginia Polytechnic Institute and State University. M.S. 1993. Bibliography: leaves 114-121.
NAL Call #: ViBlbV LD5655.V851-1993.L546
Descriptors: Bays---Virginia---Richmond County/ Chesapeake Bay---Md and Va
This citation is from AGRICOLA.

68. **Conservation compliance and wetlands conservation provisions of the omnibus farm acts of 1985, 1990 and 1996.**
Brady, S. J.
In: A comprehensive review of Farm Bill contributions wildlife conservation, 1985-2000/ Heard, L. P; Hohman, W. L.; Halloum, D. J.; and Wildlife Habitat Management Institute (U.S.); Series: Technical Report USDA/NRCS/WHMI.
Madison, MS: U.S. Department of Agriculture, 2000; pp. 5-17
NAL Call #: aS604.6 .C66 2000
Descriptors: conservation compliance/ Conservation Reserve Program/ Wetland Reserve Program/ Farm Bill/ laws and regulations/ wildlife habitats

69. **Conservation in the farm bill.**
Rassam, Gus
Fisheries 27 (7): 26. (2002)
NAL Call #: SH1.F54; *ISSN:* 0363-2415
Descriptors: Fisheries management---Political aspects
Abstract: The 2002 Farm Bill has a number of implications for fisheries conservation. Given the huge impact of agriculture on water resources, the conservation aspects of the 2002 Farm Bill are of crucial importance to many stakeholders, including all citizens concerned with the increasing stresses on aquatic habitats across the nation. Although many aspects of the bill proved contentious, there was almost unanimous agreement regarding the importance of conserving the nation's fish, wildlife, and plant resources and promoting sustainable practices in farming communities. Some of the specific conservation aspects in the bill include the Wetland Reserve, Conservation Reserve, Wildlife Habitat Incentives, Environmental Quality Incentives, Conservation Security, and Farmland Protection Programs.
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70. **CRP EBI as an Indicator of Riparian Ecosystem Services.**
Kraft, S. E.
In: 57th Annual Conference of the Soil and Water Conservation Society. (Held 13 Jul 2002-17 Jul 2002 at Indianapolis. IN (USA).); 2002.
Notes: Conference Sponsor: Soil and Water Conservation Society (Ankeny, IA); World Meeting Number 000 6096
Descriptors: Geoscience/ Aquatic Science
© Cambridge Scientific Abstracts (CSA)

71. **Detecting changes in water quality in an agricultural watershed following implementation of best management practices (BMP's): The LaPlatte River watershed.**
Meals, D. W.
In: 6th Annual International Symposium on Lake and Reservoir Management: Influences of Nonpoint Source Pollutants and Acid Precipitation. (Held 5 Nov 1986-8 Nov 1986 at Portland, OR.) North American Lake Management Soc. (eds.); pp. 11; 1986.
Descriptors: watersheds/ water quality/ environment management/ agricultural runoff/ pollution control/ runoff/ environmental management/ United States/ Vermont/ LaPlatte River/ Prevention and control/ Freshwater pollution
Abstract: The LaPlatte River Watershed in northwestern Vermont is the focus of an intensive land treatment program to control agricultural runoff and a long-term monitoring program to evaluate the effectiveness of these treatments on water quality. Best Management Practices for controlling dairy manure and cropland erosion have been implemented by the U.S. Dep. of Agriculture's Soil Conservation Service on 90% of the priority areas in the watershed. Four simple trend analysis techniques have been applied to 6 years of data from four subwatersheds: (1) linear regression against time, (2) comparison of annual means, (3) analysis of frequency distributions, and (4) paired watershed regression. Results of these analyses suggest significant decreases in phosphorus and nitrogen concentrations and loads since the project began.
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72. **Detecting reductions in sediment loads associated with Ohio's conservation reserve enhancement program.**
Richards, R. P. and Grabow, G. L.
Journal of the American Water Resources Association 39 (5): 1261-1268. (2003)
NAL Call #: GB651.W315; *ISSN:* 1093-474X.
Notes: Number of References: 22
Descriptors: Environment/ Ecology/ statistical analysis/ water quality/ watershed management/ detecting change/ suspended sediment/ water quality/ constituent loads/ rating curves
Abstract: Small systematic changes in loads or concentrations of water quality constituents are difficult to detect against the background of short term fluctuations ("noise") that result from weather and climate effects. Minimum Detectable Change Analysis (MDCA) uses prior knowledge of a water quality constituent to determine how much change must occur (e.g., from implementation of conservation practices) for the change to be statistically significant. In this paper we use MDCA to determine whether the goal of the Ohio Lake Erie Conservation Reserve Enhancement Program (CREP), to reduce sediment loads by an average of 6 percent over 10 years, represents a large enough change to be detected. We conclude that this amount of change is unlikely to be detected as statistically significant, even with the high frequency sampling program planned for evaluating it. The minimum detectable change ranges from about 7 to 9 percent for three different rivers.
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73. **The effect of CRP enrollment on sediment loads in two southern Illinois streams.**
Davie, D. K. and Lant, C. L.
Journal of Soil and Water Conservation 49 (4): 407-412. (1994)
NAL Call #: 56.8 J822; *ISSN:* 0022-4561
Descriptors: United States, Illinois, Cache R. Basin/ soil erosion/ cropland/ sediment load/ streams/ suspended sediments/ timing/ water quality/ vegetation regrowth/ rivers/ soil conservation/ erosion control/ river basins/ United States, Illinois, Cache River/ CRP enrollment/ Watershed protection/ Conservation/ Protective measures and control/ Freshwater pollution
Abstract: The high annual cost of damages attributed to sediment justifies the importance of gaining a better understanding of the relationship between the Conservation Reserve Program (CRP) and stream sediment loads. This relationship was studied for two watersheds within the Cache River basin of extreme southern Illinois. CRP enrollments of 15.6% and 26.5% of all cropland in the Big Creek (80.29 km super(2); 31 mi super(2)) and Cypress Creek (62.16 km super(2); 24 mi super(2)) watersheds resulted in estimated decreases in erosion of 24% and 37%, respectively. Despite this, it was estimated using path analysis (a two-step regression analysis) that a negligible 0.0125% and 0.265% decrease in sediment load occurred in these streams in the period 1986-1988. These negative results, however, should be viewed in the context of temporal and spatial considerations. First, studies of drainage basin sediment dynamics imply that reductions in suspended sediment in response to CRP enrollments are likely to be delayed for a considerable period as in- and near-stream sediments are remobilized. Second, few of the CRP enrollments were in near-stream locations where hydrologic theory indicates they would be most effective in trapping and stabilizing existing near-stream sediments.
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74. **Effects of 1985 Food Security Act and 1990 Food, Agriculture, Conservation, and Trade Act on the 1993 flooding on the upper Mississippi and Missouri River basins.**
Miller, D. G.; Shirley, C. E.; and Chenoweth, J. W.
Water International 19 (4): 207-211. (1994);
ISSN: 0250-8060
Descriptors: legislation/ flooding/ historic floods/ erosion control/ evaluation/ runoff/ flood damage/ conservation/ United States, Midwest/ soil conservation/ environmental legislation/ soil erosion/ environmental protection/ floods/ government policy/ stormwater runoff/ Watershed protection/ Conservation, wildlife management and recreation/ Conservation
Abstract: Flooding was unusually sever throughout the Upper Midwest during the spring and summer of 1993. These floods resulted in locally great economic damages, but provided an ideal "field laboratory" for evaluation of national erosion control programs. This article documents the amount of runoff reduction and corresponding flood damage reduction resulting from the Food Security Act (FSA) and the Food, Agriculture, Conservation, and Trade Act (FACTA) to agricultural areas and rural infrastructure. Specifically, the impact on runoff and flooding of single storms with 1-, 5; 25-, and 100-year frequency probabilities was calculated using existing, commonly accepted methods of determining runoff. This procedure was applied to nine Midwestern states (Illinois, Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota, and Wisconsin) on a county basis. Conservation practices studied were those applied through FSA and FACTA. Results indicate the FSA and FACTA total programs were consistently more successful in reducing runoff than was the Conservation Reserve Program (CRP) alone. Runoff reductions range from a high of 39 per cent for the one-year storm, to a low of 2 per cent for the 100-year storm for the FSA and FACTA programs. Runoff reductions for the CRP range from 20 per cent for the one-year storm to 3 per cent for the 100-year storm. Additionally, FSA and FACTA programs were shown to be highly successful in reducing flood damage to agricultural areas and rural infrastructure. Damage reduction to agricultural areas ranges from 10 per cent to 45 per cent for the FSA and FACTA programs. For CRP, this reduction ranges from 4 per cent to 25 per cent. Rural infrastructure damages are estimated to be reduced from 15 per cent to 56 per cent with the total program, and 7 to 34 per cent by CRP alone. These conservation programs are effectively reducing runoff and flood damages.
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75. **Effects of agricultural activities and best management practices on water quality of seasonal prairie pothole wetlands.**
Detenbeck, N. E.; Elonen, C. M.; Taylor, D. L.; Cotter, A. M.; Puglisi, F. A.; and Sanville, W. D.
Wetlands Ecology and Management 10 (4): 335-354. (2002)
NAL Call #: QH541.5.M3 W472; *ISSN:* 0923-4861
Descriptors: Agricultural practices/ Environment management/ Water quality/ Wetlands/ Prairies/ Ecosystem management/ Restoration/ Agriculture/ Vegetation cover/ Plant populations/ Man induced effects/ Water levels/ Physicochemical properties/ Dissolved oxygen/ Nutrients (mineral)/ Climate/ Hydrology/ Agricultural runoff / Conservation/ Environmental restoration/ Nutrients/ Vegetation/ Biogeochemistry/ Water Pollution Sources/ Nonpoint Pollution Sources/ United States/ prairie pothole wetlands/ biogeochemical cycle/ tillage effects/ Environmental degradation/ Ecosystems and energetics/ Conservation, wildlife management and recreation/ Environmental action/ General Environmental Engineering/ Sources and fate of pollution
Abstract: Long-term effects of within-basin tillage can constrain condition and function of prairie wetlands even after uplands are restored. Runoff was significantly greater to replicate wetlands within tilled basins with or without vegetated buffer strips as compared to Conservation Reserve Program restoration controls with revegetated uplands (REST). However, mean water levels for native prairie reference sites were higher than for REST controls, because infiltration rates were lower for native prairie basins, which had no prior history of tillage. Nutrient dynamics changed more in response to changes in water level and vegetation structure than to increased nutrient inputs in watershed runoff. Dissolved oxygen increased between dry and wet years except in basins or zones with dense vegetation. As sediment redox dropped, water-column phosphate declined as phosphate likely co-precipitated with iron on the sediment surface within open-water or sparsely vegetated zones. In response, N:P ratios shifted from a region indicating N limitation to P limitation. REST sites, with dense vegetation and low DO, also maintained high DOC, which maintains phosphate in solution through chelation of iron and catalysis of photoreduction. Reference sites in native prairie and restored uplands diverged over the course of the wet-dry cycle, emphasizing the importance of considering climatic variation in planning restoration efforts.
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76. **Effects of best management practices.**
Davenport, T. and Kohl, N.
In: 6th Annual International Symposium on Lake and Reservoir Management: Influences of Nonpoint Source Pollutants and Acid Precipitation. (Held 5 Nov 1986-8 Nov 1986 at Portland, OR.) North American Lake Management Soc. (eds.); pp. 43; 1986.
Descriptors: eutrophic lakes/ sedimentation/ agricultural runoff/ water quality control/ runoff/ eutrophication/ United States/ Illinois/ Pike County/ Pittsfield City Lake/ statistical analysis/ Prevention and control/ Freshwater pollution
Abstract: Pittsfield City Lake is a light-limited, eutrophic, multiple-purpose reservoir located in Pike County, Ill. The lake has a historic and well-documented sedimentation problem, and the predominant land use in its watershed is agriculture. In 1980, the area was designated an Agricultural Conservation Program Special Water Quality Project Area by the U.S. Department of Agriculture. The primary objective of the project was to improve the water quality of Pittsfield City Lake by reducing sediment loads through voluntary application of Best Management Practices (BMP's). To evaluate the effects of Best Management Practices on water quality in Pittsfield City Lake, the lake was monitored 2 years before, 3 years during and 2 years after implementation. Five years of BMP implementation information was correlated with corresponding lake data to determine the relationship of such implementation to in-lake water quality. The results of the statistical analyses are reported.
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77. **Effects of Urbanization on Small Watershed Project Sponsors.**
Peterson, J. W.
Land and Water 42 (5): 9-12. (1998);
ISSN: 0192-9453
Descriptors: Urbanization/ Flood Control/ Conservation/ Watershed Management/ Flooding/ Water Management/ Water resources/ Environmental protection/ Erosion control/ Water reservoirs/ Effects on water of human nonwater activities/ General papers on resources
Abstract: The U.S. Small Watershed Programs, commonly called the Flood Prevention Operations Program (PL 78-534) and the Watershed Protection and Flood Prevention Program (PL 83-566), are among the most flexible and beneficial conservation acts ever enacted by the U.S. Congress. As one might deduce from their titles, their main purposes were to provide a reduction in flood damage and watershed protection (erosion and sediment control) in the nation's upstream watersheds, primarily in rural areas. Historically, the U.S. had dealt with natural water flow and flooding by constructing large floodwater detention reservoirs. These structures were usually constructed, maintained, and owned by one of the federal water management agencies.
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78. **Estimating changes in recreational fishing participation from national water quality policies.**
Ribaudo, M. O. and Piper, S. L.
Water Resources Research 27 (7): 1757-1763. (July 1991)
NAL Call #: 292.8-W295; *ISSN:* 0043-1397 [WRERAO]
Descriptors: water quality/ water policy/ water pollution/ angling/ participation/ estimation/ models/ agricultural nonpoint source pollution/ Conservation Reserve Program
Abstract: The complete evaluation of the offsite effects of national policies or programs that affect levels of agricultural nonpoint source pollution requires linking extensive water quality changes to changes in recreational activity. A sequential decision model is specified to describe an individual's decisions about fishing. A participation model for recreational fishing that includes a water quality index reflecting regional water quality is developed and estimated as a logit model with national level data. A visitation model for those who decide to fish that also includes the water quality index is estimated using ordinary least squares. The water quality index is found to be significant in the participation model but not in the visitation model. Together, the two models provide a means of estimating how changes in water quality might influence the number of recreation days devoted to fishing. The model is used to estimate changes in fishing participation for the Conservation Reserve Program.
This citation is from AGRICOLA.

79. **Estimating water quality benefits: Theoretical and methodological issues.**
Ribaudo, Marc O.; Hellerstein, Daniel.; and United States. Dept. of Agriculture.
Economic Research Service.
Washington, D.C.: U.S. Dept. of Agriculture, Economic Research Service; ii, 28 p.: ill. (1992)
Notes: Cover title. "September 1992"--P. i. Includes bibliographical references (p. 24-28).
NAL Call #: 1-Ag84Te-no.1808
http://www.ers.usda.gov/publications/tb1808/TB1808.PDF
Descriptors: Water quality
This citation is from AGRICOLA.

80. **Evaluation of reforestation in the Lower Mississippi River Alluvial Valley.**
King, S. L. and Keeland, B. D.
Restoration Ecology 7 (4): 348-359. (1999)
NAL Call #: QH541.15.R45R515; *ISSN:* 1061-2971
This citation is provided courtesy of CAB International/CABI Publishing.

81. **Ground water quality implications of soil conservation measures: An economic perspective.**
Setia, P. and Piper, S.
Water Resources Bulletin 27 (2): 201-208. (Mar. 1991-Apr. 1991)
NAL Call #: 292.9-AM34; *ISSN:* 0043-1370 [WARBA]
Descriptors: soil conservation/ groundwater/ water quality/ pesticides/ runoff/ leaching/ agricultural economics/ USDA/ federal programs/ Corn Belt of USA/ food security act of 1985/ Conservation Reserve Program/ conservation compliance provision/ pesticide root zone model --- PZRM/ economic models
Abstract: An evaluation of the intermedia movement of pesticides applied under various land management systems already in place, or to be implemented, under the Conservation Reserve and Conservation Compliance programs is presented. The simulation modeling approach followed in this analysis consists of a mathematical programming model and leaching/surface runoff, Pesticide Root Zone Model (PRZM) models. Special care was taken to ensure that the physical model was sensitive to the chemical characteristics of individual pesticides and the important physical changes brought about by different agricultural practices. Results show that, although these programs as now planned, increase farm income and achieve soil conservation goals, they may adversely affect ground water quality. Also, depending on soil and location characteristics, there are tradeoffs between surface and ground water quality implications. Hence, if these programs are to address water quality problems, the recommended practices must be evaluated for their impact on water quality, particularly in potentially vulnerable areas.
This citation is from AGRICOLA.

82. **Impacts of short-rotation hybrid poplar plantations on regional water yield.**
Perry, C. H.; Miller, R. C.; and Brooks, K. N.
Forest Ecology and Management 143 (1-3): 143-151. (2001)
NAL Call #: SD1.F73; *ISSN:* 0378-1127
Descriptors: Water relations/ Forest management/ United States, Minnesota/ Logging/ Vegetation Effects / Hydrology/ Watershed Management/ Water Yield / Groundwater/ Populus/ Effects on water of human nonwater activities
Abstract: Hybrid poplar plantations are being established on northwestern Minnesota farmlands in response to demands for timber, pulp and paper, and as a potential source of biomass energy. The Minnesota Department of Natural Resources estimates that between 30 000 and 40 000 ha of former cropland, and former Conservation Reserve Program (CRP) land that was primarily herbaceous cover, will be converted to tree plantations by 2005. This paper reports the results of a 2-year study of the effects of such land use conversions on water yield for plots within tributary watersheds of the Red River of the North, in northwestern Minnesota. Three 8- and 9-year-old hybrid poplar plantations and three 22- to 34-year-old natural mixed hardwood stands were instrumented to measure precipitation, soil moisture, and soil water chemistry. Climatological observations at these sites were used to estimate potential evapotranspiration. These data were used to apply the GLEAMS model (Knisel, W.G. (Ed.), 1993. GLEAMS: groundwater loading effects of agricultural management systems. UGA-CPES-BAED Publication No. 5, University of Georgia. Coastal Plain Experimental Station, Tifton, GA, 259 pp.) to predict water yield from the two cover types. No significant differences in water yield were detected between hybrid poplar plantations and natural forest stands (alpha =0.05). The similarities between the hydrology of these two cover types suggest that increasing the acreage of short-rotation hybrid poplar plantations may influence average peak flows in streams, stormflow during average events, snowmelt runoff and spring flooding in the region.
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83. **Implementing Swampbuster: Two years of progress.**
Margheim, G. A.
Journal of Soil and Water Conservation 43 (1): 27-29. ill. (Jan. 1988-Feb. 1988)
NAL Call #: 56.8-J822; *ISSN:* 0022-4561 [JSWCA3]
Descriptors: wetlands / resource conservation/ regulations/ program development/ water conservation/ food security act of 1985/ wetland conservation provision
This citation is from AGRICOLA.

84. **Instream benefits of CRP filter strips.**
Whitworth, M. R. and Martin, D. C.
In: Transactions of the fifty-fifth (55th) North American wildlife and natural resources conference. (Held 16 Mar 1990-21 Mar 1990 at Denver, CO.)
McCabe, R. E. (ed.); pp. 40-45; 1990.
Notes: ISSN: 0078-1355
NAL Call #: 412.9 N814
Descriptors: water quality/ soil erosion/ erosion control/ agricultural runoff/ government policy/ United States/ Prevention and control
Abstract: The U.S. Environmental Protection Agency (EPA) and the U.S. Department of Agriculture (USDA) are both involved in developing programs

that reduce the environmental degradation associated with agricultural activities. At EPA, the water quality impacts that are caused by runoff from farm fields to lakes, streams, and estuaries are an important issue for the Nonpoint Source water pollution control program. In February, 1988, the eligibility requirements for the Conservation Reserve Program (CRP) were changed so that 100-foot field borders parallel to streams, lakes and estuaries could be leased to the federal government if left fallow. These field borders, or filter strips, do not have to meet the "highly erodible" criteria that upland CRP lands have to meet. This is because filter strips are expected to reduce the amounts of sediments, nutrients, and pesticides that flow into surface water and improve the habitat for fish and biota.
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85. **Integrated assessment of uses of woody draws in agricultural landscapes.**
Qiu, Z.; Prato, T.; Godsey, L.; and Benson, V.
Journal of the American Water Resources Association 38 (5): 1255-1269. (2002)
NAL Call #: GB651.W315; *ISSN:* 1093-474X
Descriptors: Drainage Area/ Land Use/ Agriculture/ Comparison Studies/ Economic Impact/ Environmental Effects/ Government Supports/ Resources Management/ Environmental Policy/ Catchment areas/ Comparative studies/ Economics/ Environmental issues/ Resources/ Evaluation process/ Water Resources and Supplies
Abstract: This study assesses economic and environmental impacts of uses of woody draws, small natural drainage areas covered by trees and shrubs in agricultural landscapes. Three agricultural uses and four alternative uses are evaluated. A net present value approach is used to compare economic impacts of uses of draws and APEX is used to evaluate the interaction between a woody draw and the contributing upland area and simulate the environmental impacts of uses of draws in the field. The study shows that relative to agricultural uses, alternative uses of draws have significant environmental benefits in terms of reducing surface runoff and sediment and associated pollutants, such as nitrogen, phosphorus and pesticides. Agricultural uses of draws are not always the most profitable option. Certain alternatives, such as curly willow and the mixed buffer, are highly profitable. Agricultural landscapes could be differentially managed to achieve both economic variability and environmental benefits. Government support is necessary to promote alternative uses of woody draws. The support can be in the form of CRP payments or market development of buffer products. Farmers and resource managers can use study results to manage woody draws and evaluate the merits of alternative policies for managing woody draws.
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86. **Iowa's wetlands present and future with a focus on prairie potholes.**
Bishop, R A; Joens, J; and Zohrer, J
Journal of the Iowa Academy of Science 105 (3): 89-93. (1998)
NAL Call #: Q11.J68; *ISSN:* 0896-8381
Descriptors: pothole habitat/ prairie marsh/ riparian floodplain/ uplands/ wetland restoration/ wildlife habitat
Abstract: The vast prairie marsh-pothole complex that historically covered approximately 7.6 millions acres in Iowa was reduced to less than 30,000 acres by 1980 when it was estimated that only 5,000 acres of prairie marsh and pothole habitat remained in private ownership. A bleak outlook for the future of wetlands was presented by Bishop (1981)." This outlook changed with the development of the North American Waterfowl Management Plan and the passage of two important pieces of legislation: the North American Wetlands Conservation Act and the Food Security Act of 1985. Protection of existing wetlands was afforded through the Swampbuster provision of the Food Security Act. The North American Wetlands Conservation Act and the Wetland Reserve Program offered through the Food Security Act provided needed funding for the protection and restoration of wetlands in Iowa. Since 1988, the Iowa Department of Natural Resources, the U.S. Fish and Wildlife Service, and various county conservation boards together with Pheasants Forever, Ducks Unlimited, and the Iowa Natural Heritage Foundation have purchased over 10,000 ha (25,000 ac) of wetlands and uplands in the Prairie Pothole Region of Iowa and restored over 24,240 ha (6,600 ac) of public and private wetlands. The United States Department of Agriculture, Natural Resources Conservation Service has enrolled approximately 24,240 ha (60,600 ac) of riparian floodplains and potholes into the Wetland Reserve Program and Emergency Wetland Reserve Program, affording them protection through permanent easements. Public support of wetland legislation will ensure that funding continues to be available to protect and restore Iowa's prairie wetlands.
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87. **Irrigated Acreage in the Conservation Reserve Program.**
Schaible, G. D.
Washington, DC: Economic Research Service; ERSAER610XSP; USDAAER610, 1989. 27 p.
Notes: Replaces PB89-214175
NAL Call #: A281.9-Ag8A-no.610
Descriptors: Land use / Area/ Soil erosion/ Benefit cost analysis/ Erosion control/ Cost effectiveness/ Nebraska/ Texas/ History/ Soil conservation/ Irrigation/ Marginal land/ Conservation Reserve Program/ Agriculture and food/ Agricultural equipment facilities and operations/ Natural

resources and earth sciences/ Soil sciences
Abstract: Marginal irrigated acreage enrolled in the Conservation Reserve Program (CRP) through 1987 represent less than 2 percent of the 23 million acres enrolled nationwide. Marginal irrigated acreage is irrigated land that results in low net returns because of high energy costs (due to high pump lifts and/or low pump capacities) or low productivity. Most of the enrolled irrigated acreage is in 17 Western States, with 68 percent of it in Nebraska and Texas. The report identifies the extent of marginal irrigated acreage enrolled in the CRP through 1987 and the potential enrollment in the CRP under two rates of enrollment, the historical and half the historical rate. The report also examines why producers would enroll irrigated land in the CRP and estimates cost savings and other benefits to remaining irrigators in Nebraska and Texas over a 40-year period.

88. **Land use changes since 1982 reduce pesticide leaching potential.**
Kellogg, R. L. and Wallace, S.
In: Proceedings of the 50th Annual Meeting of the Soil and Water Conservation Society; p. 22. (Held 7-9 August, 1995 at Des Moines, Iowa.); 1995.
Descriptors: leaching / pesticides/ land use/ indexing/ cropland/ water quality/ benefits/ groundwater/ risks/ mapping/ NRI/ CRP/ Water quality control/ Evaluation, processing and publication
Abstract: A spatial index based on the intrinsic leaching potential of soils, annual rainfall, cropping patterns, and chemical use (originally published by Kellogg, Maizel, and Goss (1992)) has been updated to incorporate the recently released 1992 National Resources Inventory (NRI) data on land use change from 1982 to 1992. Results indicate total number of acres with a high risk of pesticide leaching fell by 16 million as a result of changes in land use alone. The reduction of 16 million high risk acres of cropland conversions to non-cropland use, which was offset somewhat by 6 million acres of new cropland (since 1982) that had higher index scores. Of the 22 million acre reduction, 8.3 million were associated with enrollment of cropland in the CRP, 6.5 million were associated with cropland converted to pastureland and forestland, 1.9 million were due to conversion of cropland to developed land, 3.8 million were due to changes in the crop mix, and the remainder to conversion of cropland to a variety of other uses. The largest reductions in high risk acres attributable to the CRP occurred in Iowa and Texas. The greatest ground water quality benefit from the CRP enrollment was in the Midwest, the South, and the Southeast. National maps will be presented on change in cropland acreage, average pesticide leaching scores, the change in pesticide leaching scores during the 10-year period, and a map showing where the CRP enrollment had the greatest potential for ground water benefits.
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89. **MKT Trial/Hinkson Creek emergency watershed program project in Boone County, Missouri.**
Pellmann NF and Wallace DC.
In: ASAE Annual International Meeting. (Held 10 Aug 1997-14 Aug 1997 at Minneapolis, Minnesota.) St. Joseph, Mich.: American Society of Agricultural Engineers (ASAE); 4 p.; 1997.
Notes: ASAE Paper no. 972075
NAL Call #: S671.3 .A54
This citation is provided courtesy of CAB International/CABI Publishing.

90. **A modeling approach to evaluate best management practices.**
Williams, R D and Nicks, A D
*Water Science and Technology 28 (3-5): 675-678. (*1993)
NAL Call #: TD420.A1P7; *ISSN:* 0273-1223
Descriptors: agriculture/ chemicals runoff and erosion from agricultural management systems/ Conservation Reserve Program/ mathematical model/ soil pollution/ vegetative filter strips/ water erosion prediction project/ water pollution
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91. **Monitoring changes in agricultural runoff quality in the Laplatte River Watershed, Vermont.**
Meals, D. W.
In: Perspectives on nonpoint source pollution: Proceedings of a national conference. (Held 19 May 1985-22 May 1985 at Kansas City, Missouri.) Washington, D.C.: U.S. Environmental Protection Agency; pp. 185-190; 1985.
Notes: Document number: EPA 440-5-85-001
Descriptors: nonpoint sources/ agricultural runoff/ Freshwater pollution/ watersheds/ pollution monitoring/ pollution control/ runoff/ nonpoint pollution/ United States, Vermont, LaPlatte River/ agricultural land/ Environmental action/ Freshwater pollution/ Pollution monitoring and detection/ Prevention and control/ Characteristics, behavior and fate/ Prevention and control
Abstract: The LaPlatte River watershed in northwestern Vermont is the focus of an intensive program of land treatment to control agricultural runoff. Best Management Practices for controlling dairy manure and cropland erosion have been implemented by the USDA-SCS on 90 percent of the priority areas in the watershed. A long-term monitoring program is being conducted to evaluate the effectiveness of BMP application in improving water quality. The monitoring program includes

precipitation and stream discharge recording and water sampling for suspended solids, phosphorus, and nitrogen analysis. A concurrent land use monitoring program is collecting information required to couple changes in agricultural practices with changes in stream water quality. The water quality monitoring program is outlined. Application of several statistical trend analysis techniques to 5 years of record from four watersheds is described and some results are discussed.
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92. **Nitrate losses through subsurface tile drainage in Conservation Reserve Program, alfalfa, and row crop systems.**
Randall, G. W.; Huggins, D. R.; Russelle, M. P.; Fuchs, D. J.; Nelson, W. W.; and Anderson, J. L.
Journal of Environmental Quality 26 (5): 1240-1247. (Sept. 1997-Oct. 1997)
NAL Call #: QH540.J6; *ISSN:* 0047-2425 [JEVQAA]
Descriptors: nitrate nitrogen/ losses from soil/ cropping systems/ biomass production/ zea mays/ glycine max/ medicago sativa/ Minnesota
Abstract: Subsurface drainage of gravitational water from the soil profile through tiles is a common practice used to improve crop production on poorly drained soils. Previous research has often shown significant concentrations of nitrate-N (NO3-N) in drainage water from row-crop systems, but little drainage research has been conducted under perennial crops such as those used in the Conservation Reserve Program (CRP). Four cropping systems (continuous corn, a corn-soybean rotation, alfalfa, and CRP) were established in 1988 to determine aboveground biomass yields, N uptake, residual soil N (RSN), soil water content, and NO3 losses to subsurface tile drainage water as influenced by cropping system. Hydrologic-year rainfall during the 6-yr study ranged from 23% below normal to 66% above normal. In dry years, yields were limited, RSN accumulated at elevated levels in all crop systems but especially in the row-crop systems, soil water reserves and RSN were reduced to as deep as 2.7 m in the alfalfa (Medicago sativa L.) and CRP systems, and tile drainage did not occur. Drainage occurred only in the corn (Zea mays L.) and soybean [Glycine max (L.) Merr.] systems in the year of normal rainfall. In years of excess precipitation, drainage from the row-crop systems exceeded that from the perennial crops by 1.1 to 5.3X. Flow-weighted average NO3-N concentrations in the water during the flow period of this study were continuous corn = 32, corn-soybean rotation = 24, alfalfa = 3 and CRP = 2 mg/L. Nitrate losses in the subsurface drainage water from the continuous corn and corn-soybean systems were about 37X and 35X higher, respectively, than from the alfalfa and CRP systems due primarily to greater season-long ET resulting in less drainage and greater uptake and/or immobilization of N by the perennial crops.
This citation is from AGRICOLA.

93. **Nonmarket Economic Benefits Provided by Increased Recreational Fishing From Conservation Reserve Program (CRP) Related Water Quality Improvement.**
Douglas, A. J. and Johnson, R. L. U.S. Geological Survey, Biological Resources Division, Midcontinent Ecological Science Center, 2001.
Descriptors: Conservation Reserve Program/ Local conservation programs/ United States/ Klamath Basin
Abstract: Estimated the nonmarket angling benefits of CRP-related water quality improvements.

94. **Permanent Wetland Reserve: Analysis of a New Approach to Wetland Protection.**
Carey, M.; Heimlich, R.; and Brazee, R.
Washington, DC: Economic Research Service; USDAAIB610; ERSAIB610XSP, 1990. 20 p.
Notes: Agriculture information bulletin 610; Replaces PB90-267352
Descriptors: Regulations/ Land use/ Biological productivity/ Vulnerability/ Government policies/ Area/ History/ Legislation/ Swamps/ Conservation/ Food Security Act of 1985/ North American Wetlands Conservation and Restoration Act of 1989/ Natural resources and earth sciences---Natural resource management
Abstract: Current Federal wetland protection efforts, such as the Swampbuster provision of the 1985 farm act, may be insufficient to attain the administration's goal of 'no net loss' in wetland acreage. One option is to establish a permanent wetland reserve program, which the report discusses. The report reviews why wetlands are important, looks at past and present Federal wetland policies, and examines the dimensions of a reserve under three sizes. The likely geographic distribution of the reserve and likely crop rotations affected are both analyzed, and potential easement and restoration costs are estimated.

95. **A potential integrated water quality strategy for the Mississippi River basin and the Gulf of Mexico.**
Greenhalgh S and Faeth P
The Scientific World 1 (S2): 976-983. (2001)
NAL Call #: 472 SCI25.
Notes: UID: 2001.01.354; Number of References: 32; From: Optimizing nitrogen management in food and energy production and environmental protection: Proceedings of the 2nd International Nitrogen Conference on Science and Policy 2001/ Potomac, MD, USA, 14-18 October 2001
This citation is provided courtesy of CAB International/CABI Publishing.

96. **Potential of the Conservation Reserve Program to control agricultural surface water pollution.**
Lant, C. L.
Environmental Management 15 (4): 507-518. (1991)
NAL Call #: HC79.E5E5; *ISSN:* 0364-152X
Descriptors: pollution control/ agricultural pollution/ agricultural runoff/ erosion control/ environmental protection/ United States/ agriculture/ surface water/ government programs/ erosion/ Illinois/ Fayette County/ wetlands/ Prevention and control/ Environmental action/ Land pollution
Abstract: The Conservation Reserve Program (CRP), initiated by the Conservation Title of the Food Security Act of 1985, is the primary federal program to control nonpoint-source pollution in agricultural watersheds of the United States. This study estimates potential enrollment of streamside and floodplain croplands in this ten-year retirement program in order to gauge the potential of the CRP as a water-quality improvement policy. A contingent choice survey design was employed in Fayette County, Illinois, to demonstrate that there is substantial potential for retirement of streamside and floodplain croplands in the CRP.
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97. **Rock Creek Rural Clean Water Program: The experiment continues.**
Neubeiser, M. J.
In: Perspectives on Nonpoint Source Pollution: Proceedings of a national conference. (Held 19 May 1985-22 May 1985 at Kansas City, MO.)
Washington, D.C.: U.S. Environmental Protection Agency; pp. 391-396; 1985.
Notes: Document number: EPA 440-5-85-001
Descriptors: nonpoint sources/ Freshwater pollution/ pollution control/ agricultural runoff/ government policy/ pollution legislation/ rivers/ nonpoint pollution/ legislation/ United States/ Idaho/ Twin Falls County/ Rock Creek/ Rural Clean Water Program/ Environmental action/ Prevention and control
Abstract: Rock Creek in Twin Falls County, Idaho, has long been recognized as one of the most severely degraded streams in the State. Both point and nonpoint sources of pollution have contributed to this problem. The 1972 Federal Water Pollution Control Act (P.L. 92-500) stimulated pollution abatement efforts, and since then both State and Federal programs have been directed toward pollution abatement in Rock Creek. Point source discharges have been essentially eliminated from food processing plants, fish hatcheries, and the Twin Falls sewage treatment plant. Agricultural nonpoint sources, however, continue to cause severe pollution problems within the Rock Creek drainage. Irrigation return flows to the creek contain high concentrations of suspended sediment and related agricultural pollutants such as phosphorus, nitrogen, and fecal coliform bacteria. This paper presents and discusses the history, major activities, and progress in restoring the health of Rock Creek through the Rural Clean Water Program.
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98. **Runoff, erosion, and soil quality characteristics of a former Conservation Reserve Program site.**
Gilley, J. E.; Doran, J. W.; Karlen, D. L.; and Kaspar, T. C.
Journal of Soil and Water Conservation 52 (3): 191-193. (June 1997)
NAL Call #: 56.8 J822; *ISSN:* 0022-4561
Descriptors: Iowa/ tillage/ runoff rates/ soil erosion/ organic matter/ simulated rainfall/ conservation/ land management/ soil conservation/ soil properties/ Conservation Reserve Program/ soil quality/ Erosion and sedimentation/ Streamflow and runoff/ Environmental degradation / United States
Abstract: No-till and moldboard plow tillage systems were established on a former Conservation Reserve Program (CRP) site in southwest Iowa. Runoff rates from simulated rainfall events were significantly greater on sites returned to crop production than from adjoining, undisturbed CRP areas. Substantial soil loss was measured from the moldboard plow treatments, but no significant differences in erosion rates were found between the undisturbed CRP and no-till management systems. No-till management maintained levels of soil quality similar to those of CRP by preserving soil structural integrity and reducing losses of soil organic matter (SOM) associated with tillage. Conservation tillage systems which maintain residue materials on the soil surface may be well suited for former CRP areas which are used as cropland.
© Cambridge Scientific Abstracts (CSA)

99. **Sedimentation of Prairie Pothole Wetlands: The Need for Integrated Research by Agricultural and Wildlife Interests.**
Gleason, R. A. and Euliss, N. H.
In: Water for Agriculture and Wildlife and the Environment: Win-Win Opportunities -- Proceedings from the USCID Wetlands Seminar. (Held 27 Jun 1996-28 Jun 1996 at Bismarck, North Dakota.)
Schaack, J.; Anderson, S. S.; U.S. Committee on Irrigation and Drainage; and U.S. Bureau of Reclamation (eds.)
Denver, Colo.: U.S. Committee on Irrigation and Drainage; pp. 107-114; 1997.
Descriptors: Conservation Reserve Program/ Regional conservation programs/ Prairie Pothole region
Abstract: Examined the influences of sedimentation on wildlife values in wetlands within the Prairie Pothole Region.

100. **Soil management after CRP contracts expire.**
Schumacher, T. E.; Lindstrom, M. J.; Blecha, M. L.; Cogo, N. P.; Clay, D. E.; and Bleakley, B. H.
In: Clean water, clean environment, 21st century team agriculture, working to protect water resources conference proceedings. (Held 5 Mar 1995-8 Mar 1995 at Kansas City, Missouri.); Vol. 3.
St. Joseph, Mich.: ASAE; pp. 239-242; 1995.
NAL Call #: TD365.C54-1995; *ISBN:* 0929355601
Descriptors: soil conservation/ cover crops/ bromus inermis/ medicago sativa/ no-tillage/ chiselling/ plowing/ moldboards/ biological activity in soil/ mineralization/ nitrogen/ carbon/ soil flora/ land banks/ soil organic matter/ South Dakota/ Conservation Reserve Programs
This citation is from AGRICOLA.

101. **Subsurface drain losses of water and nitrate following conversion of perennials to row crops.**
Huggins, D. R.; Randall, G. W.; and Russelle, M. P.
Agronomy Journal 93 (3): 477-486.
(May 2001-June 2001)
NAL Call #: 4-AM34P; *ISSN:* 0002-1962 [AGJOAT]
Descriptors: medicago sativa/ glycine max/ zea mays/ rotations/ rowcrops/ perennials/ drainage/ soil water/ nitrate/ water quality/ use efficiency/ water use efficiency/ Minnesota
Abstract: Nitrate losses through subsurface drains in agricultural fields pose a serious threat to surface water quality. Substantial reductions in drainage losses of NO3-N can occur with alfalfa (Medicago sativa L.) or perennial grasses as used in Conservation Reserve Program (CRP) plantings. Conversion of perennials to annual row crops, however, could have rapid, adverse affects on water quality. We evaluated water and N use efficiency of row crops following perennials, and losses of water and NO3-N to subsurface drains. Four cropping systems: continuous corn (Zea mays L.), a corn-soybean [Glycine max (L.) Merr.] rotation, alfalfa (ALF), and CRP, were established in 1988. The ALF and CRP were converted to a corn-corn-soybean sequence from 1994 through 1996 while continuous corn (C-C) and corn-soybean (C-S) rotations were maintained. Following CRP, corn yield was 14% and water use efficiency (WUE) 20% greater as compared with C-C. Yield was 19% and WUE 21% greater for soybean following corn in CRP and ALF as compared with C-S. Residual soil NO3-N (RSN) increased 125% in first year corn following CRP and was 32% greater than C-C by 1996. High N uptake efficiencies of corn following alfalfa slowed the buildup of RSN, but levels were equal to row crop systems after 2 yr. Nitrate losses in drainage water remained low during the initial year of conversion, but were similar to row crop systems during the subsequent 2 yr. Beneficial effects of perennials on subsurface drainage characteristics were largely negated following 1 to 2 yr of corn.
This citation is from AGRICOLA.

102. **Survey of management practices used for reserve acreage and grassed waterways.**
Pike, D. R.; Knake, E. L.; and Hill, J. L.
Journal of Soil and Water Conservation 49 (6): 612-615. (1994)
NAL Call #: 56.8 J822; *ISSN:* 0022-4561
Descriptors: agricultural practices/ waterways/ crops/ soil conservation/ farms/ land management/ Watershed protection
Abstract: During 1991 a mail survey of Illinois farmers was conducted to determine cover crop usage and pest control practices on government subsidized program plantings. Ninety-four percent of the respondents reported having Acreage Reduction Program (ARP) plantings, 21% having Conservation Reserve Program (CRP) plantings, and 29% having grass waterways or filter strips. Results of the survey indicate that oats (Avena sativa), alfalfa (Medicago sativa), and clover (Trifolium spp.) were the most widely used crops for ARP plantings while perennial grasses, alfalfa, and clover combinations were widely used for CRP plantings. Herbicides were used by only 9% of the farmers for control of weeds on ARP. In the opinion of the farmers surveyed, wildlife populations have increased for several animals. While weeds in program plantings were noted by a large number of farmers, injury by insects in crops adjacent to ARP and CRP was reported by fewer than 20% of the farmers.
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103. **The use of Conservation Reserve Program land for grazing cattle.**
Boyles, S. L.; Stoll, B. W.; and Dobbles, T. L.
Journal of Sustainable Agriculture 18 (4): 113-120. (2001)
NAL Call #: S494.5.S86S8; *ISSN:* 1044-0046 [JSAGEB]
Descriptors: cattle/ grazing/ nature conservation/ agricultural land/ land use/ intensive husbandry/ rotational grazing/ stocking rate/ liveweight gain/ crude protein/ protein intake/ nitrate nitrogen/ Ohio
Abstract: The Conservation Reserve Program (CRP) is a voluntary program under which landowners enter into contracts with the United States Department of Agriculture (USDA) to remove highly erodible and environmentally sensitive cropland from production. A 3 year project was done to evaluate intensive, rotational cattle grazing as an alternative for this land when it is removed from the federal program. A 16 ha area was divided into 28 cells for grazing. Cattle were moved to a new cell on a daily basis. A seasonal average stocking rate of 3.5 hd ha(-1) was used during the three-year study. Yearling cattle (248 +/-

17.9 kg) were placed on grass in the spring. Average daily gain was .7 +/- .03 kg d(-1). Crude protein (23 +/- 4.7%) did not change over years (P > .05). Breakeven values needed to meet direct and overhead expenses ranged from $US 0.87 to $US 0.73/kg gain. Based on nitrate-nitrogen levels in run-off water samples, maintaining forage on what was CRP land and using it for grazing does meet the Environmental Protection Agency (EPA) conservation compliance demands to participate in other USDA programs.
This citation is from AGRICOLA.

104. **Water Quality and the Conservation Reserve Program: Implications of Targeting Saline Croplands.**
Aillery, M. P.
In: Nonpoint pollution 1988: Policy, economy, management, and appropriate technology -- Proceedings of a symposium.
Bethesda, Maryland: American Water Resources Association; pp. 261-270; 1988.
Descriptors: Conservation---Cropland/ Environmental policy/ Government finance/ Nonpoint pollution sources/ Saline soils/ Water resources management/ Cost benefit analysis/ Crop production/ Farming/ Governmental interrelations/ Irrigation/ Water policy/ Water quality control/ Conservation in agricultural use
Abstract: The Conservation Reserve Program (CRP) of the 1985 Food Security Act provides an opportunity for improved water quality and higher farm prices through retirement of environmentally-sensitive croplands. Although current enrollment is limited to highly erodible soils and stream buffers, salinity is cited as one of several criteria which may be used to determine future cropland eligibility. Extending CRP eligibility to highly saline irrigated soils has an effect on acreage enrollment, water quality, production control, and program cost. Modification of program eligibility criteria to include irrigated saline croplands will not significantly expand the national acreage pool, although local effects may be important. Potential new enrollment is limited by additional eligible acreage, county enrollment ceilings, and enrollment incentives for irrigated lands. Offsite water quality benefits attributable to reduced salt-loading may be very significant. However, enrollment of irrigated saline cropland is less cost-effective than currently eligible cropland from a commodity supply perspective. State involvement in support of a CRP salinity provision is likely to increase program effectiveness. (See also W91-03704) (Author 's abstract)
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105. **Water Quality Benefits from the Conservation Reserve Program.**
Ribaudo, M. O.
Washington, DC: Economic Research Service, Resources and Technology Div.; USDAAER606; ERSAER606XSP, 1989. 40 p.
Notes: Replaces PB89-175624
NAL Call #: A281.9-Ag8A-no.606
Descriptors: Ground water/ Cost benefit analysis/ Land reclamation/ Land use/ Soil erosion/ Soil conservation/ Water quality/ Farmlands/ Environmental transport/ Nonpoint sources/ Food Security Act of 1985/ Conservation Reserve Program/ Natural resources and earth sciences/ Soil sciences/ Hydrology and limnology
Abstract: The Conservation Reserve Program, a land retirement program designed to remove from production 40 to 45 million acres of highly erodible cropland, may generate an estimated $3.5 to $4 billion in water quality benefits. Potential benefits include lower water treatment costs, lower sediment removal costs, less flood damage, less damage to equipment which uses water, and increased recreational fishing. Benefits were estimated with a set of procedures that approximated the physical, chemical, biological, and economic links between soil erosion and water use.

106. **Water quality improvement and wetlands restoration.**
Weitman, D.
In: When Conservation Reserve Program contracts expire: The policy options; Ankeny, IA: Soil and Water Conservation Society, 1994. pp. 20-22
Descriptors: Conservation Reserve Program/ United States
Abstract: Addressed the importance of water quality and wetland benefits related to CRP.

107. **Watershed water quality programs: Lessons learned in Illinois.**
Davenport, T. and Lowrey, J.
In: Perspectives on nonpoint source pollution: Proceedings of a national conference. (Held 19-22 May 1985; at Kansas City, MO.)
Washington, D.C.: U.S. Environmental Protection Agency; pp. 256-258; 1985.
Notes: Document number: EPA 440-5-85-001
Descriptors: nonpoint sources/ watersheds/ pollution control/ Freshwater pollution/ agricultural pollution/ soil erosion/ government policy/ United States, Illinois/ lakes/ nonpoint pollution/ Illinois/ state policies/ United States, Illinois, Pittsfield Lake/ Environmental action/ Pollution control/ Prevention and control
Abstract: Several nonpoint source control projects--Sec. 108 Great Lakes Demonstration Projects, Clean Lakes Projects, Sec. 314 Agricultural Conservation Program Projects, and Rural Clean Water Projects--

have been implemented in watersheds critical for agricultural pollution. Evaluation of these ongoing nonpoint source control projects is necessary for facilitating future NPS control programs. Presently in the State of Illinois, 2 major watershed nonpoint source evaluation projects exist--the Lake Pittsfield (Blue Creek) and Silver Lake (Highland) Watershed projects. Recommendations on projects selection, development, and implementation are discussed based on evaluation of these projects. Priority lakes for agricultural nonpoint source water quality problem abatement are tabulated in order of priority.
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108. **Wetlands Reserve Pilot Program: An assessment based on state leadership workshops.**
American Farmland Trust.
Washington, D.C.: American Farmland Trust; 12, 10 p. (1993)
Notes: Cover title. "December 1993."
NAL Call #: QH75-.W47-1993
Descriptors: Wetland conservation/ Wetlands
This citation is from AGRICOLA.

109. **Wetlands Reserve Program.**
Hussey, S. L.
Fisheries 19 (8): 42-43. (1994)
NAL Call #: SH1.F54; *ISSN:* 0363-2415
Descriptors: wetlands / fishery resources/ agriculture/ nature conservation/ legislation/ resources management/ environmental protection/ fisheries/ habitats/ wildlife conservation/ Wetlands Reserve Program/ Stock assessment and management/ Law/ policy/ economics/ social sciences/ Conservation/ wildlife management/ recreation/ Water law and institutions/ Environmental action/ United States
Abstract: Historically, one of the greatest threats to wetlands has been drainage for agricultural purposes. One-fourth of U.S. Cropland, more than 100 million acres, was obtained by clearing and draining wetlands. This loss of wetland functions and terrestrial ecosystems. Three-fourths of the nation's fish production depends on wetlands. A wetlands protection program with tremendous potential is the Wetlands Reserve Program, authorized by the food, Agriculture, Conservation and Trade Act of 1990. While not commonly associated with fisheries, this program offers significant opportunities to improve fisheries habitats. The Wetlands Reserve Program was established for the voluntary restoration and protection of wetland by landowners through permanent or 30-year easements on up to 1 million acres of wetlands previously modified for agricultural production. The program is designed to take marginal cropland out of production, providing landowners with the opportunity to benefit by maintaining wetlands. Riparian areas are also eligible for enrollment in the program. The prospect of habitat for fish and wildlife is one national priority factor in determining eligibility for enrollment.
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110. **When a Landowner Adopts a Riparian Buffer: Benefits and Costs.**
Lynch, L. and Tjaden, R. Maryland Cooperative Extension; Fact Sheet 774, 2000.
http://www.riparianbuffers.umd.edu/PDFs/FS774.pdf
Descriptors: State conservation programs/ Conservation Reserve Enhancement Program/ Maryland
Abstract: Detailed costs and benefits of riparian buffer installation.

111. **Agricultural land use patterns of native ungulates in south-eastern Montana.**
Selting, J. P. and Irby, L. R.
Journal of Range Management 50 (4): 338-345. (July 1997)
NAL Call #: 60.18-J82; *ISSN:* 0022-409X [JRMGAQ]
Descriptors: odocoileus hemionus/ odocoileus virginianus/ antilocapra americana/ wild animals/ habitat selection/ population density/ patterns/ seasonal variation/ agricultural land/ Montana/ Conservation Reserve Program lands
Abstract: Mule deer (Odocoileus hemionus), white-tailed deer (Odocolieus virginianus), and pronghorn antelope (Antilocapra americana) use of 6 agricultural land use categories in southeastern Montana were monitored to identify use patterns at specific sites. Alfalfa (Medicago sativa L.), bottom rangeland, Conservation Reserve Program (CRP) lands, upland rangeland, wheat (Triticum aestivum L.) stubble, and growing wheat were observed during dawn, day, dusk, and night hours over a period of 12 months. Mule deer densities on alfalfa peaked in fall and again in spring. The CRP lands were selected in all seasons. Rangeland sites were most heavily used in winter and summer. White-tailed deer used CRP lands in all seasons except fall. Alfalfa was selected in fall, spring, and summer. Antelope densities on alfalfa were highest in spring and fall, while growing wheat fields were used most in spring. Antelope in the northern study area selected CRP land in all seasons except fall. Densities of animals and patterns of use observed during this study would be unlikely to produce significant impacts on forage or crops at most of our study sites.
This citation is from AGRICOLA.

112. **Agricultural Practices, Farm Policy, and the Conservation of Biological Diversity.**
Gerard, P. W.
Laurel, Md: National Biological Service; PB95262515XSP, 1995. 32 p.
Notes: Also pub. as National Biological Service, Laurel, MD. rept. no. BIOLOGICAL-4.
Descriptors: Endangered species/ Birds/ Policies/ Biological indicators/ Cultivated lands/ Wildlife conservation/ Agricultural lands/ Biodiversity/ Natural resources and earth sciences/ Natural resource management/ Agriculture and food/ Agricultural equipment facilities and operations
Abstract: Long-term wildlife population declines are associated with changing agricultural practices. Cropland expansion, agricultural intensification, and national farm policies are all implicated in these declines. Social, economic, technological, and political factors determine where, what, and how a farmer produces crops and therefore his or her effect on wildlife habitat. Farmers are also influenced by Department of Agriculture programs, which therefore are indirectly implicated in wildlife population declines. Changes in the prairie and Great Plains agricultural landscape since the 1950s provide a clear example of the relation between federal agriculture policy, farmers' land-use practices, and the decline of grassland bird species. Early research indicates that the Conservation Reserve Program may help to slow or reverse wildlife losses, including those of several species listed as endangered. However, Conservation Reserve Program benefits to wild life populations may vary considerably across the United States. Wildlife conservation in the agricultural landscape is limited by conflicting conservation objectives, the voluntary nature of federal agriculture programs, and the habitat requirements of many endangered vertebrate species.

113. **Animal and habitat relationships in the South Platte basin with emphasis on threatened and endangered species.**
Fitzgerald, J. P.
In: Endangered Species Management: Planning Our Future, Proceedings of the 6th Annual 1996 South Platte Forum. (Held 25 Oct 1995-26 Oct 1995 at Greeley, Colorado.) Graf, D. and Williams, D. J. (eds.)
Fort Collins, CO: Colorado Water Resources Research Institute, Colorado State University; pp. 8; 1995.
Descriptors: United States/ Colorado/ South Platte River Basin/ wildlife habitats/ river basins/ animal populations/ priorities/ wildlife management/ preservation/ spatial distribution/ species diversity/ Ecological impact of water development
Abstract: A minimum of 353 species of terrestrial vertebrates reside in or make important seasonal use of habitats in the South Platte River basin in Colorado. The list includes 252 birds, 69 mammals, 22 reptiles, and 10 amphibians. When species are tied to habitat requisites, the most critical habitats in priority of management needs/preservation are: 1. Grassland/Prairie; 2. Plains Riparian/Wetlands; 3. Middle to High Elevation Forests. In a management context the two most critical habitat types present the most serious problems. Most of the eastern plains is in private ownership with few incentives available to landowners for protection/habitat management. Habitat is becoming fragmented with less than one-third still in prairie. Water allocation and use patterns as well as human population growth patterns are increasing pressures on remaining plains landscapes, especially at the foothills/plains interface in the basin.

Agricultural patterns including increasing use of the Conservation Reserve Program will also likely effect distributional patterns of wildlife, perhaps to the detriment of some species.
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114. **An annotated bibliography for wildlife responses to the Conservation Reserve Program.**
Allen, A. W.
In: A comprehensive review of Farm Bill contributions wildlife conservation, 1985-2000/ Heard, L. P; Hohman, W. L.; Halloum, D. J.; and Wildlife Habitat Management Institute (U.S.); Series: Technical Report USDA/NRCS/WHMI.
Madison, MS: USDA, NRCS, Wildlife Habitat Management Institute, 2000; pp. 151-206
NAL Call #: aS604.6 .C66 2000
Descriptors: Conservation Reserve Program/ wildlife habitats/ wildlife management

115. **Annual set-aside programs: A long-term perspective of habitat quality in Illinois and the Midwest.**
Warner, Richard E.; Etter, Stanley L.; David, Larry M.; and Mankin, Philip C.
Wildlife Society Bulletin 28 (2): 347-354. (2000)
NAL Call #: SK357.A1W5; *ISSN:* 0091-7648.
Notes: 3 tables; 1 figure.
Descriptors: policies and programs/ farms/ food crops/ production/ grassland/ cultivated farmland/ habitat management for wildlife/ conservation programs/ land use/ cover/ vegetation/ agriculture/ habitat change/ grains/ prairie/ extensive agriculture/ North America/ United States/ Illinois/ Iowa
Abstract: Farm programs that divert cropland from production have been important for establishing grassy habitat in the Midwest since the 1930s. This study documents 1) the expansion of row crop production and general decline of grasses on farm landscapes of the Midwest in recent decades, and 2) the trend toward short-term set-aside programs that establish grassy habitat of marginal value, depicted in Illinois. During the 1980s and early 1990s, row crop production in the Midwest moderated and millions of hectares of grassland were established on cropland diverted from production. Nonetheless, from 1964 to 1992, row crop plantings increased by 39%, with an 84% increase in soybeans being the most striking land-use change. Row crops supplanted numerous cover types that have grassy structure, including oats (-83%), wheat (-10%), other minor crops (-51%), permanent pasture (-54%), diverted cropland (-51%), and other farmland (-41%). On a study area in east-central Illinois, we evaluated and compared selected habitat characteristics of grassy cover for 1962-63 and 1991-94 on 100 randomly selected 4.05-ha plots, including tract width, heterogeneity of vegetation, disturbance during the growing season, persistence of vegetation from one growing season to the next, and extent to which grassy fields were connected by permanent (grass) edges to surrounding landscape elements. There was a diminution (P<0.05) in these habitat attributes in the 1990s compared to the 1960s. The conservation community has emphasized the potential benefits of the Conservation Reserve Program (CRP) for wildlife, while most of the grassland in the Corn Belt has been established by annual set-aside programs. Although the most recent set-aside era ended in the late 1990s, programs of this nature may reemerge. Our study underscores the need and opportunity for improving habitat conditions as part of future farm programs that would divert land from production under short-term contract.
This citation is provided courtesy of NISC, publisher of Wildlife & Ecology Studies Worldwide.

116. **Are economic instruments the saviour for biodiversity on private land?**
Gibbons, P; Briggs, S V; and Shields, J M
Pacific Conservation Biology 7 (4): 223-228. (2002); *ISSN:* 1038-2097
Descriptors: Conservation Reserve Program/ biodiversity conservation/ economic instruments/ ecosystem vulnerability/ environmental condition/ metapopulation viability/ offset schemes/ private lands/ representative ecosystem examples/ stewardship schemes/ tax concessions/ temporal support
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117. **Area Requirements of Grassland Birds: A Regional Perspective.**
Johnson, D. H. and Igl, L. D.
Auk 118(1): 24-34. (2001)
NAL Call #: 413.8 AU4
Descriptors: Conservation Reserve Program/ Great Plains
Abstract: Examined the influence of fragmentation and isolation of CRP grassland fields on grassland breeding bird populations in the northern Great Plains.

118. **The Arkansas response to federal farm program opportunities.**
Long, J. D.; Akers, D.; and Wilson, S. N.
Journal of Soil and Water Conservation 46 (4): 272-275. (July 1991-Aug. 1991)
NAL Call #: 56.8-J822; *ISSN:* 0022-4561 [JSWCA3]
Descriptors: farmland/ wildlife conservation/ habitats/ environmental protection/ federal programs/ Conservation Reserve Program
This citation is from AGRICOLA.

119. **Association of the Conservation Reserve Program with ring-necked pheasant survey counts in Iowa.**
Riley, Terry Z
Wildlife Society Bulletin 23 (3): 386-390. (1995)
NAL Call #: SK357.A1W5; *ISSN:* 0091-7648
Descriptors: Phasianus colchicus (Galliformes)/ animals/ birds/ chordates/ nonhuman vertebrates/ vertebrates/ agriculture/ snowfall/ weather/ wildlife management
Abstract: More than 880,000 ha of Iowa farmland were enrolled in the Conservation Reserve Program (CRP) from 1986-1991. I evaluated the relationship between CRP enrollment and ring-necked pheasants (Phasianus colchicus) in Iowa and how cropland and weather affected that relationship. Six percent of the land area in Iowa was enrolled in the CRP between 1986 and 1991. Pheasant numbers in Iowa increased 30% during the first 5 years of the CRP compared to a similar period before the program began (P = 0.026). Numbers increased 34% (P lt 0.018) in counties with gt 70% cropland and 26% (P= 0.12) in counties with 50-70% cropland. I did not detect increases in pheasant numbers in counties with lt 50% cropland (P gt 0.71). Pheasant numbers were positively related to the CRP, but this function was also influenced by percent cropland and cumulative snowfall.
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120. **Avian abundance and diversity in CRP, crop fields, pastures, and restored and native grasslands during winter.**
Morris, Kelly
Passenger Pigeon 62 (3/4): 217-224. (2000); *ISSN:* 0031-2703
Descriptors: birds/ crops/ conservation/ species diversity/ hibernation/ snow/ grass prairies/ meadows/ agricultural conservation programs
Abstract: I compared grassland bird use of land set aside by the Conservation Reserve Program (CRP), crop fields, pastures, and restored and native prairies during winter in southern Wisconsin. Species diversity was highest in crop fields, followed by restored prairie, CP2 (CRP fields planted to native grasses), native prairie remnants, and pastures. Avian abundance (number of individuals seen per hour of observation) was highest in pastures, followed by restored prairie, CP2, crop fields and native prairie. No birds were observed in CP1 fields (CRP fields planted to introduced grasses and legumes). Avian abundance in crop fields and native prairie was higher during periods of incomplete snow cover than during periods with 100% snow cover, while the reverse was true for restored prairie and CP2 sites. The variety of habitats used by grassland birds during winter should be taken into account when management plans are being developed for these species.
This citation is provided courtesy of NISC, publisher of Wildlife & Ecology Studies Worldwide.

121. **Avian abundance, composition, and reproductive success on Conservation Reserve Program fields in northern Missouri.**
McCoy, T. D.
Columbia, MO: University of Missouri, 1996.
Notes: M.S. Thesis
Descriptors: Conservation Reserve Program/ State conservation programs/ Missouri
Abstract: Studied various avian species abundance, composition, and reproductive success in different grassland types (CP1 vs. CP2) in northern Missouri.

122. **Avian abundance in CRP and crop fields during winter in the midwest.**
Best, Louis B; Campa, Henry; Kemp, Kenneth E; Robel, Robert J; Ryan, Mark R; Savidge, Julie; Weeks, Harmon P Jr; and Winterstein, Scott R
American Midland Naturalist 139 (2): 311-324. (1998)
NAL Call #: 410 M58; *ISSN:* 0003-0031
Descriptors: dark eyed junco (Passeriformes)/ horned lark (Passeriformes)/ lapland longspur (Passeriformes)/ meadowlark (Passeriformes)/ mourning dove (Columbiformes)/ northern bobwhite (Galliformes)/ ring necked pheasant (Galliformes)/ American goldfinch (Passeriformes)/ American tree sparrow (Passeriformes)/ Canada goose (Anseriformes)/ European starling (Passeriformes)/ Animals/ Birds/ Chordates/ Nonhuman Vertebrates/ Vertebrates/ crop fields/ species abundance/ species composition/ winter/ Conservation Reserve Program
Abstract: We compared the abundance and species composition of birds in Conservation Reserve Program (CRP) fields with the same aspects in row-crop fields during the winter (January and February) over several years (1992-1995) for six Midwestern states (Indiana, Iowa, Kansas, Michigan, Missouri and Nebraska). Field techniques were standardized in all states. CRP fields consisted of either permanent introduced grasses and legumes (CP1) or permanent native grasses (CP2), and the plant species seeded in CRP fields differed within and among states. Vegetation characteristics of CRP fields varied considerably from state to state, but vertical density and total canopy cover (primarily grasses) were particularly high in Nebraska. Mean annual total bird abundance ranged from 0.1 to 5.1 birds per km of transect in CRP fields and from 0.1 to 24.2 in row-crop fields. The total number of bird species recorded in CRP fields in the six states ranged from 6 to 32; the range for row-crop fields was 8 to 18. The most abundant species in CRP fields differed among states but included the ring-necked pheasant, American tree sparrow, northern bobwhite, dark-eyed junco and

American goldfinch. The most abundant species in row-crop fields included the horned lark, American tree sparrow, European starling, mourning dove, lapland longspur, meadowlarks and Canada goose. Some of the most abundant bird species wintering on CRP fields have been undergoing long-term population declines, thus this program has the potential to mitigate population losses.
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123. **Avian community structure, reproductive success, vegetative structure, and food availability in burned CRP Fields and grazed pastures in northeastern Kansas.**
Klute, D. S.
Manhattan, KS: Kansas State University, 1994.
Notes: M.S. Thesis
Descriptors: Conservation Reserve Program/ State conservation programs/ Kansas
Abstract: Compared avian community structure and reproductive success, food availability, and vegetative structure in CRP grasslands in northern Kansas that were grazed and burned.

124. **Avian Population Trends Within the Evolving Agricultural Landscape of Eastern and Central United States.**
Murphy, MT
Auk 120 (1): 20-34. (Jan. 2003)
NAL Call #: 413.8 AU4; *ISSN:* 0004-8038
Descriptors: Conservation Reserve Program/ Migratory Birds/ CRP Fields/ Nesting Success/ Breeding Birds/ North America/ Habitat/ Grassland/ Abundance/ Songbirds
Abstract: State-level Breeding Bird Survey (1980-1998) and U.S. Department of Agriculture statistics were used to test the hypothesis that changes in agricultural land use within the eastern and central U.S. have driven population trends of grassland and shrub habitat birds over the past two decades. The degree to which population trends differed between grassland and shrub habitats was evaluated with respect to migratory and nesting behavior. Grassland birds declined significantly between 1980 and 1999, but, on average, shrub habitat species did not. Grassland-breeding, long-distance migrants exhibited the strongest negative trends. Most species (78%; n = 63) exhibited at least one significant association between population trends and changes in agricultural land use, and in most, land use "explained" 25-30% of the variation in population trends among states. Changes in the farmland landscape accounted for more of the interstate variability of population trends of short-distance migrants than of both long- distance migrants and residents, and that variability was greater in grassland than shrub species. Declines in the area of rangeland and cover crops were followed by population declines and increases, respectively, by many species. Increases of land in the Conservation Reserve Program had negative associations with population trends of some shrub species. The results indicate that grassland birds have declined strongly over the past two decades, and that regardless of migratory behavior or nesting habits, avian population trends are linked strongly to changes in agricultural land use within North America.
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125. **Avian response to landscape change in fragmented southern Great Plains grasslands.**
Coppedge, Bryan R.; Engle, David M.; Masters, Ronald E.; and Gregory, Mark S.
Ecological Applications 11 (1): 47-59. (2001)
NAL Call #: QH540.E23; *ISSN:* 1051-0761
Descriptors: bird communities/ neotropical migrant species/ conservation/ aerial photography/ Juniperus spp/ plains/ prairies/ agricultural conservation programs
Abstract: We examined the dynamics of avian communities associated with fragmented grasslands in Oklahoma USA, using long-term (1965-1995) raw (stop-level) data from the Breeding Bird Survey (BBS). Aerial photography was used to document changes in land cover type and landscape pattern as affected by woody plant (mostly Juniperus virginiana L.) encroachment and concurrent cropland conversions to agricultural grassland under the Conservation Reserve Program (CRP). Rank trend analysis identified species with significant population trends, and canonical correspondence analysis (CCA) was used to identify important environmental gradients froma group of descriptive habitat variables that included land cover type composition and indices of vegetation cover, landscape pattern, and grassland patch structure. Avian community structure shifted along gradients of increasing woody plant cover and indicators of continuing landscape fragmentation. Open-habitat generalists, woodland, and successional scrub species generally increased, whereas many grassland species decreased. In some instances, neotropical migrants responded positively to increasing woody vegetation. Some grassland birds also showed a positive response to increases in agricultural grassland, but only in areas of severe juniper encroachment. Most grassland species exhibited consistent declines related to the influx of woody vegetation and associated landscape changes. Woody plant encroachment into southern Great Plains grasslands already fragmented by agricultural activity represents a conservation management dilemma. Although woody vegetation in remnant native prairies may provide habitat for some declining neotropical migrants that require shrubby areas, grassland structure and suitability is compromised for many declining grassland-endemic birds. Cropland conversion to agricultural grassland does appear to provide suitable for some grassland

species. However, this benefit appears to be limited to areas where woody plant invasion into grasslands is relatively advanced, and may have only a temporary effect, as most CRP areas are likely to return to agricultural production in the near future. Changes are needed in grassland management practices to restrict woody plant encroachment and fragmentation; otherwise, continued declines in grassland bird populations can be expected.
This citation is provided courtesy of NISC, publisher of Wildlife & Ecology Studies Worldwide.

126. **Avian use and vegetation characteristics of Conservation Reserve Program fields.**
Delisle, Jennifer M. and Savidge, Julie A.
Journal of Wildlife Management 61 (2): 318-325. (1997)
NAL Call #: 410 J827; *ISSN:* 0022-541X
Descriptors: bobolinks (Passeriformes)/ common yellowthroat (Passeriformes)/ dickcissels (Passeriformes)/ grasshopper sparrow (Passeriformes) / ring necked pheasant (Galliformes)/ American tree sparrow (Passeriformes)/ Ammodramus savannarum (Passeriformes)/ Dolichonyx oryzivorus (Passeriformes)/ Geothlypis trichas (Passeriformes)/ Phasianus colchicus (Galliformes)/ Spiza americana (Passeriformes)/ Spizella arborea (Passeriformes)/ Sturnella spp. (Passeriformes)/ animals/ birds/ chordates/ nonhuman vertebrates/ vertebrates/ Conservation Reserve Program/ fields/ meadowlarks / seasonality/ species abundance/ vegetation structure/ wildlife management
Abstract: We compared avian use of Conservation Reserve Program (CRP) fields enrolled in the CP1 (cool-season grasses and legumes) and CP2 (warm-season native grasses) options in southeastern Nebraska from 1991 to 1995. In winter and in the breeding season CP2 fields had taller, denser vegetation than CP1 fields. However, total bird abundance did not differ between CP1 and CP2 fields (P = 0.47). Dickcissels (Spiza americana) and grasshopper sparrows (Ammodramus savannarum) were the most abundant species during the breeding season although population numbers varied among years (P lt 0.001). Dickcissels and grasshopper sparrows showed no differences in abundance between CPs, but dickcissels were associated with tall, dense vegetation and grasshopper sparrows with sparser vegetation and a shallow litter layer. Bobolinks (Dolichonyx oryzivorus) were more abundant on CP1 fields (P = 0.001), and common yellowthroats (Geothlypis trichas) and sedge wrens (Cistothorus platensis) were more abundant on CP2 fields (P = 0.001 and P = 0.05). Average winter abundances did not change over years (P = 0.90). American tree sparrows (Spizella arborea) and ring-necked pheasants (Phasianus colchicus) were the most abundant species during winter and were more abundant on CP2 fields (P lt 0.05). Meadowlarks (Sturnella spp.) were more abundant on CP1 fields in winter (P lt 0.05).
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127. **Avian use of fields enrolled in the Conservation Reserve Program in southeast Nebraska.**
Delisle, Jennifer M.
Lincoln, Nebraska: University of Nebraska, 1995.
Notes: Thesis (M.S.);
Includes bibliographical references.
NAL Call #: NBU LD3656-1995-D455
Descriptors: Conservation Reserve Program---United States/ Birds---Habitat---Nebraska
This citation is from AGRICOLA.

128. **Big bluestem evaluations in the Eastern Plains.**
Moyer, J. L.; Fine, G.; and Walker, J.
In: Report of progress: Kansas Agricultural Experiment Station, 606; Manhattan, Kan.: Agricultural Experiment Station, Kansas State College of Agriculture and Applied Science, 1990. 9 p.
Notes: ISSN: 1061-7841
NAL Call #: 100-K133P
Descriptors: andropogon gerardii/ cultivars/ forage/ comparisons / agronomic characteristics/ crop yield/ crude protein/ digestibility/ conservation areas/ weather data/ Kansas/ Oklahoma/ Conservation Reserve Program
This citation is from AGRICOLA.

129. **Bird abundance and nesting in CRP fields and cropland in the midwest: A regional approach.**
Best, Louis B; Campa, Henry; Kemp, Kenneth E; Robel, Robert J; Ryan, Mark R; Savidge, Julie; Weeks, Harmon P Jr; and Winterstein, Scott R
Wildlife Society Bulletin 25 (4): 864-877. (1997)
NAL Call #: SK357.A1W5; *ISSN:* 0091-7648
Descriptors: nest predation/ nesting success/ rowcrop field/ species abundance/ vegetational structure/ Conservation Reserve Program/ Agelaius phoeniceus [red winged blackbird] (Passeriformes)/ Ammodramus savannarum [grasshopper sparrow] (Passeriformes)/ Spiza americana [dickcissel] (Passeriformes)
Abstract: We compared the abundance and nesting success of avian species in Conservation Reserve Program (CRP) fields during the summer with that in rowcrop fields over 5 years (1991-1995) for 6 Midwestern states (Ind., Ia., Kans., Mich., Mo., and Nebr.). Field techniques were standardized in all states. CRP fields consisted of either perennial introduced grasses and legumes (CP1) or perennial

native grasses (CP2), and the plant species seeded in CRP fields differed within and among the states. Disturbances to CRP fields included mowing (partial or complete), application of herbicides, and burning. The height, vertical density, and canopy coverage of vegetation in CRP fields were measured in each state; values for these measurements were particularly low in Kansas. Mean annual total bird abundance in CRP fields ranged from 4.9 to 29.3 birds/km of transect. The most abundant species on CRP fields differed among states but included red-winged blackbirds (Agelaius phoeniceus), grasshopper sparrows (Ammodramus savannarum), and dickcissels (Spiza americana). Although the total number of bird species was similar in CRP and rowcrop fields across the region, bird abundance was 1.4-10.5 times greater in the former. Nests of 33 bird species were found in CRP fields compared with only 10 species in rowcrop fields, and the number of nests found was 13.5 times greater in CRP fields. Nest success in CRP fields was 40% overall; predation was the greatest cause of nest failure. Long-term farm set-aside programs that establish perennial grass cover, such as the CRP, seem to provide many benefits for grassland birds, including several species for which conservation is a great concern.
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130. **Bird abundance and nesting success in Iowa CRP fields: The importance of vegetation structure and composition.**
Patterson, Matthew P and Best, L B
American Midland Naturalist 135 (1): 153-167. (1996)
NAL Call #: 410 M58; *ISSN:* 0003-0031
Descriptors: passerine (Passeriformes)/ Aves (Aves Unspecified) / Plantae (Plantae Unspecified)/ animals/ birds/ chordates/ nonhuman vertebrates/ plants / vertebrates/ Conservation Reserve Program/ land management practice
Abstract: Bird use of Conservation Reserve Program (CRP) and row-crop fields was studied in central Iowa from May through July 1991-1993. Thirty-three bird species were recorded in CRP fields and 34 in row-crop fields. The most abundant species in both habitats was the red-winged blackbird (Agelaius phoeniceus), accounting for 35% of all birds in CRP and 24% in row-crop fields. The dickcissel (Spiza americana), grasshopper sparrow (Ammodramus savannarum), bobolink (Dolichonyx oryzivorus), common yellowthroat (Geothypis trichas), brown-headed cowbird (Molothrus ater), savannah sparrow (Passerculus sandwichensis) and ring-necked pheasant (Phasianus colchicus) were the next most abundant species in CRP plots. The horned lark (Eremophila alpestris), vesper sparrow (Pooecetes gramineus) and brownheaded cowbird were the next most abundant species in row-crop fields. Nests of 16 bird species were found in CRP fields, with red-winged blackbirds accounting for 48% of all nests found. The vesper sparrow and horned lark were the only species nesting in row-crop fields. The major cause of nest loss for all species was predation, accounting for 52% of all nest loss in CRP fields and 65% in row-crop fields. Mammals accounted for 89, 88 and 85% of the predation on grasshopper sparrow, red-winged blackbird and dickcissel nests, respectively. The Conservation Reserve Program has likely contributed to an increase in the abundance of many bird species in central Iowa, inasmuch as the row-crop habitat that it replaced has lower bird abundance and supports fewer nesting species. The vegetation structure and composition of CRP fields in central Iowa are diverse, resulting in differences in the bird species communities using these fields. The effects of several land-management practices are discussed relative to bird species composition and nesting success.
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131. **Bird Abundance and Success in CRP.**
Mccoy, T.
In: 62nd Midwest Fish and Wildlife Conference. (Held 3 Dec 2000-6 Dec 2000 at Minneapolis. MN (USA).); 2001.
Notes: Paper No. 307; Conference Sponsor: NCD-AFS; World Meeting Number 000 5249
Descriptors: Aquatic Science/ Biology/ Environmental Science
© Cambridge Scientific Abstracts (CSA)

132. **Birds and the Conservation Reserve Program: A retrospective study.**
Lauber, T. B.
Orono, Me.: University of Maine, 1991.
Notes: Thesis (M.S.) in Wildlife Management. Bibliography: leaves 243-248. Includes vita.
NAL Call #: MeU Univ.-1991-L38
Descriptors: Conservation Reserve Program U.S/ Bird populations Effect of agricultural conservation on
This citation is from AGRICOLA.

133. **Breeding bird composition and species relative abundance patterns on Conservation Reserve Program (CRP) land in Western Minnesota.**
Hanowski, JoAnn M.
Loon 67 (1): 12-16. (1995).
Notes: WR 252
Descriptors: communities/ Conservation Reserve Program/ conservation programs/ birds/ North America/ United States/ Minnesota/ Minnesota, western
This citation is provided courtesy of NISC, publisher of Wildlife & Ecology Studies Worldwide.

134. **Changes in Breeding Bird Populations with Habitat Restoration in Northern Iowa.**
Fletcher, RJ and Koford, RR
American Midland Naturalist 150 (1): 83-94. (July 2003)
NAL Call #: 410 M58; *ISSN:* 0003-0031
Descriptors: Conservation Reserve Program/ Grassland Birds/ Avian Communities/ Area Sensitivity/ Prairie Wetlands/ Natural Wetlands/ Abundance/ Management/ Dakota/ Fields
Abstract: Native tallgrass prairie and wetland habitat in the Prairie Pothole Region of the United States have declined over the past two centuries. Bird communities using these habitats have also experienced widespread declines that are often attributed to severe habitat loss and fragmentation. We estimated the change, or turnover, in bird populations in the Eagle Lake Wetland Complex, Iowa, with ongoing grassland and wetland restoration by linking geographic information system data and bird surveys in different land cover types (hayland, pasture, restored grassland, restored wetland and rowcrop agriculture) during the 1999-2001 breeding seasons. Habitat restoration efforts primarily converted rowcrop agriculture and pastures into grassland and wetland habitat. Based on land conversion, abundances of most species have likely increased in the area, including many species of management concern. Yet a few species, such as killdeer (Charadrius vociferus), have probably decreased in abundance. This estimation approach and these estimates provided a critical first step for evaluating restoration efforts; however, information on demographic parameters, such as nesting success, in restored areas is needed for understanding how restoration ultimately affects bird populations.
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135. **A comparison of Conservation Reserve Program habitat plantings with respect to arthropod prey for grassland birds.**
McIntyre, N. E. and Thompson, T. R.
American Midland Naturalist 150 (2): 291-301. (2003)
NAL Call #: 410 M58; *ISSN:* 0003-0031.
Notes: Number of References: 64
Descriptors: Environment/ Ecology/ Texas High Plains/ North American grassland/ population trends/ CRP fields/ community structure/ avian abundance/ nestling diet/ vegetation/ Coleoptera/ landscape
Abstract: The Conservation Reserve Program (CRP) was designed to reduce soil erosion and curb agricultural overproduction by converting highly erodible agricultural land to various forms of perennial habitat. It has had an incidental benefit of providing habitat for wildlife and has been beneficial in reversing population declines of several grassland bird species. However, the mechanisms behind these reversals remain unknown. One such mechanism may be differences in food availability on CRP vs. non-CRP land or between different types of CRP. The influence of CRP habitat type on the abundance of arthropod prey used by grassland birds has not been previously explored. We compared the abundance and diversity of arthropods among four CRP habitat types in Texas [replicated plots of exotic lovegrass (Eragrostis curvula), Old World bluestem (Bothriochloa ischaemum), mixed native grasses with buffalograss (Buchlo dactyloides) and mixed native grasses without buffalograss] and native shortgrass prairie. Attention was focused on adult and juvenile spiders (Order Araneae), beetles (Coleoptera), orthopterans (Orthroptera: grasshoppers and crickets) and lepidopterans (Lepidoptera: butterflies and moths), as these taxa are the primary prey items of grassland birds during the breeding season. Arthropod diversity and abundance were higher on indigenous prairie compared to CRP, reflecting differences in vegetative diversity and structure, but there were no differences in arthropod richness or abundance among CRP types. These results indicate that, although CRP is not equivalent to native prairie in terms of vegetation or arthropod diversity, CRP lands do support arthropod prey for grassland birds. More direct assays of the survivorship and fitness of birds on CRP compared to native shortgrass prairie are clearly warranted.
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136. **A comparison of soil fertility between semi-natural and agricultural plant communities: Implications for the creation of species-rich grassland on abandoned agricultural land.**
Gough, M. W. and Marrs, R. H.
Biological Conservation 51 (2): 83-96. (1990)
NAL Call #: S900.B5; *ISSN:* 0006-3207
Descriptors: grasslands/ agricultural ecosystems/ forests/ phosphorus/ old fields/ soil fertility/ comparison/ Soil
Abstract: Soils were collected from a number of community types including semi-natural grassland, scrub, woodland, arable fields and improved grassland on various parent substrates and their fertility assessed by chemical analysis and plant bioassay techniques. Under glasshouse conditions, the main limiting factor to plant growth on the soils collected was the availability of P. Levels of extractable P in the arable soils, improved grassland soils and in some of the scrub and woodland soils collected were found to be significantly higher than in adjacent, semi-natural grassland soils. It may therefore be necessary to reduce the availability of P in the soil before species-rich grassland can be successfully established and maintained on old field

sites produced by "set-aside" or extensification schemes, and in conservation management programmes where late successional vegetation is removed.
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137. **A comprehensive review of Farm Bill contributions to wildlife conservation, 1985-2000.**
Heard, L. P; Hohman, W. L.; Halloum, D. J.; and Wildlife Habitat Management Institute (U.S.)
Madison, MS: USDA, NRCS, 2000.
Notes: "Technical Report, USDA/NRCS/WHMI-2000." "December 2000."
Includes bibliographical references.
NAL Call #: aS604.6 .C66 2000
Descriptors: Agricultural law and legislation---United States/ Agricultural conservation---Government policy---United States/ Wildlife habitat improvement---United States/ Wetland agriculture
Abstract: Contents: Conservation compliance and wetlands conservation provisions of the Omnibus Farm Acts of 1985, 1990, and 1996 / Stephen J. Brady; Grassland bird use of Conservation Reserve Program fields in the Great Plains / Douglas H. Johnson; Waterfowl responses to the Conservation Reserve Program in the Northern Great Plains / Ronald E. Reynolds; Impact of the Conservation Reserve Program on wildlife conservation in the Midwest / Mark R. Ryan; Wildlife responses to the Conservation Reserve Program in the Southeast / Wes Burger; The value of buffer habitats for birds in agricultural landscapes / Louis B. Best; Biological responses to wetland restoration: Implications for wildlife habitat development through the Wetlands Reserve Program / Charlie Rewa; Wildlife Habitat Incentives Program: A summary of accomplishments, 1998-1999 / Ed Hackett; Environmental Quality Incentives Program: Program summary and potential for wildlife benefits / Anthony Esser, Robert T. Molleur, Paige Buck, Charlie Rewa; Wildlife responses to wetland restoration and creation: An annotated bibliography / Charlie Rewa; An annotated bibliography for wildlife responses to the Conservation Reserve Program / Arthur W. Allen
This citation is from AGRICOLA.

138. **Conducting a financial analysis of quail hunting within the Conservation Reserve Program.**
Williams, C. F. and Mjelde, J. W.
Wildlife Society Bulletin 22 (2): 233-241. (Summer 1994)
NAL Call #: SK357.A1W5; *ISSN:* 0091-7648 [WLSBA6]
Descriptors: colinus virginianus/ hunting/ economic analysis/ federal programs/ Texas
This citation is from AGRICOLA.

139. **The Conservation Reserve Program: A wildlife conservation legacy.**
Rude, Kathleen. and Wildlife Management Institute.
Washington, D.C.: Wildlife Management Institute, 1994. 15 p.: ill., map
Notes: Original title: "The Conservation Reserve Program: A wildlife conservation legacy --- America needs the Conservation Reserve Program"; "October, 1994."
NAL Call #: S624.A1C67--1994
Descriptors: Conservation Reserve Program---United States/ Soil conservation---Government policy---United States/ Wildlife conservation---United States
This citation is from AGRICOLA.

140. **The Conservation Reserve Program and grassland birds.**
Johnson, D. H. and Schwartz, M. D.
Conservation Biology 7 (4): 934-937. (1993)
NAL Call #: QH75.A1C5; *ISSN:* 0888-8892
Descriptors: Aves/ grasslands/ environmental restoration/ habitat utilization/ government policy/ United States/ Birds
Abstract: Several bird species that breed in the temperate grasslands of North America, many of which winter in the Neotropics, declined in abundance during the past quarter century. The Lark Bunting (see Table 1 for scientific names) and Grasshopper Sparrow, as examples, declined by about half during that period, as indexed by the U.S. Fish and Wildlife Service's Breeding Bird Survey. Populations of other grassland species have also diminished steadily, if not as spectacularly. Why so many species declined is not known, but continued conversion of perennial grassland to annually tilled cropland is a suspected cause. A test of this possibility is offered by the Conservation Reserve Program, a program of the United States Department of Agriculture that caused the reversion of millions of hectares of marginal cropland to perennial grassland. We evaluated the use by breeding birds of selected Program fields in eastern Montana, North Dakota, South Dakota, and western Minnesota. These four states have about four million hectares of land enrolled in the Program.
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141. **The Conservation Reserve Program and northern bobwhite population trends in Illinois.**
Roseberry, J. L. and David, L. M.
Transactions of the Illinois State Academy of Science 87 (1-2): 61-70. (1994); *ISSN:* 0019-2252
Descriptors: Colinus virginianus/ population status/ land use/ agricultural ecosystems/ Illinois/ Management/ Birds/ United States
Abstract: We examined 3 indexes of Northern Bobwhite abundance in Illinois at various geographic scales to determine possible relationships with the Conservation Reserve Program. Over 256,000 ha

were enrolled in the CRP during the first 9 signup periods (1986-1990). About 87% of this land was in CP-1 vegetation (introduced cool-season grasses and legumes). Male bobwhite call counts in some parts of the state may have been positively related to amounts of CRP land. However, there was no strong evidence that autumn population densities increased as a result of the program. Positive CRP effects on local bobwhite habitat in some areas were probably offset by neutral or negative effects in others. We discuss possible reasons why potential benefits of the CRP for Northern Bobwhite have not been fully realized.
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142. **The Conservation Reserve Program and wildlife habitat in the southeastern United States.**
Carmichael, D. Breck Jr.
Wildlife Society Bulletin 25 (4): 773-775. (1997)
NAL Call #: SK357.A1W5; *ISSN:* 0091-7648
Descriptors: conservation programs/ Conservation Reserve Program/ habitat management/ management/ wildlife/ North America/ United States/ United States, Southeastern
Abstract: The author provides a history of the Conservation Reserve Program in the southeastern United States. A recent cooperative study by the International Association of Fish and Wildlife Agencies and the U.S. Fish and Wildlife Service conducted between 1988 and 1992 showed no significant, long-term enhancement of habitat attributable to the CRP in the Southeast. The author discusses reasons for this lack of success in this region.
This citation is provided courtesy of NISC, publisher of Wildlife & Ecology Studies Worldwide.

143. **Conservation Reserve Program: Benefit for Grassland Birds in the Northern Plains.**
Reynolds, R. E.; Shaffer, T. L.; Sauer, J. R.; and Peterjohn, B. G.
Transactions of the 59th North American Wildlife and Natural Resource Conference: 328-336. (1994); *ISSN:* 0078-1355
Descriptors: birds/ conservation programs/ ducks/ grassland/ nests and nesting/ waterfowl/ abundance/ cover, nesting/ policies and programs/ statistics/ North Dakota/ South Dakota/ Conservation Reserve Program/ Upland Nesting/ Nest Success/ Waterfowl Production Areas/ Breeding Bird Surveys/ Population Trends/ Grasslands/ North America/ United States/ North Dakota/ South Dakota/ northern plains
Abstract: The importance of the Conservation Reserve Program (CRP) to upland- nesting ducks and certain other grassland-nesting birds was investigated. For ducks, nest success in CRP cover was compared with nest success in planted cover on waterfowl production areas in the same period (1992-93) and with that of an earlier period (1980-84). For nonwaterfowl, North American Breeding Bird Survey data were used to compare trends in populations of certain species found in CRP, for the Periods 1966-86 (pre-CRP establishment) and 1987-92 (post-CRP cover establishment) in North Dakota.
This citation is provided courtesy of NISC, publisher of Wildlife & Ecology Studies Worldwide.

144. **Conservation Reserve Program (CRP) contributions to avian habitat.**
Allen, A. W.
In: U.S. Fish and Wildlife Service Federal Aid Report, National Biological Survey; Fort Collins, CO: National Ecology Research Center, 1994.
Descriptors: Conservation Reserve Program/ United States
Abstract: Discussed characteristics of CRP contracts with greatest potential benefits, landscape planning, and management recommendations.

145. **The Conservation Reserve Program: Good for birds of many feathers.**
Kantrud, H. A.; Koford, R. R.; Johnson, D. H.; and Schwartz, M. D.
North Dakota Outdoors 56(2): 14-17. (1993)
Descriptors: State conservation programs/ North Dakota
Abstract: Examined avian species' use and population trends on CRP land in North Dakota.

146. **Conservation Reserve Program: Source or sink habitat for grassland birds in Missouri?**
McCoy, Timothy D.; Ryan, Mark R.; Kurzejeski, Eric W.; and Burger, Loren W. Jr.
Journal of Wildlife Management 63 (2): 530-538. (1999)
NAL Call #: 410 J827; *ISSN:* 0022-541X.
Notes: Project Number: MO W-013-R
Descriptors: Fringillidae/ Passeriformes/ Agelaius phoeniceus/ Ammodramus savannarum/ Carduelis tristis/ Geothlypis trichas/ Spiza americana/ Spizella pusilla/ Sturnella magna/ behavior/ birds/ communities/ Conservation Reserve Program/ ecosystems/ fecundity/ grasslands/ habitat management/ management/ nests/ nesting/ species diversity/ wildlife/ wildlife/ habitat relationships/ wild birds/ wildlife conservation/ federal programs/ Missouri/ Natural Resources/ Land Development, Land Reform, and Utilization (Macroeconomics)/ conservation programs/ grassland/ habitat/ reproduction/ nests and nesting/ statistics/ wildlife habitat relationships/ population dynamics/ grasshopper sparrow/ field sparrow/ eastern meadowlark/ American goldfinch / common yellowthroat/ dickcissel/ red winged blackbird/ North America/ United States/ Missouri/ Missouri, Northcentral/ Knox County/ Macon County/ Linn County

Abstract: The Conservation Reserve Program (CRP) has been credited with contributing substantially to the conservation of grassland birds. Although many species have nested on grasslands established under the CRP, little evidence of positive effect on populations has been reported. We measured reproductive rates and estimated fecundity of 7 grassland bird species in CRP fields in northern Missouri and compared those rates to estimates of fecundity needed to maintain stable populations (lambda = 1). Under conservative assumptions of survival CRP fields seemingly were source habitats (fecundity exceeded levels necessary for lambda = 1 for grasshopper sparrows (Ammodramus savannarum) and field sparrows (Spizella pusilla) in at least 2 of 3 years, 1995 P = 0.02, 1995 P < 0.001) and pooled over 3 years (Ps < 0.001). Although evidence was less compelling CRP fields were likely source habitat for eastern meadowlarks (Sturnella magna) and American goldfinches (Carduelis tristis). For American goldfinches, fecundity was greater than that necessary of lambda = 1 in 1995 (P < 0.001), and pooled over 3 years (< 0.001). Our pooled estimate of fecundity was greater than necessary for lambda = 1 for eastern meadowlarks (Ps < 0.001), but only under a liberal assumption of survival in 2 of 3 years (1993: P = 0.001; 1995: P = 0.088). Fecundity of common yellowthroats (Geothlypis trichas) varied substantially; therefore, source-sink status alternated among years, although the pooled estimate of fecundity was less than required for lambda = 1 (P < 0.001). Dickcissel (Spiza americana) fecundity was consistently less than necessary for lambda = 1 (conservative survival assumption; all Ps < 0.001; liberal survival assumption: 1994 P = 0.009, pooled P = 0.014). For red-winged blackbirds (Agelaius phoeniceus), CRP fields were consistently a sink habitat (all Ps < 0.001). Based on our evidence, the CRP likely has contributed to the conservation of grasshopper sparrows, field sparrows, and eastern meadowlarks. Although large numbers of dickcissels and red-winged blackbirds nested in CRP fields, there is little evidence that the CRP has contributed to populations of those species. This citation is provided courtesy of NISC, publisher of Wildlife & Ecology Studies Worldwide.

147. **Conserving biological diversity and the Conservation Reserve Program.**
Szentandrasi, S.; Polasky, S.; Berrens, R.; and Leonard, J.
Growth Change 26 (3): 383-404. (1995)
NAL Call #: HT390.G74; *ISSN:* 0017-4815 [GRCHDH].
Notes: Published: Lexington, Ky., College of Business and Economics, University of Kentucky; In the special issue: Wilderness areas. Paper presented at the conference, "Wilderness areas, regional planning, and the quality of life" held October 8, 1994. This citation is from AGRICOLA.

148. **Le Conte's Sparrows Breeding in Conservation Reserve Program Fields: Precipitation and Patterns of Population Change.**
Igl, L. D. and Johnson, D. H.
In: Ecology and Conservation of Grassland Birds of the Western Hemisphere/ Vickery, P. D. and Herkert, J. R.; Series: Studies in Avian Biology 19, 1999; pp. 178-186
Descriptors: Conservation Reserve Program/ Regional conservation programs/ Great Plains
Abstract: Discussed pattern of population change in Le Conte's Sparrows associated with changes in precipitation and moisture condition.

149. **Contributions of the Conservation Reserve Program to populations of breeding birds in North Dakota.**
Johnson, Douglas H and Igl, Lawrence D
Wilson Bulletin 107 (4): 709-718. (1995)
NAL Call #: 413.8 W692; *ISSN:* 0043-5643
Descriptors: Aves (Aves Unspecified)/ animals/ birds/ chordates/ nonhuman vertebrates/ vertebrates/ habitat/ North American Breeding Bird Survey
Abstract: Previous studies have shown that habitat provided by the Conservation Reserve Program (CRP), a feature of the 1985 farm bill. is used by many birds. The present study quantitatively assesses the importance of the CRP by estimating changes in breeding-bird populations of North Dakota projected if CRP land would revert to cultivation. Of 18 species that were common in CRP or crop fields or both, 12 were more abundant in CRP habitats. Six of these species had suffered significant population declines during 1967-1990. according to the North American Breeding Bird Survey. In contrast, none of the six species that were more common in cropland than in CRP fields had declined significantly. Termination of the Conservation Reserve Program and a return of enrolled land to cultivation is projected to cause population declines in North Dakota exceeding 17% for Sedge Wren (Cistothorus platensis), Grasshopper Sparrow (Ammodramus savannarum), Savannah Sparrow (Passerculus sandwichensis), Dickcissel (Spiza americana), and Lark Bunting (Calamospiza melanocorys).
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150. **Cooperative Upland Wildlife Research. Impacts of Farm Programs on Bobwhites: ACR and CRP Seedings as Bobwhite Nesting and Brood-rearing Habitat.**
Roseberry, J. L.
In: Illinois Department of Conservation 1992. 29 pp.; Final Report, 1992.
Notes: Project Number: IL W-106-R/Job 4.1A/Study 4
Descriptors: Colinus virginianus/ bobwhite/ seeding/ habitat management for wildlife/ farms/ habitat/ nests and nesting/ broods and brooding/ utilization/ cultivated farmland/ policies and programs/ transect survey/ vegetation/ cover, nesting/ population density/ North America/ United States/ Illinois/ Jasper County
This citation is provided courtesy of NISC, publisher of Wildlife & Ecology Studies Worldwide.

151. **Cover quality of Conservation Reserve Program grasslands in Minnesota, USA.**
Haroldson, K.; Kimmel, R.; and Riggs, M.
Gibier Faune Sauvage 15 (4): 501-516. (1998); *ISSN:* 0761-9243.
Notes: Numero Special Tome 1
Descriptors: Phasianus colchicus (Phasianidae)/ Sturnella (Icteridae)/ Farming and agriculture/ Conservation measures/ Conservation Reserve Programme/ Breeding site/ Grassland, cover quality/ South central Minnesota/ Grassland cover quality/ Conservation Reserve Programme fields/ Birds/ Chordates/ Vertebrates
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152. **Cover Types Planted on Illinois CP-1 CRP Fields.**
David, L. M.; Warner, R. E.; and Roseberry, J. L.
Gibson City, IL: Department of Conservation, Div. Of Wildlife Resources; PB96138318XSP, 1992. 38 p.
Notes: Administrative Report. Prepared in cooperation with Illinois Natural History Survey, Center for Wildlife Ecology, Champaign, IL and Southern Illinois Univ. at Carbondale, Cooperative Wildlife Research Laboratory; Sponsored by Fish and Wildlife Restoration Program, Washington, DC
Descriptors: Illinois / Farmers/ Birds/ Habitats/ Tables Data/ Grasses/ Legumes/ Conservation Reserve Program CRP/ Agriculture and food/ Agricultural equipment facilities and operations/ Natural resources and earth sciences/ Natural resource management
Abstract: Illinois farmers enrolled in the Conservation Reserve Program (CRP) entered 87% of CRP acres in the introduced grass and legume practice (CP-1). We determined vegetative cover planted by farm operators on fields enrolled in CP-1 by examining files at 87 USDA county offices in Illinois. In a sample of 2,472 CP-1 fields from the first 9 enrollment periods, orchard grass was the most commonly planted species; in all, landowners planted 26 species of grasses and legumes on Illinois CP-1 fields. Farmers seeded mixtures of smooth brome and alfalfa on 49% (106,609 acres) in the Illinois range of the ring-necked pheasant. We judge 204,820 acres (95% of CP-1) in the pheasant range to be suitable pheasant nest cover if unmowed. Farm operators planted mixtures containing Korean lespedeza on 138,944 acres (30%) of CP-1 in the range of the northern bobwhite; bobwhite range farmers planted 95,579 acres (21%) with tall fescue. We judge 240,568 acres (52%) in the quail range to be suitable bobwhite nest cover for a limited time if unmowed. We provide recommendations for CRP cover management for pheasant and bobwhite habitat.

153. **CRP land and game bird production in the Texas High Plains.**
Berthelsen, P. S.; Smith, L. M.; and Coffman, C. L.
Journal of Soil and Water Conservation 44 (5): 504-507. (1989)
NAL Call #: 56.8 J822; *ISSN:* 0022-4561
Descriptors: agricultural practices/ game management/ Aves/ Texas / government policy/ conservation/ Conservation/ Birds/ Management/ United States
Abstract: Soil Conservation Service personnel were surveyed about the land enrolled in the Conservation Reserve Program (CRP) in the Southern High Plains of Texas (71 counties, 903,215 ha). Information included type of cover established, land enrolled, establishment success, and cost of establishment for five conservation practices (CP1, 2, 4, 10, 12). Land in permanent introduced grasses (CP1) and permanent native grasses (CP2) accounted for 98% of the total CRP land. Establishment costs for the most common cover types averaged $142.90/ha ($57.85/acre). Establishment success was 87%. Ring-necked pheasant and waterfowl production in a four-county area was estimated on selected CRP grass combinations (blue grama /side-oats grama mixtures, blue grama/Kleingrass mixtures, and blue grama/old world bluestem mixtures) using 1988 nesting information and land enrollment figures. Estimated pheasant production was 174,204 chicks/year. Water-fowl production was estimated at 1,426 ducklings/year.
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154. **CRP, succession, and Brewer's sparrows: Advantages of a long-term, federal land retirement program.**
Igl, Lawrence D. and Murphy, Lisa A.
South Dakota Bird Notes 48 (3): 69-70. (1996); *ISSN:* 0038-3252
Descriptors: Fringillidae/ Passeriformes/ Spizella breweri/ behavior/ birds/ breeding/ conservation programs/ Conservation Reserve Program/ distribution/ ecosystems/ grasslands/ habitat use/ home range/ territory/ range extension/ succession/

vocalization/ Brewer's sparrow/ artemisa/ Artemisia spp/ North America/ United States/ South Dakota: Butte County
Abstract: Brewer's sparrows have extended their breeding range to the grasslands created by the Conservation Reserve Program in Butte County, South Dakota. These grasslands provide habitat for sagebrush nesting and other shrubland bird species. This citation is provided courtesy of NISC, publisher of Wildlife & Ecology Studies Worldwide.

155. **The CRP & wildlife habitat.**
Bucklin, R.
Agricultural Outlook [AO] (162): 30-31. (Apr. 1990)
NAL Call #: aHD1751.A42; *ISSN:* 0099-1066
Descriptors: wildlife/ habitats/ land management/ farm surveys/ farm income/ United States/ Conservation Reserve Program/ farm costs and returns surveys
This citation is from AGRICOLA.

156. **Declining survival of ring-necked pheasant chicks in Illinois during the late 1900s.**
Warner, Richard E.; Mankin, Philip C.; David, Larry M.; and Etter, Stanley L.
Journal of Wildlife Management 63 (2): 705-710. (1999)
NAL Call #: 410 J827; *ISSN:* 0022-541X.
Notes: Project Number: IL W-103-R
Descriptors: Galliformes/ Phasianidae/ Phasianus colchicus/ agricultural practices/ behavior/ birds/ broods/ brooding/ census/ survey methods/ Conservation Reserve Program/ ecosystems/ fledglings/ habitat alterations/ habitat management/ land use/ management/ physiology/ survival/ transect surveys/ wildlife/ pheasant, ring necked/ cultivated farmland/ broods and brooding/ transect survey/ statistics/ wildlife habitat relationships/ changes detrimental to wildlife/ common pheasant/ juvenile/ conservation/ mortality/ agriculture/ ring necked pheasant/ North America/ United States/ Ford County/ Illinois
Abstract: Previous studies indicated that survival of ring-necked pheasant (Phasianus colchicus) chicks during the first 6 weeks of life declined from the early 1950s through early 1980s in Illinois with the expansion of corn and soybean production and associated clean farming practices. From the early 1980s through mid-1990s intensive row-crop production was moderated by farm programs such as the Conservation Reserve Program (CRP) and annual set-aside, which diverted millions of hectares of cropland from production. We evaluated the survival of pheasant chicks in Illinois in relation to these recent land-use practices. Specifically, our objectives were to determine if there were changes in chick survival during the 1980s and 1990s, and if there were regional differences in chick survival related to land-use practices. We observed 574 broods along transect road routes on the Sibley Study Area (SSA) in eastcentral Illinois, and 964 broods on routes throughout the pheasant range in Illinois. In spite of the increase in potential brood habitat on set-aside farmland, chick survival remained low from 1982 to 1996. For example, there was a 5-fold increase in the amount of forage legumes and small grains on the SSA from 1987-91 compared to 1975-81, with the average number of chicks per brood at 4.3 (1987-91) and 4.2 (1975-81). For survey routes throughout the Illinois pheasant range, the number of grassy fields (primarily narrow, linear tracts) in 1990 was positively correlated (r~2~ = 0.15 P < 0.02, n = 37) with chicks per brood, but this relation explained only 15% of the variation. The lack of improvement in chick survival in recent decades relates to the pervasive clean farming practices in the Illinois pheasant range. Moreover, most of the set-aside land in the Illinois pheasant range was under annual contract and seeded late to monotypic oats, which is cover of marginal value to foraging pheasant chicks.
This citation is provided courtesy of NISC, publisher of Wildlife & Ecology Studies Worldwide.

157. **Density and fledgling success of grassland birds in Conservation Reserve Program fields in North Dakota and west-central Minnesota.**
Koford, R. R.
Studies in Avian Biology 19: 187-195. (1999)
Descriptors: Conservation Reserve Program/ State conservation programs/ Minnesota/ North Dakota
Abstract: Studied how CRP field habitat influences grassland bird density and fledgling success.

158. **Do artificial nests reveal meaningful patterns of predation in Kansas grasslands?**
Robel, R. J.; Hughes, J. P.; Keane, T. D.; and Kemp, K. E.
Southwestern Naturalist 48 (3): 460-464. (2003)
NAL Call #: 409.6 So8; *ISSN:* 0038-4909.
Notes: Number of References: 37; Publisher: Southwestern Assn Naturalists
Descriptors: Environment/ Ecology/ duck nests/ success/ prairie/ fragmentation/ dickcissels/ habitats/ cropland/ density/ birds/ Iowa
Abstract: We determined the fates of artificial and natural bird nests in Conservation Reserve Program (CRP) fields in northeastern Kansas from mid May through early August 1994. The CRP fields had been planted to native grasses in 1988 or 1989. Artificial nests contained Japanese quail (Coturnix japonica) or house sparrow (Passer domesticus) eggs in nest baskets in bunchgrass clumps to simulate nests of dickcissels (Spiza americana), the most common avian species nesting in the CRP fields. Natural dickcissel nests were found by rope dragging and intensive searches of the CRP fields. Losses among 562 artificial nests did not differ by egg type;

however, the 9.8% loss of artificial nests was significantly lower than the 70.1% loss-level among 97 natural dickcissel nests in those CRP fields. The daily survival rate for artificial nests was 0.99, significantly more than the 0.92 for natural dickcissel nests. An assessment of nest depredation based on data from artificial nests might not be representative of depredation on natural nests in grasslands.
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159. **Does habitat fragmentation influence nest predation in the shortgrass prairie?**
Howard MN; Skagen SK; and Kennedy PL
Condor 103 (3): 530-536; 41 ref. (2001)
This citation is provided courtesy of CAB International/CABI Publishing.

160. **Duck nesting success on Conservation Reserve Program land in the prairie pothole region.**
Kantrud, H. A.
Journal of Soil and Water Conservation 48 (3): 238-242. (1993)
NAL Call #: 56.8 J822
Descriptors: Conservation Reserve Program/ Regional conservation programs/ Prairie Pothole region
Abstract: Studied duck nesting success in Waterfowl Production Areas and CRP tracts.

161. **The dynamics of nongame bird breeding ecology in Iowa alfalfa fields.**
Frawley, B. J.
Ames, IA: Iowa State University, 1989.
Notes: M.S. Thesis
Descriptors: Conservation Reserve Program/ State conservation programs/ Iowa
Abstract: Nesting, abundance, and density of nongame birds in Iowa alfalfa fields were addressed and linked to CRP.

162. **Eastern meadowlarks nesting in rangelands and Conservation Reserve Program fields in Kansas.**
Granfors, D. A.; Church, K. E.; and Smith, L. M.
Journal of Field Ornithology 67 (2): 222-235. (1996)
NAL Call #: 413.8 B534; *ISSN:* 0273-8570
Descriptors: Sturnella magna/ nests/ site selection/ rangelands / old fields/ ecosystem management/ Kansas/ Birds/ United States
Abstract: Eastern Meadowlark (Sturnella magna) nesting habitat was studied to make management recommendations for fields enrolled in a federal land retirement program. We compared available microhabitat, nest-site selection, and nest success on rangelands and Conservation Reserve Program (CRP) fields in eastern Kansas. Daily nest survival rates and numbers fledged per female did not differ significantly between land-use types, but the power of these tests was low. Predation was the primary source of nest failure throughout incubation, hatching, and nestling stages; abandonment, trampling, inviability, and unknown causes also were important during incubation. Mowing CRP fields was a source of nest failure and also induced adults to abandon some fields. CRP fields had a significantly higher percent, depth, and density of litter cover; a taller herbaceous canopy; less herbaceous cover; and more standing dead cover than rangelands. Differences in habitat structure indicate that CRP has increased the diversity of available nesting habitats. Eastern Meadowlarks selected nest sites with significantly greater litter cover, higher proportion of grass, more uncompacted litter, and more structural homogeneity than available on random plots. Delay of mowing and prescribed burning are recommended to enhance and maintain habitat suitability for nesting Eastern Meadowlarks in CRP fields.
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163. **Ecological impacts of federal Conservation and Cropland Reduction Programs.**
Abernathy, J. R.
Ames, IA: Council for Agricultural Science and Technology (CAST); Task Force Report Number 117, 1990.
Descriptors: Conservation Reserve Program/ United States
Abstract: Summarized history of agricultural overproduction in the U.S. and recommended CRP changes related to overproduction. [Addresses the ecological implications of several programs established in the 1985 Food Security Act, including the Conservation Reserve Program (CRP), Sodbuster, Swampbuster, Conservation Compliance, and Acreage Reduction Program (ARP): from publisher.]

164. **Ecological impacts of federal conservation and cropland reduction programs: Summary.**
Council for Agricultural Science and Technology.
Ames, Iowa: Council for Agricultural Science and Technology; 8 p.: ill.: 1990.
Notes: Cover title. "September 1990." Includes bibliographical references (p. 8).
NAL Call #: S441.C771-1990
Descriptors: Agricultural ecology---United States/ Agriculture and state---Environmental aspects--- United States/ Agricultural conservation--- Government policy---Environmental aspects--- United States/ Environmental policy---United States
This citation is from AGRICOLA.

165. **Effects of agriculture on raptors in the western USA: An overview.**
Young, L S.
In: Proceedings of the Western Raptor Management Symposium and Workshop. (Held 26 Oct 1987-28 Oct 1987 at Boise, Idaho, USA.)
Pendleton, B. G. (ed.)
Washington, D.C.: National Wildlife Federation; pp. 209-218; 1989.
Notes: ISSN: 1044-4971; Institute for Wildlife Research, National Wildlife Federation, Scientific and Technical Series No. 12; XI+317P
Descriptors: prey density/ foraging/ environmental disturbances/ habitat preservation/ enhancement/ conservation programs/ education/ Farm Bill/ Animals/ Birds/ Chordates/ Nonhuman Vertebrates/ Vertebrates/ Conservation Resource Management/ Agronomy
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166. **Effects of Burning and Discing Conservation Reserve Program Fields to Improve Habitat Quality for Northern Bobwhite (Colinus Virginianus).**
Greenfield, KC; Chamberlain, MJ; Burger, LW; and Kurzejeski, EW
American Midland Naturalist 149 (2): 344-353. (Apr. 2003)
NAL Call #: 410 M58; *ISSN:* 0003-0031
Descriptors: Vegetation/ Wildlife
Abstract: Since 1985 considerable expanses of highly erodible cropland have been enrolled in the Conservation Reserve Program (CRP). Areas enrolled in CRP provide wildlife habitat; however, habitat quality and specific resources on these sites vary in relation to seasonal biological processes of target wildlife species, planted cover and vegetation succession. Throughout the southeastern United States habitat quality for early successional species, such as northern bobwhite (Colinus virginianus), may decline as CRP grasslands age. Although disturbance may enhance and maintain habitat quality for bobwhite, concerns regarding perceived conflicts between wildlife habitat and soil erosion objectives of the CRP persist. During 1995 and 1996 we evaluated effects of strip- discing or prescribed burning on vegetation structure and composition and soil erosion in fescue (Festuca arundiacea) dominated CRP fields in Mississippi. Fall discing generally increased percentage bare ground and plant diversity and decreased percentage litter cover and litter depth. Fall discing enhanced bobwhite habitat quality, but responses diminished by the second growing season post treatment. Burning increased plant diversity and improved quality of habitat for bobwhite. Soil loss for all treatments was within United States Department of Agriculture tolerable limits. Discing or burning intensity on CRP fields could be increased without compromising soil erosion provisions of CRP.
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167. **Effects of cattle grazing and haying on wildlife conservation at National Wildlife Refuges in the United States.**
Strassmann, B. I.
Environmental Management 11 (1): 35-44. *(*1987)
NAL Call #: HC79.E5E5
Descriptors: Domestic livestock/ environmental impact/ wildlife conservation
Abstract: Examined the effects of cattle grazing and haying on vegetative ecology and its correlation with wildlife conservation efforts.

168. **Effects of Conservation Reserve Program field age on avian relative abundance, diversity, and productivity.**
Millenbah, K. F.; Winterstein, S. R.; Campa, H.; Furrow, L. T.; and Minnis, R. B.
Wilson Bulletin 108 (4): 760-770. (1996)
NAL Call #: 413.8 W692; *ISSN:* 0043-5643
Descriptors: Aves/ species richness/ abundance/ productivity/ fields/ age/ Michigan/ Birds/ United States
Abstract: Introduced grass dominated Conservation Reserve Program (CRP) fields were monitored in summer 1992 in Gratiot County, Michigan, to determine the relationship between field age and avian relative abundance, diversity, and productivity. Younger CRP fields (1-2 years old), best described as a combination of forbs and bare ground, had the greatest diversity and relative abundance of avian species. Older CRP fields (3-5/6 years old) were a combination of grasses and deep litter cover and had the greatest avian productivity. We recommend that after 3-5 growing seasons CRP fields be manipulated to provide a variety of successional stages to maintain simultaneously high avian relative abundance, diversity, and productivity.
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169. **Effects of Conservation Reserve Program seeding regime on harvester ants (Pogonomyrmex), with implications for the threatened Texas horned lizard (Phrynosoma cornutum).**
McIntyre, N. E.
Southwestern Naturalist 48 (2): 274-277. (2003)
NAL Call #: 409.6 So8; *ISSN:* 0038-4909.
Notes: Publisher: Southwestern Assn Naturalists; Number of References: 25
Descriptors: Environment/ Ecology/ fire ants/ hymenoptera/ formicidae/ grassland/ birds
Abstract: I compared the presence and abundance of nest-sites made by harvester ants

(Pogonomyrmex), the primary prey for the endangered Texas horned lizard (Phrynosoma cornutum), among restored grassland plots planted in different grass species and indigenous prairie. The restored plots had been seeded as part of the Conservation Reserve Program (CRP) as exotic monocultures of either Old World bluestem (Bothriochloa ischaemum) or weeping lovegrass (Eragrostis curvula), or as mixtures of native grasses (both with and without buffalograss, Buchloe dactyloides). On average, the fewest ant mounds were found on Old World bluestem plots, whereas the indigenous grassland had the highest density of harvester ant mounds. However, there were no significant differences between native and exotic CRP plantings. Results obtained from a simultaneous visual survey for Texas horned lizards corroborate these findings. Thus, there is no evidence that CRP plots planted in exotic grasses are significantly poorer habitat for Texas horned lizards in terms of ant abundance than native grass plantings.
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170. **Effects of CRP field age and cover type on ring-necked pheasants in eastern South Dakota.**
Eggebo, S. L.; Higgins, K. F.; Naugle, D. E.; and Quamen, F. R.
Wildlife Society Bulletin 31 (3): 779-785. (2003)
NAL Call #: SK357.A1W5; *ISSN:* 0091-7648.
Notes: Number of References: 32;
Publisher: Wildlife Society
Descriptors: Environment/ Ecology/ Conservation Reserve Program/ cool season/ cover/ CRP/ habitat/ Phasianus colchicus/ ring necked pheasant/ South Dakota/ warm season/ Conservation Reserve Program/ grassland bird conservation/ vegetation/ populations/ abundance/ models
Abstract: Loss of native grasslands to tillage has increased the importance of Conservation Reserve Program (CRP) grasslands to maintain ring-necked pheasant (Phasianus colchicus) populations. Despite the importance of CRP to pheasants, little is known about the effects of CRP field age and cover type on pheasant abundance and productivity in the northern Great Plains. Therefore, we assessed effects of these characteristics on pheasant use of CRP fields. We stratified CRP grasslands (n=42) by CRP stand age (old [10-13 yrs] vs. new [1-3 yrs] grasslands) and cover type (CP1 [cool-season grasslands] vs. CP2 [warm-season grasslands]) in eastern South Dakota and used crowing counts and roadside brood counts to index ring-necked pheasant abundance and productivity. Field-age and cover-type effects on pheasant abundance and productivity were largely the result of differences in vegetation structure among fields. More crowing pheasants were recorded in old cool-season CRP fields than any other age or cover type, and more broods were recorded in cool- than warm-season CRP fields. Extending existing CRP contracts another 5-10 years would provide the time necessary for new fields to acquire the vegetative structure used most by pheasants without a gap in habitat availability. Cool-season grass-legume mixtures (CP1) that support higher pheasant productivity should be given equal or higher ratings than warm-season (CP2) grass stands. We also recommend that United States Department of Agriculture administrators and field staff provide broader and more flexible guidelines on what seed mixtures can be used in CRP grassland plantings in the northern Great Plains. This would allow landowners and natural resource professionals who manage pheasant habitat to plant a mosaic of cool- and warm-season CRP grassland habitats.
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171. **Effects of Different Age Classes of Fields Enrolled in The Conservation Reserve Program in Michigan On Avian Diversity, Density, and Productivity.**
Millenbah, Kelly Francine
East Lansing, MI: Michigan State University, 1994.
Notes: Degree: MS; Advisor: Winterstein, Scott R.;
ISSN: 0898-9095
Descriptors: Agriculture, Forestry and Wildlife/ Biology/ Ecology/ bird communities/ wildlife density/ agricultural conservation/ landowners
Abstract: Agricultural landowners have enrolled lands in the Conservation Reserve Program (CRP) for wildlife and economic benefits. Avian communities and vegetative characteristics were examined on 6 age classes (1-6 growing seasons) of CRP fields in Gratiot County, Michigan in 1991 and 1992 to determine the relationships between field age and characteristics of avian communities. Younger CRP fields (1-3 growing seasons), characterized by forbs and bare ground, supported greater avian densities and diversities than older fields (4-6 growing seasons). Older CRP fields, characterized by grasses and high litter cover, supported greater avian productivity. Results indicate that grassland birds in Michigan may require a diversity of age classes of CRP fields in agricultural landscapes to meet their habitat requirements. Continued enrollment of lands into the program and periodic manipulation of these lands, will create a mosaic of grassland successional stages important to a diversity of avian species.
This citation is provided courtesy of NISC, publisher of Wildlife & Ecology Studies Worldwide.

172. **Effects of emergency haying on duck nesting in Conservation Reserve Program fields, South Dakota.**
Luttschwager, K. A.; Higgins, K. F.; and Jenks, J. A.
Wildlife Society Bulletin 22 (3): 403-408. (Fall 1994)
NAL Call #: SK357.A1W5; *ISSN:* 0091-7648
[WLSBA6]
Descriptors: Anas/ nesting/ reproduction/ population density/ habitats/ grasslands/ federal programs/ private ownership/ South Dakota/ nesting success/ private land
This citation is from AGRICOLA.

173. **Effects of habitat manipulations on Texas horned lizards and their prey.**
Fair, W. Scott and Henke, Scott E.
Journal of Wildlife Management 61 (4): 1366-1370. *(*1997)
NAL Call #: 410 J827; *ISSN:* 0022-541X
Descriptors: Phrynosoma cornutum/ amphibians/ reptiles/ ants/ Conservation Reserve Program/ fires/ burns/ foods/ feeding/ habitat alterations/ habitat use/ livestock/ Texas horned lizard/ North America/ United States/ Texas/ Duval County
Abstract: The effects of habitat manipulations on Texas horned lizards (Phrynosoma cornutum) and their main prey, harvester ants (Pogonomyrmex spp.) were studied in South Texas. The relative abundance of lizards, their scat, and active harvester ant mounds was assessed on 1-ha plots that were manipulated with either prescribed burning, disking, burning and disking combination, grazing, or land in the Conservation Reserve Program (CRP). We determined differential habitat use or avoidance using Chi-square analysis and Bonferroni Z-statistics to control the experiment-wise error probability at 10%. Lizards used burned plots disproportionately more, were neutral in their use of the disked and grazed plots, and under-utilized the burned and disked combination and CRP plots. Analysis of scat led to similar conclusions in relation to burned, grazed, and CRP plots, but scats were distributed on combination plots pro rata to availability and were underrepresented on the disked plots. No difference was detected in the relative abundance of active ant mounds among the 5 land management practices. Even though Texas horned lizards preferentially used areas that were recently burned, the process of burning may harm them due to the shallow depths in which they hibernate.
This citation is provided courtesy of NISC, publisher of Wildlife & Ecology Studies Worldwide.

174. **Effects of habitat on dickcissel abundance and nest success in Conservation Reserve Program fields in Kansas.**
Hughes, John P.; Robel, Robert J.;
Kemp, Kenneth E.; and Zimmerman, John L.
Journal of Wildlife Management 63 (2): 523-529. (1999)
NAL Call #: 410 J827; *ISSN:* 0022-541X
Descriptors: Fringillidae/ Passeriformes/ Spiza americana/ behavior/ birds/ Conservation Reserve Program/ ecosystems/ edge habitat/ farmland/ habitat management/ habitat use/ management/ nesting sites/ nests/ nesting/ productivity/ wildlife/ wildlife/ habitat relationships/ wild birds/ reproduction/ federal programs/ wildlife conservation/ Kansas/ spiza americana/ species abundance/ Natural Resources/ Land Development, Land Reform, and Utilization (Macroeconomics)/ dickcissel/ North America/ United States/ Kansas: Riley County
Abstract: Declining avian populations in the Midwest have increased interest in various aspects of grassland habitats and their effects on grassland birds. We studied the effects of vegetation characteristics, woody field edges and surrounding land use on abundance and daily nest survival of the dickcissel (Spiza americana) in Conservation Reserve Program (CRP) fields in the northeastern Kansas. We observed 873 dickcissels during surveys on 11 CRP fields during the summers of 1994 and 1995. In those fields, we located 186 dickcissel nests of which 13.2% were successful in 1994 and 14.9% were successful in 1995. The vertical density of vegetation in CRP fields, wooded area surrounding the fields, and amount of woody edge bordering fields were associated with dickcissel abundance (P = 0.001). Live and dead canopy cover and litter cover were associated with daily nest survival (P = 0.005). Therefore, the habitat quality of CRP fields for dickcissels might be enhanced by modifying vegetation characteristics. The outcome of any modifications of CRP habitat for dickcissels should be judged on changes in the number and success of their nests rather than on the abundance of birds.
This citation is provided courtesy of NISC, publisher of Wildlife & Ecology Studies Worldwide.

175. **Effects of Landscape Composition and Multi-Scale Habitat Characteristics on the Grassland Bird Community.**
McCoy, T. D.
Columbia, MO: Univ. of Missouri-Columbia, 2000.
Notes: Ph.D. Dissert.; Project Number: MO W0-013-R-54/Job 1/Study 43
Descriptors: habitat/ modeling/ grassland/ birds/ communities/ wildlife habitat relationships/ species diversity/ conservation programs/ nests and nesting/ abundance/ sparrows/ reproduction/ statistics/ meadowlarks, blackbirds and orioles/ population density/ vegetation/ North America/ United States/

Missouri/ North central region/ Adair County/ Know County/ Linn County/ Macon County/ Shelby County
Abstract: Measures of grassland bird demography on Conservation Reserve Program (CRP) fields were compared and modeled at several spatial scales to identify habitat factors associated with increased conservation value for grassland birds. Grassland bird populations and species richness were compared between fields located in landscapes with different amounts of CRP habitat and total grassland. Multi-scale habitat models were developed from and validated on two independent data sets to identify the primary habitat features that could predict the potential value of CRP and other idle grasslands for grassland bird conservation.
This citation is provided courtesy of NISC, publisher of Wildlife & Ecology Studies Worldwide.

176. **Effects of livestock grazing on neotropical migratory landbirds in western North America.**
Bock, C. E.; Sabb, V. A.; Rich, T. D.; and Dobkin, D. S.
In: Status and management of neotropical migratory birds. (Held 21 Sep 1992-25 Sep 1992 at Estes Park, Colorado.) Finch, D. M. and Stangel, P. W. (eds.) Fort Collins, Colo.: Rocky Mountain Forest and Range Experiment Station, U.S. Dept. of Agriculture; pp. 263-309; 1993.
NAL Call #: aSD11.A42
Descriptors: Conservation Reserve Program/ Regional conservation programs
Abstract: Examined the idea that moderate haying/grazing of CRP coupled with livestock enclosures on public land could enhance the value of public rangelands for wildlife.

177. **Effects of mammalian predator removal on waterfowl and non-game birds in North Dakota.**
Garrettson, P. R.; Rohwer, F. C.; Zimmer, J. M.; Mense, B. J.; and Dion, N.
Transactions of the North American Wildlife and Natural Resource Conference 61: 94-101. (1996); *ISSN:* 0078-1355.
Notes: Conference: 61st North American Wildlife and Natural Resources Conference: Facing Realities in Resource Management, Tulsa, OK, 22-27 Mar 1996
Descriptors: Aquatic birds/ Predator control/ Environmental impact/ Nesting/ Bird eggs/ Nature conservation/ Habitat improvement (physical)/ Breeding sites/ Environment management/ Aves/ North America/ Species interactions: general/ Conservation, wildlife management and recreation/ Freshwater/ Brackish water/ Marine environment
Abstract: Waterfowl managers have long been concerned about low nest success on the North American prairies. A review of duck nesting success shows that, despite great variation between studies, there is a dramatic pattern of decline in nest success in the past 50 years (Beauchamp et al. 1996). The linear regression of success versus year shows that hatching rates dropped from 33 percent in 1935 to only 10-percent nest success in 1992. Low nest success, which reflects high nest predation, is viewed as the most significant limitation on waterfowl productivity in the prairies. Most of the management effort under the North American Waterfowl Management Plan (NAWMP) in the prairie region of the United States and Canada is an attempt to elevate nest success for upland-nesting ducks. Compounding habitat degradation is a major shift in numbers types of nest predator on the prairies. Extirpation of wolves (Canis lupus) and reduction of coyotes (Canis latrans) has allowed medium-sized predators, such as red fox (Vulpes vulpes), skunk (Mephitis mephitis) and raccoon (Procyon lotor); to flourish. Raccoons are a recent arrival to much of the prairies, though they now are abundant and the dominant nest predator for many prairie ducks. Abundance of medium-sized mammals and scarcity of nesting cover has been a very detrimental combination for breeding ducks. Most a tempts to increase duck nesting success have focused on ways to make nests less accessible to predators. Dense nesting cover has been the dominant management on United States Waterfowl Production Areas (WPA) and on NAWMP areas in Canada, yet this strategy typically has improved nest success by only a few percentage points, with highly variable results. Improved nest success associated with the Conservation Reserve Program (CRP) suggests that landscape-level additions of nesting cover improve recruitment, but habitat improvement on this scale is not economically feasible for wildlife groups. Intensive management efforts to make nests inaccessible, such as construction of islands and predator barrier fences, can increase nest success, but costs are high.
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178. **Effects of supplemental prey, vegetation, and time on success of artificial nests.**
Vander, Lee Bruce a; Lutz, R Scott; Hansen, Leslie A; and Mathews, Nancy E
Journal of Wildlife Management 63 (4): 1299-1305. (1999)
NAL Call #: 410 J827; *ISSN:* 0022-541X.
Notes: methods and equipment: artificial-nests; predation-; supplemental-prey; vegetation-density; Conservation-Reserve-Program
Abstract: Despite intensive management on many grassland areas, nest loss to predators continues to result in low nest-survival rates. Management efforts are complicated by complex relationships among habitat, predators, and prey resources. We monitored the fates of artificial nests (908 in 1993, 827 in 1994) on Conservation Reserve Program (CRP) plots from April to July to test effects of prey supplementation, vegetation density, and time (month) on nest survival

in agricultural and range landscapes in northwest Texas. Supplemental prey had the greatest effect on artificial nest survival and increased nest survival in both sparse and dense vegetation. Prey supplementation may be useful when used in conjunction with habitat management for dense nesting cover or in areas that already have dense vegetation. Nest survival was highest early in the nesting season, emphasizing the importance of available nesting cover during this period. Although least important, dense vegetation increased artificial nest survival. When evaluating management options, managers should consider logistical and economic costs of using supplemental prey, as well as potential effects on predator population dynamics.
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179. **Effects of the Conservation Reserve Program on selected wildlife populations in southeast Nebraska.**
King, Justin W.
Lincoln, NE: University of Nebraska, 1991.
Notes: Thesis (M.S.)--University of Nebraska, Lincoln--Forestry, Fisheries, and Wildlife, 1991. Includes bibliographical references.
NAL Call #: NBU LD3656-1991-K564
Descriptors: Wildlife conservation---Nebraska/ Wildlife management---Nebraska/ Conservation of natural resources---Nebraska
This citation is from AGRICOLA.

180. **Effects of the Conservation Reserve Program On Wildlife Habitat in The Great Plains.**
Baker, Bryan Douglas University of Minnesota, 1992.
Notes: Degree: PhD; Advisor: Gersmehl, Philip J.; Cited in: DAI-A 52(08): p. 3026, February 1992; Volumes I and II.
Descriptors: Geography/ Agriculture, Forestry & Wildlife/ birds/ climate/ behavior conservation/ predators/ erosion/ wildlife/ conservation practices/ agricultural practices/ South Dakota/ Nebraska/ Kansas/ Texas
Abstract: The Conservation Reserve Program (CRP), a ten-year federal agricultural land retirement program, returned several million acres of the Great Plains to grass by 1989. Improvement of wildlife habitat was a secondary but important rationale for the program. Enrollments are concentrated in the southern High Plains and the northern glaciated Plains. CRP fields increase in size from east to west, with many counties exceeding 320 acres for mean contract size. A study of Plains land use, soils, geology, and climate helped construct a list of expected effects of the CRP on the mammals and breeding birds. The list was revised based on comments from Plains biologists. Most of the species on the Plains depend on woodlands, wetlands, or other cover the CRP does not provide. Some species that use grassland or agricultural land will gain habitat, mainly for nesting. Nine-section study areas in six Plains counties detailed land cover changes associated with the CRP. Most areas have seen a net increase in cropland since the late 1960s despite the CRP retirements. In some counties, especially far western ones, CRP land is in larger blocks, isolated from woodland and shrubs. These areas favor small to medium sized grassland birds and mammals. CRP parcels in other counties, especially to the east, are well-interspersed with other cover. Mosaic species using grassland, cropland and woodland should benefit there. These include bobwhite quail, white-tailed deer, and some predators. A dynamic programming model was developed to help investigate the effects of landscape pattern on animal behavior and survival. A preliminary version calculated winter survival of bobwhite quail. Small demonstration areas selected from the study areas suggested that the configuration of CRP fields could be improved to maximize wildlife benefits. Many of the wildlife benefits of the CRP could vanish after the program expires if farmers return CRP fields to cropland. Other long-term alternatives could prove less costly. Limited federal buy-outs of erosion-prone land may be feasible, especially in expansion of National Grassland. Easements, purchase of cultivation rights, and subsidies for alternative agricultural practices are other tools for encouraging long-term conservation on the Great Plains.
This citation is provided courtesy of NISC, publisher of Wildlife & Ecology Studies Worldwide.

181. **Effects of the Conservation Reserve Program on wildlife in southeast Nebraska.**
King, J. W. and Savidge, J. A.
Wildlife Society Bulletin 23 (3): 377-385. (Fall 1995)
NAL Call #: SK357.A1W5; *ISSN:* 0091-7648 [WLSBA6]
Descriptors: wild birds/ species diversity/ population density/ seasonal variation/ agricultural land/ federal programs/ wildlife conservation
This citation is from AGRICOLA.

182. **The effects of the Conservation Reserve Program on wildlife in southeastern Wyoming.**
Wachob, Douglas Glenn.
University of Wyoming, 1997.
Notes: Degree: PhD; October 1997; Cited: DAI-B 58(04): p. 1651, October 1997; ISBN: 0-591-39611-4
Descriptors: Biology, Ecology/ Agriculture, Forestry & Wildlife/ Urban & Regional Planning/ alfalfa/ aves
Abstract: The primary objective of this study was to identify the vegetation and spatial characteristics of CRP that influence habitat use by non-game birds, small rodents, sharp-tailed grouse (Tympanuchus phasianellus), raptors, carnivores, and big game in a CRP/agricultural landscape. The study was conducted in Laramie, Platte, and Goshen counties in southeastern Wyoming, during 1993-5. The study

area was dominated by intensively grazed native range land and winter wheat (Triticum sp.); CRP comprised 15% of the study area. Non-game bird use was higher in CRP with an alfalfa component, compared to CRP without alfalfa in 1994, but not in 1993. Fine scale selection by birds for specific vegetation structure was detected in 1994 but not in 1993. Bird use of CRP was independent of the spatial characteristics of CRP patches. Small mammal use of CRP and range lands was higher than winter wheat lands. Vegetation species richness, vegetation height, standard deviation of vegetation cover, and patch area were significant predictors of small mammal use of CRP patches. This small mammal community selected habitat at the landscape and patch scale but not at the intrapatch scale. I investigated use of CRP lands by sharp-tailed grouse during nesting and brood-rearing seasons. All nests were located in CRP. Hens selected nest sites in larger CRP patches. Hens with broods used CRP and irrigated alfalfa patches more often and wheat and rangeland patches less often than they were available. Hens with broods used CRP patches with high coverage of broad leafed weeds and annual grasses more often and patches without alfalfa less often than these patch types were available. I found that CRP was the vital reproduction habitat for sharp-tailed grouse in southeastern Wyoming. Sharp-tailed grouse dancing grounds (leks) were located closer to CRP and had greater coverage of CRP within 1 km, compared with the entire study area. I also found that CRP patch size, percent cover of CRP, and CRP patch number predicted the number of leks and the number of males at leks, at a scale of 100 km$/sp2$. I investigated the spatial relationship of CRP fields to bird and mammal species richness using computer simulations. I used observations of 28 common species as model input data. Computer simulations of a hypothetical landscape showed that species richness increased rapidly as CRP coverage increased from 0-15%, and less rapidly as CRP coverage increased from 15-50%.
This citation is provided courtesy of NISC, publisher of Wildlife & Ecology Studies Worldwide.

183. **Effects of the CRP on wildlife habitat: Emergency haying in the Midwest and pine plantings in the Southeast.**
Hays, R. L. and Farmer, A. H.
Transactions of the North American Wildlife and Natural Resource Conference (55th): 30-39. maps. (1990)
NAL Call #: 412.9-N814; *ISSN:* 0078-1355 [NAWTA]
Descriptors: afforestation/ farmland/ forest plantations/ haymaking/ nature reserves/ pinus/ planting/ remuneration/ colinus virginianus/ southeastern states of USA/
Conservation Reserve Program (CRP)
This citation is from AGRICOLA.

184. **Effects of the U.S. Conservation Reserve Program on Landscape Structure in Southwest Kansas.**
Egbert, S. L.; Park, S.; Peterson, D.; Stewart, A. M.; and Price, K. P.
In: 133rd Annual Meeting of the Kansas Academy of Science. (Held 6 Apr 2001-7 Apr 2001 at Lawrence. KS (USA).); 2001.
Notes: Conference Sponsor: Kansas Academy of Science; World Meeting Number 000-5622
Descriptors: Multidisciplinary
© Cambridge Scientific Abstracts (CSA)

185. **Effects of Thinning CRP Pine Stands on Nesting Songbirds in Georgia.**
Schaefbauer, M. K. and Schweitzer, S. H.
In: 7th Annual Conference of the Wildlife Society. (Held 12 Sep 2000-16 Sep 2000 at Nashville, TN (USA).); 2000.
Notes: Conference Sponsor: The Wildlife Society; World Meeting Number 003 0833
Descriptors: Biology
© Cambridge Scientific Abstracts (CSA)

186. **Effects of two haying provisions on duck nesting in Conservation Reserve Program (CRP) fields in South Dakota.**
Luttschwager, K. A.
Brookings, SD: South Dakota State University, 1991.
Notes: M.S. Thesis
Descriptors: Conservation Reserve Program/ State conservation programs/ South Dakota
Abstract: Evaluated the effects of emergency haying on duck nesting success in CRP fields.

187. **Environmental Quality Incentives Program: Program summary and potential for wildlife benefits.**
Esser, A.; Molleur, R.; Buck, P.; and Rewa, C.
In: A comprehensive review of Farm Bill contributions wildlife conservation, 1985-2000/ Heard, L. P; Hohman, W. L.; Halloum, D. J.; and Wildlife Habitat Management Institute (U.S.); Series: Technical Report USDA/NRCS/WHMI.
Madison, MS: U.S. Department of Agriculture, 2000; pp. 125-134
NAL Call #: aS604.6 .C66 2000
Descriptors: Environmental Quality Incentives Program/ conservation/ conservation buffers/ farming systems/ nutrient management/ erosion control / wildlife management

188. **Evaluating potential effects of CRP on bobwhite quail in Piedmont Virginia.**
Stauffer, Dean F.; Cline, Gerald A.; and Tonkovich, Michael J.
North American Wildlife and Natural Resources Conference, Transactions 55: 57-67. (1990); *ISSN:* 0078-1355.
Notes: WR 222
Descriptors: Galliformes/ Odontophoridae/ Colinus virginianus/ Conservation reserve programs/ habitat classification/ habitat management/ management/ modeling/ wildlife/ bobwhite/ habitat/ dispersion/ North America/ United States/ Virginia
This citation is provided courtesy of NISC, publisher of Wildlife & Ecology Studies Worldwide.

189. **Evaluation of select CRP lands as bobwhite quail habitat.**
Burger, L. W.; Kurzejeski, E. W.; Dailey, T. V.; and Ryan, M. R.
Proceedings of the Forage and Grassland Conference: 27-30. (1991)
NAL Call #: SB193.F59; *ISSN:* 0886-6899.
Notes: Meeting held April 1-4, 1991, Columbia, Missouri. Includes references.
Descriptors: quails/ colinus virginianus/ habitats/ conservation areas/ Missouri/ Conservation Reserve Program
This citation is from AGRICOLA.

190. **Evaluation of the effect of CRP on duck recruitment in the prairie pothole joint venture area of Fish & Wildlife Service Region 6.**
Reynolds, R.
Bismark, ND: U.S. Fish & Wildlife Service, 1992.
U.S. Fish & Wildlife Service Progress Report.
Descriptors: Conservation Reserve Program/ Regional conservation programs/ State conservation programs/ Prairie pothole region/ Montana/ South Dakota/ North Dakota
Abstract: Reported the 1992 results of a pilot effort to evaluate waterfowl production in CRP grasslands compared to Waterfowl Production Areas.

191. **Factors influencing mourning dove nest success in CRP fields.**
Hughes, John P.; Robel, Robert J.; and Kemp, Kenneth E.
Journal of Wildlife Management 64 (4): 1004-1008. (2000)
NAL Call #: 410 J827; *ISSN:* 0022-541X
Descriptors: Zenaida macroura/ dove, mourning/ zenaida macroura/ nests and nesting/ conservation programs/ grassland/ land use/ mating grounds/ survival/ cultivated farmland/ cover/ vegetation/ reproduction/ habitat management for wildlife/ mourning dove/ nest/ habitat/ agriculture/ ecological requirements/ Riley County/ Kansas/ United States
Abstract: Mourning doves (Zenaida macroura) nest primarily in trees. However, ground nesting is prevalent in the Great Plains region where mourning dove numbers have increased since the mid 1980s when the Conservation Reserve Program (CRP) was initiated. We monitored mourning dove nest success in CRP fields in Kansas during 1994 and 1995 to determine if that habitat could be a source for the increased numbers. Mourning dove nest success averaged 56% (n = 90) in our CRP fields. Daily nest survival rates in CRP fields were associated positively with height of live vegetation (P = 0.011) and negatively with percent grass cover (P = 0.001) and percent live vegetation cover (P = 0.005). Management practices that produce sparse overall cover but tall vegetation height may increase mourning dove nest success in CRP fields.
This citation is provided courtesy of NISC, publisher of Wildlife & Ecology Studies Worldwide.

192. **Field evaluation of the northern bobwhite habitat suitability index model with implications for the Conservation Reserve Program.**
Tonkovich, Michael Joseph
Blacksburg, Va.: Virginia Polytechnic Institute and State University, 1995.
Notes: Thesis (Ph. D.); Bibliography: leaves 182-203.
NAL Call #: ViBlbV LD5655.V856-1995.T665
This citation is from AGRICOLA.

193. **The first distributional record of the least weasel, Mustela nivalis, in Northeastern Missouri.**
Mock OB; Sells GD; Ellis LS; and Easterla DA
Transactions of the Missouri Academy of Science 35: 7-11. (2001)
This citation is provided courtesy of CAB International/CABI Publishing.

194. **GIS analysis of the effects of habitat configuration and the Conservation Reserve Program (CRP) on the abundance of ringnecked pheasants, gray partridge, and meadowlarks.**
Lockman, Drake J. and Kimmel, R. O.
In: MN DNR Farmland Wildlife Population and Research Unit Report, 1994; pp. 33-39
Descriptors: Phasianus colchicus/ Aves/ Perdix perdix/ common pheasant/ birds/ partridge/ dispersion/ prairie/ GIS/ United States/ geographic information systems
This citation is provided courtesy of NISC, publisher of Wildlife & Ecology Studies Worldwide.

195. **Grassland bird conservation: CP1 vs. CP2 plantings in Conservation Reserve Program fields in Missouri.**
McCoy, Timothy D; Ryan, Mark R; and Burger, Loren W Jr
American Midland Naturalist 145 (1): 1-17. (Jan. 2001)
NAL Call #: 410 M58; *ISSN:* 0003-0031
Descriptors: Conservation/ Conservation measures/ Reproduction/ Reproductive productivity/ Ecology/ Population dynamics/ Habitat/ Terrestrial habitat / Land and freshwater zones/ Nearctic region/ North America/ United States/ Aves/ Habitat management/ Reproductive productivity/ Nesting success/ Fecundity/ Community structure/ Population density/ Nests/ Grassland/ Cool season and warm season grass fields/ nesting success and fecundity/ conservation implications/ Missouri/ Knox County/ Macon County/ Linn County/ Conservation biology/ Birds/ Chordates/ Vertebrates
Abstract: To determine the relative value of different Conservation Reserve Program (CRP) plantings for breeding grassland and winter birds we measured vegetation structure, avian abundance and reproductive success, and estimated fecundity during 1993-1995 on CP1 (cool-season grass) and CP2 (warm-season grass) plantings in 16 fields in northern Missouri. CP1 fields had been planted to cool-season grasses or cool-season grass-legume mixtures and CP2 fields had been seeded with switchgrass (Panicum virgatum). Species richness, abundance and nesting success of grassland birds during the breeding season and total bird use in the winter did not differ between CPs. During the breeding season CP1 fields had higher abundances of grasshopper sparrow (Ammodramus savannarum), eastern meadowlark (Sturnella magna), Henslow's sparrow (Ammodramus henslowii) and American goldfinches (Carduelis tristis), whereas common yellowthroats (Geothlypis trichas) were more abundant in CP2 fields. Fecundity of dickcissels (Spiza americana) and nesting success and fecundity of red-winged blackbirds (Agelaius phoeniceus) were higher on CP2 than on CP1 habitat, but both CPs were likely sinks ([lambda] < 1) for these species. Both CPs were likely source ([lambda] > 1) habitat for grasshopper sparrows, whereas only CP1 habitat was likely a source for eastern meadowlarks and American goldfinches. In winter American goldfinches were more abundant in CP1 fields than CP2 fields. The shorter, more diverse, cool-season grass fields were equal or better habitat than taller, more vertically dense, switchgrass-dominated fields for grassland birds, including several species of high conservation concern. Single-species plantings of warm- or cool-season grasses should be avoided to increase the potential wildlife benefits of CRP and other grassland habitats.
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196. **Grassland bird use of Conservation Reserve Program fields in the Great Plains.**
Johnson, D. H.
In: A comprehensive review of Farm Bill contributions wildlife conservation, 1985-2000/ Heard, L. P; Hohman, W. L.; Halloum, D. J.; and Wildlife Habitat Management Institute (U.S.); Series: Technical Report USDA/NRCS/WHMI.
Madison, MS: USDA, NRCS, Wildlife Habitat Management Institute, 2000; pp. 19-33
NAL Call #: aS604.6 .C66 2000
Descriptors: Conservation Reserve Program/ wildlife habitats/ wildlife management/ birds

197. **Grassland Birds: Development and Testing of Models to Predict Species Richness, Abundance, and Reproductive Success at Local and Landscape Levels.**
Schultz, J.
Columbia, MO: Missouri Dept. Of Conservation, Wildlife and Research Div.; PB2001104751XSP, 2000. 180 p.
Notes: Study No. 43; Final Report to Research and Survey Projects as Required by Federal Aid in Wildlife Restoration Act, Missouri, Federal Aid Project no. W-13-R-54. (2000). Contains Dissertation of Timothy McCoy on Effects of Landscape Composition and Multi-Scale Habitat Characteristics on the Grassland Bird Community; Prepared in cooperation with Missouri Univ.-Columbia. Graduate School.; Sponsored by Fish and Wildlife Restoration Program, Washington, DC
Descriptors: Endangered species/ Models/ Abundance/ Reproduction Biology/ Conservation/ Habitats/ Landscapes/ Birds/ Wildlife management/ Conservation Reserve Program/ Grassland birds/ Natural resources and earth sciences/ Natural resource management/ Medicine and biology/ Ecology
Abstract: Measures of grassland bird demography on Conservation Reserve Program (CRP) fields were compared and modeled at several spatial scales to identify habitat factors associated with increased conservation value for grassland birds. Grassland bird populations and species richness were compared between fields located in landscapes with different amounts of CRP habitat and total grassland. Multi-scale habitat models were developed from and validated on two independent data sets to identify the primary habitat features that could predict the potential value of CRP and other idle grasslands for grassland bird conservation.

198. **Habitat associations of grasshopper species (Orthoptera : Acrididae) in winter wheat (Triticum aestivum L.) and adjacent rangeland.**
Gillespie, R. L. and Kemp, W. P.
Journal of the Kansas Entomological Society 68 (4): 415-424. (1995); *ISSN:* 0022-8567
Descriptors: Acrididae/ Triticum aestivum/ rangelands/ species composition/ population density/ United States/ Orthoptera/ Populations & general ecology/ Insects
Abstract: Thirty-one species of grasshoppers were collected in either winter wheat or adjacent rangeland/CRP, at ten study sites for three years. Eighteen species were collected in winter wheat fields while 29 species were collected in adjacent reseeded native rangeland or newly seeded Conservation Reserve Program (CRP) land, seeded to crested wheatgrass (Agropyron cristatum (L.) Gaertn. and alfalfa Medicago sativa L.). In native rangeland these two species were reseeded into Stipa comata Trin. and Rupr., Bouteloua gracilis (H.B.K). habitat. Melanoplus sanguinipes, M. bivittatus, and M. packardii, pest species of crops and rangeland in the Northern Great Plains, were the predominant species in winter wheat and together with Aulocara elliotti were the predominant species in adjacent rangeland or CRP. The number of M. sanguinipes collected per unit of effort in CRP was the same as the number collected in "established" reseeded rangeland. Fewer A. elliotti were collected per unit effort in CRP when compared to "established" reseeded rangeland. The results suggest that CRP supports a lower population of A. elliotti than "established" reseeded rangeland or there has been an insufficient span of time for A. elliotti to disperse into these areas.
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199. **Habitat use, home ranges, and survival of swift foxes in a fragmented landscape: Conservation implications.**
Kamler, J. F.; Ballard, W. B.; Fish, E. B.; Lemons, P. R.; Mote, K.; and Perchellet, C. C.
Journal of Mammalogy 84 (3): 989-995. (2003)
NAL Call #: 410 J823; *ISSN:* 0022-2372.
Notes: Number of References: 33; Publisher: Alliance Communications Group Division Allen Press
Descriptors: Animal Sciences/ habitat use/ home range/ survival/ swift fox/ Texas/ Vulpes velox/ Joaquin kit foxes/ arid land foxes/ vulpes velox/ western Kansas/ North America/ mortality/ macrotis/ rates/ size
Abstract: Habitat loss might be one of the primary reasons for the decline of the swift fox (Vulpes velox) in the western Great Plains of North America. From 1998 to 2001, we monitored 42 swift foxes in a landscape interspersed with native short-grass prairies, nonnative grasslands enrolled in the Conservation Reserve Program, irrigated agricultural fields, and dryland agricultural fields. Survival estimates ranged from 0.52 to 0.66 for both adults and juveniles, and the primary causes of death were vehicle collisions (42% deaths) and coyote (Canis latrans) predation (33%). Annual home-range size was similar for males and females (10.8 and 10.5 km(2), respectively). Within the study area, swift foxes selected only short-grass prairies and had lower-than-expected use or complete avoidance of all other habitat types. Our results indicate swift foxes are more specialized in habitat selection than other North American canids; thus, protection of native short-grass prairies might be necessary for their long-term existence.
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200. **History and economics of farm bill legislation and the impacts on wildlife management and policies.**
Harmon, K. W.
In: General Technical Report RM.
Fort Collins, Colo.: Rocky Mountain Forest and Range Experiment Station, 1988; pp. 105-108.
Notes: Report Series ISSN: 0277-5786; Proceedings of a Symposium on "Impacts of the Conservation Reserve Program in the Great Plains," held Sept 16-18, 1987, Denver, Colorado. Includes references.
NAL Call #: aSD11.A42
Descriptors: land diversion/ wildlife/ legislation/ revegetation/ habitats/ pheasants/ resource conservation/ soil conservation/ erosion control/ Conservation Reserve Program/ food security act of 1985
This citation is from AGRICOLA.

201. **The history, status and future needs of fish and wildlife management on private lands as related to USDA agricultural programs.**
Heard, L Pete; Allen, Arthur W; Best, Louis B; Brady, Stephen J; Burger, Wes; Esser, Anthony J; Hackett, Ed; Helinski, Ronald R; Hohman, William L; Johnson, Douglas H; Pederson, Roger L; Reynolds, Ronald E; Rewa, Charles; and Ryan, Mark R
Transactions of the North American Wildlife and Natural Resources Conference 66: 54-67. (2001)
NAL Call #: 412.9 N814; *ISSN:* 0078-1355.
Notes: From: Sixty-sixth North American Wildlife and Natural Resources Conference, Washington, DC, USA, March 16-20, 2001
Descriptors: 1985 Food Security Act [Farm Bill]/ Conservation Reserve Program [CRP]/ Environmental Quality Incentive Program [EQIP]/ Wetland Reserve Program [WRP]/ Wildlife Habitat Incentives Program [WHIP]/ agricultural programs/ compliance provisions/ highly erodable land/ land retirement programs/ private land management/ wildlife conservation/ wildlife management: future needs, history, status/ wildlife responses
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202. **Home ranges of ring-necked pheasants in northwestern Kansas.**
Applegate, Roger D; Flock, Brian E; Gipson, Philip S; Mccoy, Matthew W; and Kemp, Kenneth E
Prairie Naturalist 34 (1-2): 21-29. (2002)
NAL Call #: QH540 .P7; *ISSN:* 0091-0376
Descriptors: Conservation Reserve Program [CRP]/ adaptive kernels/ brooding behavior/ habitat density/ home range size/ minimum convex polygons/ nesting behavior/ travel distance/ Animals/ Birds/ Chordates/ Nonhuman Vertebrates/ Vertebrates/ Phasianus colchicus [ring necked pheasant] (Galliformes): female, male
Abstract: We studied the home ranges of 29 female and 9 male ring-necked pheasants (Phasianus colchicus) in northwestern Kansas during 1994 to 1995. Home ranges for hens varied from an average of 127 ha in high-density (25%) Conservation Reserve Program (CRP) to 155 ha on low-density (8 to 11%) CRP sites. Home ranges for cocks averaged 179 ha on the high-density CRP site and 105 ha on the low-density CRP site. The amount of CRP in areas where home ranges were located had no detectable effect on size of home ranges. Our estimates of hen home ranges during nesting and brooding periods were larger than reported from other regions. This might reflect the need for hens to travel greater distances in northwestern Kansas in order to obtain adequate food and cover for themselves and their broods.
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203. **Illinois Wildlife Enhancement Bonus Program: Analysis of the Illinois Department of Natural Resources and Illinois Quail Unlimited Conservation Program.**
Hasstedt, S. C.
Edwardsville, IL: Southern Illinois University at Edwardsville, 2002.
Notes: Report numbers: CI01316, ADA398508XSP; Thesis
Descriptors: Natural resources/ Theses/ Population/ Preservation/ Birds/ Agriculture/ Farms/ Land areas/ Illinois/ Silviculture/ Conservation/ Habitats/ Wildlife/ Bobwhite quails/ IWEBP/ wildlife enhancement bonus programs/ Natural resources and earth sciences/ Natural resource management/ Medicine and biology/ Botany/ Zoology/ Ecology
Abstract: In 1998 the Illinois Department of Natural Resources (IDNR), Division of Wildlife Resources, Habitat Stamp Fund in conjunction with Illinois Quail Unlimited (QU) initiated the Illinois Wildlife Enhancement Bonus Program (IWEBP) . Financial incentives are available to property owners for implementation of wildlife friendly practices on land enrolled in the United States Department of Agriculture's (USDA) Conservation Reserve Program (CRP) and non-CRP acres are eligible under a fescue (Festuca arundinaceae) conversion initiative. Mail surveys following the Total Design Method (Salant and Dillman 1994) were used to gauge both land owner I operator and Natural Resources Conservation Service (NRCS) professional's perceptions regarding IWEBP efficacy in improving wildlife habitat, administrative costs of IWEBP, and characteristics of enrolled participants. Proportional response histograms and higher order analyses revealed IWEBP participants place a high intrinsic value on both habitat and the presence of wildlife on their land, and the financial incentive is most important to offset the high cost of re-establishing native grasses and forbs. NRCS personnel generally believe, compared to other state conservation programs, IWEBP provides similar or better habitat benefits for wildlife in general and is particularly beneficial to bobwhite quail (Colinus virginianus). Land owners and NRCS personnel alike appreciate the relative simplicity of IWEBP enrollment procedures, but further education efforts regarding the singular importance of habitat (Brennan 1991, Jenkins 2000) in improving upland wildlife populations could further the success of this program.

204. **The impact of CRP on avian wildlife: A review.**
Ryan, M. R.; Burger, L. W.; and Kurzejeski, E. W.
Journal of Production Agriculture 11 (1): 61-66. (Jan. 1998-Mar. 1998)
NAL Call #: S539.5.J68; *ISSN:* 0890-8524 [JPRAEN]
Descriptors: wildlife / wild birds/ habitats/ government policy/ populations/ grasslands/ species diversity/ nests/ population growth/ literature reviews/ land banks/ wildlife conservation/ Conservation Reserve Program
Abstract: We reviewed the literature to assess the impact of the Conservation Reserve Program (CRP) on bird populations in the central USA. The CRP replaced production agriculture fields with grassland habitat used by more than 90 species of birds. At least 42 bird species nested in CRP habitats. Bird species richness in CRP fields was similar to that in rowcrop fields, but relative abundance was 1.4 to 10.5 times higher in CRP plantings. Nest abundance was 13.5 times higher in CRP than crop fields, although nesting success of songbirds was only slightly higher in CRP fields (40% vs. 36% in crops). Limited evidence suggests that the CRP has positively affected the population growth rates of several nongame grassland bird species. Waterfowl nest densities and nesting success in CRP fields were similar to these occurring in grassland habitats managed specifically for waterfowl. The presence of CRP grassland has been postulated to have improved the quality of existing duck nest habitat by dispersing nests over a larger area. Ring-necked pheasant (Phasianus colchicus L.) populations seemingly increased substantially with CRP acres. Little evidence of positive population response by

northern bobwhites (Colinus virginianus L.) to the CRP is available. Overall, grassland birds known to be declining throughout North America were seemingly the most benefitted by the CRP.
This citation is from AGRICOLA.

205. **The impact of haying Conservation Reserve Program lands on productivity of ducks nesting in the Prairie Pothole Region of North and South Dakota.**
Renner, R. W.; Reynolds, R. E.; and Batt, B. D. J.
Transactions of the North American Wildlife and Natural Resource Conference 60: 221-229. (1995)
NAL Call #: 412.9-N814; *ISSN:* 0078-1355 [NAWTA6].
Notes: Meeting held March 24-29, 1995, Minneapolis, Minnesota
Descriptors: anatidae / prairies/ conservation areas/ haymaking/ reproductive performance/ nature reserves/ land banks/ North Dakota/ South Dakota
Abstract: Compared nest success and duck production in hayed and non-hayed CRP fields.
This citation is from AGRICOLA.

206. **Impact of Haying CRP Lands on Duck Nesting in the Prairie Pothole Region.**
Renner, R. W. and Reynolds, R. E.
In: 60th North American Wildlife and Natural Resources Conference. (Held 24 Mar 1995-29 Mar 1995 at Minneapolis, MN (USA).); 1995.
Notes: Conference Sponsor: Wildlife Management Institute (Washington, DC); World Meeting Number 951 0315
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207. **Impact of the Conservation Reserve Program on duck recruitment in the U.S. Prairie Pothole Region.**
Reynolds, R. E.; Shaffer, T. L.; Renner, R. W.; Newton, W. E.; and Batt, B. D. J.
Journal of Wildlife Management 65 (4): 765-780. (2001)
NAL Call #: 410 J827; *ISSN:* 0022-541X
Descriptors: Breeding success/ Recruitment/ Land use/ Wildlife management/ Conservation Reserve Program/ Habitat improvement/ Breeding sites/ Food availability/ Hunting/ Aquaculture/ Anas/ Montana/ South Dakota/ North Dakota/ Prairie Pothole Region/ Prairie Pothole Region/ Conservation Reserve Program/ Dabbling ducks/ Management/ Culture of other aquatic animals/ United States
Abstract: The U.S. Department of Agriculture (USDA)'s Conservation Reserve Program (CRP) resulted in the conversion of about 1.9 million ha of cropland to perennial grass cover in the Prairie Pothole Region of North Dakota, South Dakota, and northeastern Montana by 1992. Many wildlife managers believed this cover would provide benefits to wildlife, including upland nesting ducks. During 1992-1995, we evaluated success of 5 duck species nesting in CRP fields and nearby Waterfowl Production Areas (WPA) throughout the region. We examined relationships between daily survival rates (DSR) of duck nests in CRP cover and landscape-level habitat and population parameters. We computed DSR of duck nests in other major cover types in our study area from data collected during 1980-1984 (pre-CRP) and 1990-1994 (CRP) periods. We then applied recruitment models to estimate duck production in our study area during peak CRP years (1992-1997) and compared these results with those that simulated the scenario in which cropland was in place of CRP cover (i.e., the CRP had not occurred). DSR were higher in all habitats combined during the CRP period compared to the pre-CRP period. Regressions of DSR in CRP cover on the percent of each study plot in perennial cover and geographic location were significant (P< 0.01) for 4 of 5 duck (Anas spp.) species. Estimated nest success and recruitment rates for the 5 species combined during 1992-1997 were 46% and 30% higher, respectively, with CRP cover on the landscape compared to a scenario where we simulated cropland in place of CRP. Our model estimated an additional 12.4 million recruits from our study area to the fall flight as a consequence of the CRP during 1992-1997. Our results document benefits to 5 duck species in the northern plains associated with a farm program that provided financial incentives to landowners for planting undisturbed grass cover as an alternative to annual crops.
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208. **Impact of the Conservation Reserve Program on wildlife conservation in the Midwest.**
Ryan, M. R.
In: A comprehensive review of Farm Bill contributions wildlife conservation, 1985-2000/ Heard, L. P; Hohman, W. L.; Halloum, D. J.; and Wildlife Habitat Management Institute (U.S.); Series: Technical Report USDA/NRCS/WHMI.
Madison, MS: USDA, NRCS, Wildlife Habitat Management Institute, 2000; pp. 45-54
NAL Call #: aS604.6 .C66 2000
Descriptors: Conservation Reserve Program/ wildlife habitats/ wildlife management

209. **The importance of Conservation Reserve Program fields to breeding grassland birds at Buffalo Ridge, Minnesota.**
Leddy, Krecia L.; Higgins, Kenneth F.; and Naugle, David E.
South Dakota Academy of Science: Proceedings 76: 105-111. (1997); *ISSN:* 0096-378X.
Notes: Papers presented at The 82nd Annual Meeting of the South Dakota Academy of Science, April 25-26, 1997, Northern State University, Aberdeen, South Dakota. Editor: Higgins, Kenneth F.

Descriptors: Passeriformes/ agricultural crops/ habits/ behavior/ birds/ breeding/ Conservation Reserve Program/ density/ ecosystems/ farmland/ grasslands/ habitat management/ habitat use/ management/ pastures/ species diversity/ wildlife/ North America/ United States/ Minnesota/ Minnesota, Southwestern
Abstract: Nongame birds were surveyed during summer 1995 at Buffalo Ridge in southwestern Minnesota, to evaluate the importance of Conservation Reserve Program (CRP) grasslands to local avifauna. Bird abundance and composition were compared among three habitat types (CRP grasslands, pasturelands, and croplands) using an index to breeding bird density (i.e., number of singing males/transect area), percent species composition, and total species richness. Vertical height and density of vegetation were measured early in the growing season (mid-May) and during the peak of the growing season (mid-June) to determine whether vegetative structure was related to bird use of vegetation. Conservation Reserve Program fields had higher vegetation measurements and supported higher bird densities and species richness than pasturelands and croplands. Mean bird density (birds/100 ha) in CRP grasslands was 312.5 compared to 166.7 in pasturelands and only 75.0 in croplands. Ten bird species were present in CRP grasslands compared to eight in pasturelands and nine in croplands. The presence of three native bird species (sedge wren, dickcissel, and clay-colored sparrow) in CRP grasslands that were not found in pasturelands or croplands indicated that CRP grasslands were an important habitat type for maintaining avian diversity at Buffalo Ridge.
This citation is provided courtesy of NISC, publisher of Wildlife & Ecology Studies Worldwide.

210. **The Influence of Field Age On Mammalian Relative Abundance, Diversity, and Distribution On Conservation Reserve Program Lands in Michigan.**
Furrow, Ly Thi
East Lansing, MI: Michigan State University, 1995.
Notes: Masters Thesis; Cited: Masters Abstracts International 33 (05): p. 1442
Descriptors: Agriculture, Forestry & Wildlife/ conservation/ wildlife distribution/ prairies/ meadows/ agricultural conservation programs
Abstract: Past research evaluating wildlife use of Conservation Reserve Program (CRP) lands have focused primarily on avian populations as indicators of wildlife habitat quality. In addition to avian species, mammals may also serve as indicators of wildlife habitat quality and have not been adequately evaluated on CRP lands. Relative small mammal abundance, species composition, diversity, and vegetative characteristics were examined on replicated CP1 fields of 6 age classes and on agricultural fields in Gratiot County, Michigan in 1992 and 1993. Additionally, predator scent stations were used to monitor medium sized mammals associated with CRP fields. Results suggest that the structure and composition of various age classes of CRP fields influenced mammal abundance, richness, and diversity. Reverting CRP lands to cropland may have significant impacts on a diversity of mammal species that depend on habitat conditions provided by these grasslands.
This citation is provided courtesy of NISC, publisher of Wildlife & Ecology Studies Worldwide.

211. **Influence of the Conservation Reserve Program on landscape structure and potential upland wildlife habitat.**
Weber, Whitney L; Roseberry, John L; and Woolf, Alan
Wildlife Society Bulletin 30 (3): 888-898. (Fall 2002)
NAL Call #: SK357.A1W5; *ISSN:* 0091-7648
Descriptors: Conservation/ Conservation measures/ Land and freshwater zones/ Nearctic region/ North America/ United States/ Comprehensive Zoology/ Habitat management/ Illinois: South and west central/ Conservation Reserve Program/ landscape structure/ upland wildlife habitat/ Phasianidae: Galliformes, Aves/ Birds/ Chordates/ Vertebrates
© Thomson

212. **The influence of the CRP on grasshopper sparrow population trends in the mid-continental United States.**
Herkert, James R.
Wildlife Society Bulletin 26 (2): 227-231. (1998)
NAL Call #: SK357.A1W5; *ISSN:* 0091-7648
Descriptors: Fringillidae/ Passeriformes/ Ammodramus savannarum/ birds/ Conservation Reserve Program/ ecosystems/ habitat management/ land use/ land, private/ management/ population ecology/ techniques/ wildlife/ wildlife/ habitat relationships/ conservation programs/ sparrows/ abundance/ evaluation/ habitat changes/ grasshopper sparrow/ North America/ United States/ Northcentral States
Abstract: Data suggest that a balance of both managed and undisturbed Conservation Reserve Program lands in the northcentral United States would be most beneficial to a wide variety of grassland birds, including the grasshopper sparrow.
This citation is provided courtesy of NISC, publisher of Wildlife & Ecology Studies Worldwide.

213. **Land-use changes and hunter participation: The case of the Conservation Reserve Program.**
Langner, L. L.
Transactions of the North American Wildlife and Natural Resource Conference (54th): 382-390. (1989)
NAL Call #: 412.9-N814; *ISSN:* 0078-1355 [NAWTA]
Descriptors: erosion control/ land use/ soil conservation/ wildlife management/ United States
This citation is from AGRICOLA.

214. **Land-use patterns surrounding greater prairie-chicken leks in northwestern Minnesota.**
Merrill, M. D.; Chapman, K. A.; Poiani, K. A.; and Winter, B.
Journal of Wildlife Management 63 (1): 189-198. (Jan. 1999)
NAL Call #: 410 J827; *ISSN:* 0022-541X
Descriptors: Land use / Lek/ Wildlife management/ Tympanuchus cupido / United States, Minnesota/ Greater prairie chicken/ Management
Abstract: To better manage wildlife populations, managers must know which combination of land uses creates optimal habitat. We used spatial analysis at a landscape scale to describe land-use patterns and patch characteristics surrounding leks of greater prairie-chicken (Tympanuchus cupido pinnatus L.) in the Agassiz Beach Ridges (ABR) landscape (2,467 km super(2)) in northwest Minnesota. We hypothesized that types and patterns of land use favorable to greater prairie-chickens would be associated positively with lek versus non-lek points, and particularly more stable (traditional) leks. Using a Geographic Information System (GIS), we analyzed land-use proportions and patch characteristics within an 810-ha area (1.6-km radius) surrounding traditional leks, temporary leks, and randomly located non-lek points. We found locations of greater prairie-chicken leks were strongly dependent on land use as revealed by a multivariate analysis of variance (MANOVA; P < 0.001). A discriminant function analysis and univariate analysis of variance (ANOVA) showed that several land-use characteristics were associated most strongly with leks: smaller amounts of residential-farmstead, smaller amounts and smaller patches of forest, and greater amounts of Conservation Reserve Program (CRP) lands. Comparisons between traditional and temporary leks revealed that traditional leks were surrounded by a lesser proportion of forest and cropland than were temporary leks (P < 0.001). Univariate ANOVAs showed that traditional leks also were associated with larger patches of grassland (P < 0.001), and grassland (P = 0.016) and forest patches (P = 0.017) having more irregular shapes. Our study suggests efforts to manage and conserve greater prairie-chicken populations in the Tallgrass Prairie Region should focus on landscape-scale land-use patterns in addition to local habitat characteristics. Landscape-scale efforts could include enlarging grasslands around traditional leks by completing prairie restorations and CRP plantings, while local-scale strategies should seek to improve the quality of habitat in existing and new grassland areas.
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215. **Male dickcissels feed nestlings in east-central Illinois.**
Maddox, J. D. and Bollinger, E. K.
Wilson Bulletin 112 (1): 153-155. (Mar. 2000)
NAL Call #: 413.8 W692; *ISSN:* 0043-5643
Descriptors: Feeding behavior/ Paternal behavior/ Nests/ Food availability/ Illinois/ Spiza americana/ Dickcissel/ Birds/ United States
Abstract: We observed male Dickcissels (Spiza americana) commonly feeding nestlings in Conservation Reserve Program (CRP) fields in 1997 in east-central Illinois. Male Dickcissels fed nestlings at six of the eight nests we observed, accounting for 37% of the total nest visits. Overall, females made significantly more nest visits than males. However, at the six male-assisted nests, the number of male and female nest visits did not differ significantly. Male Dickcissel feeding behavior may have been prompted by low food abundance. Males were not observed feeding nestlings in 1998, when overall nest success was higher and nestling starvation was less than in 1997.
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216. **Mammalian species composition, diversity, and succession in Conservation Reserve Program grasslands.**
Hall, D. L. and Willig, M. R.
Southwestern Naturalist 39: 11-10. (1994)
NAL Call #: 409.6 So8; *ISSN:* 0038-4909
Descriptors: Mammalia / species composition/ species diversity/ succession/ nature reserves/ Texas/ Conservation/ United States
Abstract: Species diversity and composition of small mammals were each compared between Conservation Reserve Program (CRP) grasslands and native shortgrass prairie on the Southern High Plains of Texas. Small mammals were livetrapped in all four seasons during a one-year interval at six CRP sites (1, 2, and 3 years of age) and two control sites. Two factors (vegetational heterogeneity and age of habitat) known to affect species diversity were analyzed by a variety of quantitative methods. No significant differences in mammalian diversity (Fisher's log series alpha) were found among sites, and diversity was not significantly correlated with vegetational heterogeneity or site age. Species composition (proportional density of species) was significantly different among all sites in each season. Regardless of season, a priori hierarchical comparisons revealed significant differences in the proportional abundances of species between all CRP sites as a group and in the control sites. The CRP

grasslands simulate shortgrass prairies in species diversity, but not in species composition. Differences in species composition between CRP grasslands and shortgrass prairie may be a result of the lack of natural disturbances (i.e., grazing, fire) on the CRP grasslands.
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217. **Managing your CRP for wildlife.**
United States Department of Agriculture, Natural Resource Conservation Service NRCS, 2002
http://www.greatplains.org/resource/1999/mancrp/mancrp.htm
Descriptors: Conservation Reserve Program/ United States
Abstract: Addressed the issue of wildlife habitat management and enhancement practices to better target CRP objectives.

218. **Modeling the Effects of Conservation Reserve Program Lands On the Diversity and Abundance of Wildlife and Plant Species in A Temperate Agro-ecosystem.**
Minnis, Richard B.
East Lansing, MI: Michigan State University, 1996.
Notes: Degree: MSC; Cited: Masters Abstracts International 34(05): p. 1842, October 1996
Descriptors: Agriculture, Forestry & Wildlife/ Environmental Sciences/ conservation/ forest fauna/ land use
Abstract: The Conservation Reserve Program (CRP) provides the opportunity to model changes in wildlife and plant species composition in agricultural landscapes when land use practices are altered. Avian, mammalian, invertebrate, and vegetation characteristics were examined in 5 age classes (1-5 growing seasons) of CRP fields in Gratiot County, Michigan in 1992. Models developed from the data indicate that both field specific and landscape variables are important in predicting wildlife abundance and diversity. Field specific variables that describe the successional changes in vegetation composition and structure of CRP fields were important in predicting the relative abundance and diversity of invertebrate and avian species. Landscape variables such as the proportion and juxtaposition of different cover types within the landscape also significantly (P $< $ 0.10) affected wildlife diversity and abundance. Maintaining a diversity of CRP age classes within a landscape, through enrollment or periodic manipulation of fields, produces the highest and most stable overall wildlife diversity.
This citation is provided courtesy of NISC, publisher of Wildlife & Ecology Studies Worldwide.

219. **New Mexico's CRP and wildlife habitat improvement.**
Schmidt, Robert J. Jr.; Mullins, Charles J.; Woody, Monty; and Knight, Jim
North American Wildlife and Natural Resources Conference, Transactions 55: 68-73. (1990); *ISSN:* 0078-1355.
Notes: WR 222
Descriptors: Conservation Reserve Programs/ habitat management/ management/ wildlife/ North America/ United States/ New Mexico
This citation is provided courtesy of NISC, publisher of Wildlife & Ecology Studies Worldwide.

220. **Nongame bird nesting on CRP lands in the Texas Southern High Plains.**
Berthelsen, Peter S. and Smith, Loren M.
*Journal of Soil and Water Conservation 50 (6): 672-675. 1995. (*1995)
NAL Call #: 56.8 J822; *ISSN:* 0022-4561.
Notes: Special issue on wetlands.
Includes references.
Descriptors: Fringillidae/ Passeriformes/ Agelaius phoeniceus/ Aimophila cassinii/ Ammodramus savannarum/ Sturnella neglecta/ agricultural practices/ birds/ clutches/ communities/ conservation programs/ Conservation Reserve Program/ distribution/ ecosystems/ grasslands/ habitat management/ land use/ management/ nesting sites/ nests/ nesting/ nongame wildlife/ productivity/ species diversity/ Texas/ Texas, Southern/ wildlife/ agricultural land/ land diversion/ environmental impact/ permanent grasslands/ wild birds/ species/ diversity/ density/ habitats/ federal programs/ nest density/ agricultural economics (general)/ land development, land reform, and utilization (macroeconomics)/ natural resources land resources/ western meadowlark/ red winged blackbird/ grasshopper sparrow/ Cassin's sparrow/ North America/ United States
This citation is provided courtesy of NISC, publisher of Wildlife & Ecology Studies Worldwide.

221. **Northern Prairie Science Center Conservation Reserve Biblilography.**
Allen, A. W., 2002
http://www.npwrc.usgs.gov/resource/literatr/crpbib/crpbib.htm
Descriptors: Conservation Reserve Program/ United States
Abstract: Bibliography of documents relating to effects of CRP on wildlife.

222. **Observations of avian nesting activity in burned and non-burned weeping lovegrass CRP.**
Oberheu, D.; Mitchell, R.; Dabbert, B.; and Davis, S.
Texas Journal of Agriculture and Natural Resources 12: 14-17. (1999)
NAL Call #: S1.T49; *ISSN:* 0891-5466.
Notes: Publisher: Agriculture Consortium of Texas / Kingsville, Tx.
Descriptors: eragrostis curvula/ wild birds/ habitats/ nesting/ nature conservation/ nests/ prescribed burning / species/ drought/ ground cover/ endangered species/ Texas
This citation is from AGRICOLA.

223. **Opportunities for enhancing wildlife benefits through the Conservation Reserve Program.**
Isaacs, B. and Howell, D.
Transactions of the North American Wildlife and Natural Resource Conference (53rd): 222-231. (1988)
NAL Call #: 412.9-N814; *ISSN:* 0078-1355 [NAWTA]
Descriptors: wildlife conservation/ conservation areas/ farmland/ windbreaks/ woody plants/ United States
This citation is from AGRICOLA.

224. **Perceptions of wildlife damage by Conservation Reserve Program contract holders in Riley County, Kansas.**
Hughes, J. P. and Gipson, P. S.
Proceedings - Vertebrate Pest Conference: 154-157. (1996)
NAL Call #: SB950.A1V4; *ISSN:* 0507-6773 [PVPCBM]
Descriptors: vertebrate pests/ crop damage/ surveys
This citation is from AGRICOLA.

225. **Plow: Lessons Learned From CRP - Counterpoint, Negative Impacts of the Conservation Reserve Program on Prairie Wildlife.**
Bidwell, T. G.
In: 50th Annual Meeting of the Society for Range Management. (Held 15 Feb 1997-20 Feb 1997 at Rapid City, SD (USA).); 1997.
Notes: Conference Sponsor: South Dakota Section of the Society for Range Management; HQ: Society for Range Management (Denver, CO); World Meeting Number 971 0113
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226. **Population trends of the Henslow's sparrow in relation to the Conservation Reserve Program in Illinois, 1975-1995.**
Herkert, J. R.
Journal of Field Ornithology 68 (2): 235-244. (1997)
NAL Call #: 413.8 B534; *ISSN:* 0273-8570
Descriptors: Ammodramus henslowii/ population status/ agricultural practices/ government policy/ conservation/ Illinois/ Birds/ United States
Abstract: Data from Illinois' Spring Bird Count was used to estimate long-term population trends of Henslow's Sparrows in Illinois and to examine if the Conservation Reserve Program has affected these trends. Spring Bird Count data suggest that Henslow's Sparrow populations in Illinois have declined significantly over the last 21 yr, with an estimated average rate of decline of 7.1% per year between 1975-1995. These data corroborate analyses of other long-term data sets and provide additional support for the general impression that populations of this species have declined in many parts of its range. Analyses of the potential benefits of the Conservation Reserve Program for Henslow's Sparrows revealed that recent population trends (1987-1995) in counties with high enrollment in this program were significantly greater than trends in counties with little Conservation Reserve Program enrollment. Although these data suggest that the Conservation Reserve Program may have benefitted Henslow's Sparrows in Illinois, this benefit has been insufficient to offset long-term declines due to other factors. Other conservation actions, beyond those associated with efforts aimed at reauthorizing and improving the Conservation Reserve Program, will likely be needed to achieve adequate protection for this species.
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227. **Potential effects on grassland birds of converting marginal cropland to switchgrass biomass production.**
Murray, L. D.; Best, L. B.; Jacobsen, T. J.; and Braster, M. L.
Biomass and Bioenergy 25 (2): 167-175. (2003); *ISSN:* 0961-9534
Descriptors: Biotechnology & Applied Microbiology/ biomass/ birds/ energy crops/ switchgrass (Panicum virgatum)/ watershed/ wildlife/ Conservation Reserve Program/ habitat selection/ CRP fields/ communities/ abundance/ Missouri
Abstract: Habitat loss is a major reason for the decline of grassland birds in North America. Five habitats (pastures, hayfields, rowcrop fields, small-grain fields, Conservation Reserve Program fields) compose most of the habitat used by grassland birds in the Midwest United States. Growing and harvesting switchgrass (Panicum virgatum) as a biomass fuel would create another habitat for grassland birds. Bird abundance information from studies conducted in Iowa and adjacent states and land-use data for the Rathbun Lake Watershed in southern Iowa were used in a Geographic Information System to model the potential effects on bird abundances of converting rowcrop fields to biomass production. Abundances of bird species that are management priorities increased in both biomass scenarios. Common yellowthroat (Geothlypis trichas) abundance in the watershed also

increased greatly in both scenarios. Other species (e.g., horned lark (Eremophila alpestris), killdeer (Charadrius vociferous)) were more abundant in the existing land use than in the biomass scenarios, and conversion of fields from rowcrop to biomass production could be detrimental to these species. In general, biomass fields will provide habitat for grassland birds that are management priorities, but future monitoring of birds in such fields is needed as conversion of rowcrop fields to biomass production continues.
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228. **Predation rates on real and artificial nests of grassland birds.**
Davison, W. B. and Bollinger, E.
Auk 117 (1): 147-153. (Jan. 2000)
NAL Call #: 413.8 AU4; *ISSN:* 0004-8038
Descriptors: Nests/ Predation/ Site selection/ Human impact/ Grasslands/ Illinois/ Aves/ Birds/ Birds/ United States
Abstract: We estimated nesting success at real and artificial nests of grassland birds to test the influence of nest type, nest position, and egg size on predation rates. We distributed wicker nests and realistic woven-grass nests baited with a clay egg and either a Northern Bobwhite (Colinus virginianus) egg or a House Sparrow (Passer domesticus) egg in four grasslands that were part of the Conservation Reserve Program in east-central Illinois. Nesting success averaged 86.5% for 12 days of exposure for artificial nests. For real nests, nesting success was markedly lower, averaging 39% over the entire nesting cycle and 59% during approximately 12 days of incubation. Wicker nests were depredated more often than woven-grass artificial nests (18% vs. 8%), and nests baited with House Sparrow eggs were depredated more often than nests baited with Northern Bobwhite eggs (22% vs. 9%). Elevated and ground nests were depredated at the same rate. Patterns of nest predation on wicker nests were markedly different from depredation patterns on real nests over time and among fields. In contrast, patterns of nest predation on realistic woven-grass nests corresponded much more closely with predation rates of real nests over time and among fields. We suggest that future artificial nest studies use nests and eggs that mimic as closely as possible the real nests and eggs of target species. Use of unrealistic artificial nests and eggs, at least in grasslands, may result in patterns of predation that do not accurately reflect those of real nests. Artificial nests of any type appear to underestimate predation rates on nests of grassland birds, possibly because of a lack of snake predation on artificial nests.
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229. **Predicting juniper encroachment and CRP effects on avian community dynamics in southern mixed-grass prairie, USA.**
Coppedge, B. R.; Engle, D. M.; Masters, R. E.; and Gregory, M. S.
Biological Conservation 115 (3): 431-441. (2004)
NAL Call #: S900.B5; *ISSN:* 0006-3207.
Notes: Number of References: 66
Descriptors: Environment/ Ecology/ breeding bird survey/ Conservation Reserve Program/ grassland/ juniper/ logistic regression/ Oklahoma/ conservation reserve program/ great plains grasslands/ woody plant invasion/ population trends/ breeding birds/ North America/ United States/ cover type/ fields/ vegetation
Abstract: The probability of occurrence of 30 bird species was modeled as a function of landscape covertype in northwestern Oklahoma, USA. This grassland region has been extensively fragmented by agricultural activity, and remnant grassland patches are undergoing severe degradation from encroaching juniper (Juniperus virginiana L.). In addition, many marginal or highly erodable croplands have been placed into perennial pasture dominated by exotic grasses under the Conservation Reserve Program (CRP). Based on temporal patterns of landscape change observed between 1965 and 1995, we estimated the covertype composition of the landscapes in the year 2015 under various CRP administrative and juniper expansion/control scenarios. We then used logistic regression to predict bird responses to these landscape composition estimates. Our estimates suggest that at the current rate of expansion, juniper will overtake substantial areas of remnant grassland even with extensive control measures. As a result, some obligate and facultative grassland birds are projected to decline, while numerous species tolerant of or partially reliant on woody vegetation will increase. Landscape dynamics due to changes in the CRP might be significant and could be designed to benefit declining grassland birds, but these benefits thus far are relatively minor compared to the effects encroaching juniper woodlands will have on the landscape and the avian community. (C) 2003 Elsevier Ltd. All rights reserved.
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230. **Pronghorn use of agricultural land in northwestern South Dakota.**
Griffin, S. L.
Brookings, SD: South Dakota State University, 1991.
Notes: M.S. thesis
Descriptors: Conservation Reserve Program/ State conservation programs/ South Dakota
Abstract: Studied the seasonal use of CRP grasslands by pronghorns.

231. **Recreational opportunities on CRP Lands.**
Varnedoe, L. E.
Conservation Reserve Program Forest Land Opportunities (13) (1995)
Descriptors: Conservation Reserve Program/ United States
Abstract: Compared consumptive and non-consumptive uses of recreational lands, along with wildlife associated recreation.

232. **Relation of grassland bird abundance to mowing of Conservation Reserve Program fields in North Dakota.**
Horn, D. J. and Koford, R. R.
Wildlife Society Bulletin 28 (3): 653-659. (2000)
NAL Call #: SK357.A1W5; *ISSN:* 0091-7648
Descriptors: Grasslands/ Mowing/ Conservation/ Population decline/ North Dakota/ Cistothorus platensis/ Passerculus sandwichensis/ Sedge wren/ Savannah sparrow/ Conservation/ Birds/ United States
Abstract: One factor that may be contributing to declines of several grassland bird species is mowing of grassland fields. We compared the relative abundance of birds in idled and mowed portions of grassland fields to investigate the influence of mowing in the previous summer on the grassland bird community. The study occurred in central North Dakota in 12 reseeded cropland fields enrolled in the Conservation Reserve Program. Sedge wrens (Cistothorus platensis) were more abundant in idled portions of grassland fields, whereas savannah sparrows (Passerculus sandwichensis) were more abundant in portions of fields that were mowed the previous year. Our findings are similar to other studies indicating that several grassland bird species in the central United States and Canada respond consistently to mowing.
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233. **Relationships of habitat patch size to predator community and survival of duck nests.**
Sovada, M. A.; Zicus, M. C.; Greenwood, R. J.; Rave, D. P.; Newton, W. E.; Woodward, R. O.; and Beiser, J. A.
Journal of Wildlife Management 64 (3): 820-831. (2000)
NAL Call #: 410 J827; *ISSN:* 0022-541X
Descriptors: Patches/ Habitat/ Predators/ Survival/ Nests/ United States, Minnesota/ United States, North Dakota/ United States, South Dakota/ Community composition/ Aquatic birds/ Breeding success/ Area/ Anatidae/ Mammalia/ United States, Minnesota/ United States, North Dakota/ United States, South Dakota/ Ducks/ Mammals/ patch size/ Prairie Pothole Region/ Mammals/ Environmental effects
Abstract: We studied duck nest success and predator community composition in relation to size of discrete patches of nesting cover in the Prairie Pothole Region (PPR) of the United States in 1993-95. We focused on nests in uplands that were seeded to perennial grasses and forbs and enrolled in the Conservation Reserve Program (CRP) in Minnesota, North Dakota, and South Dakota. We estimated daily survival rates (DSRs) of upland duck nests and indices of activity for red foxes (Vulpes vulpes), coyotes (Canis latrans), American badgers (Taxidea taxus), striped skunks (Mephitis mephitis), and Franklin's ground squirrels (Spermophilus franklinii), and related these variables to habitat patch size. The effect of patch size (small vs. large) on estimated annual mean DSR was dependent on date of nest initiation (early vs. late) and year. Examination of within-year comparisons for early and late nests suggested that DSR was generally greater in larger habitat patches. Activity indices for the 5 mammalian nest predators were influenced differently by year, location, and patch size. Activity indices of the red fox were greatest in small patches. Coyote indices were the most inconsistent, demonstrating a year x location x patch size interaction. Activity indices of the striped skunk and American badger varied only among years. Franklin's ground squirrel indices were affected by study area location, with higher indices in the southeast than the northwest. Red fox activity was weakly correlated with that of the striped skunk and coyote. Although a positive relationship between habitat patch size and nest success probably exists, we believe the experiment to fully test this hypothesis will continue to be elusive.
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234. **Reproductive success of grasshopper sparrows in relation to edge.**
Delisle, Jennifer M and Savidge, Julie A
*Prairie Naturalist 28 (3): 107-114. (*1996)
NAL Call #: QH540 .P7; *ISSN:* 0091-0376
Descriptors: Conservation Reserve Program/ ecology/ edge relation/ reproductive success/ Southeast Nebraska/ wildlife management/ animals/ birds/ chordates/ nonhuman vertebrates/ vertebrates/ animal (Animalia Unspecified)/ grasshopper sparrow (Passeriformes)/ Ammodramus savannarum (Passeriformes)
Abstract: Using an index based on observations of breeding behaviors, we estimated reproductive success of 31 territorial grasshopper sparrows (Ammodramus savannarum) on Conservation Reserve Program fields in southeast Nebraska. Reproductive success was 52%, and no difference was detected between birds holding interior (gt 100 m from the edge) vs. edge territories. However, grasshopper sparrows appeared to avoid nesting within 50 m of edge habitats. Territories ranged from 0.36-1.24 ha, and territory size did not differ between successful and unsuccessful males.
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235. **Reuse of annual set-aside lands: Implications for wildlife.**
Frawley, B. J. and Walters, S.
Wildlife Society Bulletin 24 (4): 655-659. (Winter 1996)
NAL Call #: SK357.A1W5; *ISSN:* 0091-7648 [WLSBA6]
Descriptors: agricultural land/ land management/ wildlife/ conservation/ Indiana/ Conservation Reserve Program
This citation is from AGRICOLA.

236. **Ring-necked pheasant nesting ecology and production on CRP lands in the Texas Southern High Plains.**
Berthelsen, Peter S.; Smith, Loren M.; and George, Ronnie R.
North American Wildlife and Natural Resources Conference, Transactions 55: 46-56. (1990); *ISSN:* 0078-1355.
Notes: WR 222
Descriptors: Galliformes/ Phasianidae/ Phasianus colchicus/ birds / behavior/ Conservation Reserve Programs/ management/ nests/ nesting/ productivity/ wildlife/ common pheasant/ fertility/ recruitment/ density/ North America/ United States/ Texas/ Texas, Northwestern
This citation is provided courtesy of NISC, publisher of Wildlife & Ecology Studies Worldwide.

237. **The Role of the Conservation Reserve Program in Relation to Wildlife Enhancement, Wetlands and Adjacent Habitats in the Northern Great Plains.**
Higgins, K. F.; Nomsen, D. E.; and Wentz, W. A.
In: General Technical Report RM; Vol. 159.
Fort Collins, Colo.: Rocky Mountain Forest and Range Experiment Station, 1987.
Notes: Report Series ISSN: 0277-5786; Proceedings of a Symposium on "Impacts of the Conservation Reserve Program in the Great Plains," held Sept 16-18, 1987, Denver, Colorado.
Descriptors: Conservation Reserve Program/ Regional conservation programs/ Northern Great Plains
Abstract: Focused on the value of CRP grasslands directly related to wetlands and their associated wildlife (primary migratory birds).

238. **The role of trees and shrubs as economic enterprises and wildlife habitat development in the Great Plains.**
Hoefer, P. and Bratton, G. F.
In: General Technical Report RM.
Fort Collins, Colo.: Rocky Mountain Forest and Range Experiment Station, 1988; pp. 109-112.
Notes: Report Series ISSN: 0277-5786; Proceedings of a Symposium on "Impacts of the Conservation Reserve Program in the Great Plains," held Sept 16-18, 1987, Denver, Colorado.
NAL Call #: aSD11.A42
Descriptors: soil conservation/ resource conservation/ revegetation/ erosion control/ shrubs/ trees/ wildlife/ habitats/ northern plains states of USA/ southern plains states of USA/ Conservation Reserve Program
This citation is from AGRICOLA.

239. **The role of wildlife as an economic input into a farming or ranching operation.**
Bryant, F. C. and Smith, L. M.
In: General Technical Report RM.
Fort Collins, Colo.: Rocky Mountain Forest and Range Experiment Station, 1988; pp. 95-98.
Notes: Report Series ISSN: 0277-5786; Proceedings of a Symposium on "Impacts of the Conservation Reserve Program in the Great Plains," held Sept 16-18, 1987, Denver, Colorado. Includes references.
NAL Call #: aSD11.A42
Descriptors: farming/ wildlife/ wildlife management/ economic impact/ Texas/ Conservation Reserve Program/ high plains/ rolling plains
This citation is from AGRICOLA.

240. **Rural economic effects of the Conservation Reserve Program in North Dakota.**
Bangsund DA; Leistritz FL; and Hodur NM
Fargo, N.D.: Department of Agribusiness and Applied Economics, North Dakota State University, 2002. viii; 117 p. Agribusiness and Applied Economics Report (AAER).
This citation is provided courtesy of CAB International/CABI Publishing.

241. **Seasonal use of Conservation Reserve Program fields by white-tailed deer in eastern South Dakota.**
Gould, J.
Brookings, SD: South Dakota State University, 1991.
Notes: M.S. Thesis
Descriptors: Conservation Reserve Program/ State conservation programs/ South Dakota
Abstract: CRP land cover and maintenance practices, where white-tailed deer populations nested in eastern South Dakota, were examined.

242. **Seasonal use of Conservation Reserve Program lands by white-tailed deer in East-Central South Dakota.**
Gould, Jeffrey H. and Jenkins, Kurt J.
Wildlife Society Bulletin 21 (3): 250-255. (1993)
NAL Call #: SK357.A1W5; *ISSN:* 0091-7648.
Notes: WR 240; Project Number: SD W-075-R/Study 7541
Descriptors: Odocoileus virginianus/ behavior/ Conservation Reserve Programs/ habitat use/ management/ mammals/ season/ wildlife/ odocoileus virginianus/ habitat selection/ seasonal variation/

diurnal variation/ conservation areas/ telemetry/ natural resources/ agriculture (general)/ deer, white tailed/ land, private/ cultivated farmland/ policies and programs/ habitat/ utilization/ seasons/ seasonal activities/ white tailed deer/ North America/ United States/ South Dakota/ East central region/ Brookings County/ Kingsbury County/ Lake County/ United States

Abstract: Objectives were to describe variation in deer use of Conservation Reserve Program (CRP) lands by season, diel period, and deer activity class as a means of assessing seasonal importance of CRP fields to white-tailed deer in the agricultural midwest. Use of CRP fields was determined by locating radiomarked female deer from 15 September 1989 to 31 December 1990.

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243. **Seed availability in grazed pastures and Conservation Reserve Program fields during winter in Kansas.**

Klute, D. S.; Robel, R. J.; and Kemp, K. E.

Journal of Field Ornithology 68 (2): 253-258. (1997)

NAL Call #: 413.8 B534; *ISSN:* 0273-8570

Descriptors: grasslands/ seeds/ abundance/ winter/ agricultural practices/ government policy/ Kansas/ Management/ United States

Abstract: Studies have documented the importance of Conservation Reserve Program (CRP) fields to breeding birds, but few have examined them as food sources for wintering birds. We compared the biomass of seeds in CRP fields to that in grazed native grass pastures in northeastern Kansas during two winters. Log transformed total seed biomass was significantly lower in grazed pastures than in CRP fields during the first winter but not the second. Total seed biomass in CRP fields was highly variable, and decreased between November and February. Seeds that were typically abundant in CRP fields are important food items of wintering grassland birds. In conclusion, CRP fields are superior to grazed native grass pastures in northeastern Kansas as winter foraging habitat for birds.

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244. **Selection of flooded agricultural fields and other landscapes by female northern pintails wintering in Tulare Basin, California.**

Fleskes, J. P.; Jarvis, R. L.; and Gilmer, D. S.

Wildlife Society Bulletin 31 (3): 793-803. (2003)

NAL Call #: SK357.A1W5; *ISSN:* 0091-7648.

Notes: Number of References: 49

Descriptors: Environment/ Ecology/ Anas acuta/ California/ habitat selection/ northern pintail/ San Joaquin Valley/ Tulare Basin/ San Joaquin Valley/ habitat use/ sacramento valley/ feeding ecology/ waterfowl/ ducks/ shorebirds/ movements/ wetlands

Abstract: Habitat selection and use are measures of relative importance of habitats to wildlife and necessary information for effective wildlife conservation. To measure the relative importance of flooded agricultural fields and other landscapes to northern pintails (Anas acuta) wintering in Tulare Basin (TB), California, we radiotagged female pintails during late August-early October, 1991-1993 in TB and other San Joaquin Valley areas and determined use and selection of these TB landscapes through March each year. Availability of landscape and field types in TB changed within and among years. Pintail use and selection (based upon use-to-availability log ratios) of landscape and field types differed among seasons, years, and diel periods. Fields flooded after harvest and before planting (i.e., pre-irrigated) were the most available, used, and selected landscape type before the hunting season (Prehunt). Safflower was the most available, used, and-except in 1993, when pre-irrigated fallow was available-selected pre-irrigated field type during Prehunt. Pre-irrigated barley-wheat received 19-22% of use before hunting season, but selection varied greatly among years and diel periods. During and after hunting season, managed marsh was the most available, used, and, along with floodwater areas, selected landscape type; pre-irrigated cotton and alfalfa were the least selected field types and accounted for less than or equal to13% of pintail use. Agricultural drainwater evaporation ponds, sewage treatment ponds, and reservoirs accounted for 42-48% of flooded landscape available but were little used and least selected. Exodus of pintails from TB coincided with drying of pre-irrigated fallow, safflower, and barley-wheat fields early in winter, indicating that preferred habitats were lacking in TB during late winter. Agriculture conservation programs could improve TB for pintails by increasing flooding of fallow and harvested safflower and grain fields. Conservation of remaining wetlands should concentrate on increasing the amount and productivity of marsh that is shallow-flooded as pre-irrigated grain fields dry. If pintails were provided with adequate preferred field and marsh habitats, including hunt-day sanctuaries, contaminant risks associated with exposure to drainwater evaporation ponds probably should remain low for these waterfowl even if their abundance in TB increased.

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245. **Short-Term Bird Response to Harvesting Switchgrass for Biomass in Iowa.**

Murray, LD and Best, LB

Journal of Wildlife Management 67 (3): 611-621. (July 2003)

NAL Call #: 410 J827; *ISSN:* 0022-541X

Descriptors: Biomass/ Birds/ Energy Crops/ Grassland/ Iowa/ Nest Success/ Panicum Virgatum/ Switchgrass/ Conservation Reserve Program/ Grassland Birds/ Nest Success/ North Dakota/ CRP

Fields/ Abundance/ Habitat/ Vegetation/ Pheasants/ Survival
Abstract: Conservation Reserve Program (CRP) provides habitat for grassland birds, but as contracts expire, some CRP fields might be returned to rowcrop production. One alternative to returning CRP fields to rowcrops is to produce switchgrass (Panicum virgatum) for use as a biomass fuel. Because the biomass is harvested during the fall and winter, breeding birds would not be directly affected by mowing the fields but might be influenced by changes in vegetation structure resulting from the harvest. We evaluated bird abundances and nest success in totally, harvested, partially harvested (alternating cut and uncut strips), and nonharvested CRP switchgrass fields in southern Iowa, USA, in 1999 and 2000. Species richness did not differ among harvest treatments. Abundances of most species (16 of 18) were not affected by the harvesting of switchgrass fields, and strip width did not affect bird numbers in strip- harvested fields. Grasshopper sparrows (Ammodramus savannarum) were more abundant in harvested portions of fields, and more sedge wrens (Cistothorus platensis) were recorded in nonharvested areas. The residual vegetation in nonharvested areas provided nest cover for species that begin nesting early in the season (e.g., northern harrier [Circus cyaneus] and ring-necked pheasant [Phasianus colchicus]). Nest success rates of grasshopper sparrows and common yellowthroats (Geothlypis trichas) were similar to those reported by other studies in switchgrass fields and might be sufficient to maintain stable populations. In general, switchgrass biomass fields create breeding habitat for some grassland birds, and a Mixture of harvested and nonharvested fields would be more beneficial to grassland birds than totally harvesting or partially harvesting all switchgrass fields.
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246. **Small mammal populations occurring in a diversified winter wheat cropping system.**
Olson RA and Brewer MJ
Agriculture, Ecosystems and Environment
95 (1): 311-319; 33 ref. (2003)
NAL Call #: S601 .A34
This citation is provided courtesy of CAB International/CABI Publishing.

247. **Spring burning: Resulting avian abundance and nesting in Kansas CRP.**
Robel, R. J.; Hughes, J. P.; Hull, S. D.; Kemp, K. E.; and Klute, D. S.
Journal of Range Management 51 (2): 132-138. (Mar. 1998)
NAL Call #: 60.18-J82; *ISSN:* 0022-409X [JRMGAQ]
Descriptors: fire ecology/ prescribed burning/ brush control/ wild birds/ nests/ Kansas
Abstract: Spring burning is used to control invasion by woody vegetation of rangelands in eastern Kansas and also of Conservation Reserve Program (CRP) fields planted to native grasses. We measured the effects of spring burning of CRP fields on vegetation structure and avian populations in northeastern Kansas during the summers of 1992 through 1995. Several vegetation characteristics differed between burned and unburned CRP fields in May, but few differed in July. Mean avian abundance on burned CRP fields was 5.6 birds km-1 of survey transect, significantly less (P < 0.01) than the 8.6 km-1 on unburned fields. The avian-assemblages on burned and unburned fields differed more in May/June [Morisita's Index to Similarity (MIS) = 0.86] than in June/July or July/August (MIS = 0.98 and 0.97, respectively). Avian species richness ranged from 12 to 21 on burned fields and from 10 to 19 on unburned fields. A total of 27 nests was found on burned fields, significantly less (P < 0.01) than the 372 found on unburned fields. The 22.2% nesting success on burned fields was not significantly different (P = 0.205) than the 34.1% success on unburned fields. Spring burning reduced bird-nest numbers in the summer of the same year, but did not reduce significantly (P = 0.235) the number of nests found in those fields the following summers nor the abundance of birds or nesting success. Avoidance of annual burning would reduce adverse impacts on bird populations relying on CRP fields for nesting habitat. This citation is from AGRICOLA.

248. **Status and management of the greater prairie-chicken Tympanuchus cupido pinnatus in North America.**
Svedarsky, W. D.; Westemeier, R. L.; Robel, R. J.; Gough, S.; and Toepher, J. E.
Wildlife Biology 6 (4): 277-284. (Dec. 2000); *ISSN:* 0909-6396
Descriptors: Management/ Biogeography/ Grasslands/ Conservation/ North America/ Tympanuchus cupido pinnatus/ Management
Abstract: Greater prairie-chickens Tympanuchus cupido pinnatus are grouse of the tallgrass prairie of North America. Their range expanded greatly following the spread of early European agriculture into the grasslands and logging in forested areas. When the optimum mix of cropland and grass was exceeded, their range generally contracted to the regions where climatic and/or soil factors favoured the retention of grassland. Historically they probably occurred in 20 states of the United States and four Canadian provinces, but presently they only occur in 11 states and no longer in Canada. Their current status throughout the range varies considerably depending on habitat conditions, population levels, management capabilities and local land-use economic factors. A variety of conservation efforts, including translocation, are underway in the states where they occur, the intensity of which is generally

inverse to numbers remaining. Noteworthy, is the Conservation Reserve Program (CRP) which has increased grassland cover on private land through incentive payments.
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249. **Strategies for biodiversity protection.**
Bean, Michael J.
In: Precious heritage: The status of biodiversity in the United States/ Stein, Bruce A.; Kutner, Lynn S.; and Adams, Jonathan S.
New York: Oxford, 2000; pp. 255-273
Descriptors: Wetlands Reserve Program/ biodiversity protection/ conservation interests/ conservation land acquisition/ land trusts/ land use/ water use/ wildlife refuges/ Animals/ Plants/ animal (Animalia)/ plant (Plantae)
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250. **Structural characteristics of vegetation in CRP fields in Northern Missouri and their suitability as bobwhite habitat.**
Burger, Loren W.; Kurzejeski, E.; Dailey, Thomas V.; and Ryan, Mark R.
North American Wildlife and Natural Resources Conference, Transactions 55: 74-83. (1990); *ISSN:* 0078-1355.
Notes: WR 222
Descriptors: Galliformes/ Odontophoridae/ Colinus virginianus/ Conservation Reserve Program/ habitat classification/ habitat surveys/ management/ wildlife/ bobwhite/ cultivated farmland/ habitat/ vegetation/ conservation programs/ cover/ habitat management for wildlife/ land, private/ agriculture/ North America/ United States/ Missouri
This citation is provided courtesy of NISC, publisher of Wildlife & Ecology Studies Worldwide.

251. **Success of artificial nests in CRP fields, native vegetation, and field borders in southwestern Montana.**
Clawson, M. R. and Rotella, J. J.
Journal of Field Ornithology 69 (2): 180-191. (1998)
NAL Call #: 413.8 B534; *ISSN:* 0273-8570
Descriptors: Nests/ Survival/ Site selection/ Environment management/ Grasslands/ United States, Montana/ Aves/ Birds/ Management/ Birds
Abstract: In 1993-1994, we used artificial nests to study relationships between nest success and various spatial, temporal, and vegetation variables in three grassland types: Conservation Reserve Program (CRP) fields, field borders and watercourses, and native vegetation. Nest success was higher and vegetation was structurally more complex in CRP fields than in other grassland types. Nest success was 63% in CRP fields but only 24% in native vegetation. Results of univariate and multivariate analyses indicated that nests surrounded by taller, thicker cover were more likely to survive than nests with less concealing vegetation. Nests initiated later in the season, when vegetation volume was greater, survived at higher rates than nests initiated earlier. Spatial variables were not strongly related to nest success. Field size was directly related to nest success in CRP fields but not in other grassland types. However, field size not included in the most parsimonious, multivariate model of factors related to nest success in CRP fields. Similarly, proximity to field borders was not related to nest success in any grassland type. Our results suggest that CRP fields, which cover a large area in the Northern Great Plains and attract a greater diversity of grassland birds than the cropfields they replaced, provide secure nesting cover for ground-nesting species.
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252. **Summer avian abundance, invertebrate biomass, and forbs in Kansas CRP.**
Hull, Scott D; Robel, Robert J; and Kemp, Kenneth E
Prairie Naturalist 28 (1): 1-12. *(*1996)
NAL Call #: QH540 .P7; *ISSN:* 0091-0376
Descriptors: invertebrate biomass/ Kansas Conservation Reserve Program/ species abundance/ species richness/ terrestrial ecology/ bird (Aves Unspecified)/ Aves (Aves Unspecified)/ animals/ birds/ chordates/ nonhuman vertebrates/ vertebrates
Abstract: Conservation Reserve Program (CRP) fields planted to native grasses have the potential to provide summer habitat for grassland bird populations in the Great Plains. Forbs in native grasslands are thought to increase the suitability of grasslands for birds. We measured invertebrate biomass (summer food for birds) and avian abundance in Kansas CRP fields planted to native grasses to determine if they were correlated with forb abundance in those fields. Sweep nets were used to collect invertebrate samples and avian abundance was estimated along line transects in six CRP fields from May through August 1992. Correlation analysis did not detect a statistically significant relationship between forb abundance and invertebrate biomass or avian abundance, or between avian abundance and invertebrate biomass. Avian species richness did not vary with forb abundance and the avian community assemblages on CRP fields with low and high forb abundance were similar.
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253. **Surveys and Investigations Projects as Required by Federal Aid in Wildlife Restoration Act, Missouri.**
Kurzejeski, E. W.
Columbia, MO: Missouri Dept. Of Conservation; PB97170112XSP, 1996. 64 p.
Notes: Final Report; Includes Study No. 1, Job No. 1, and Job No. 2; Sponsored by Fish and Wildlife Service, Washington, DC

http://www.monwtf.org/attitudesurvey.pdf
Descriptors: Grasses/ Population/ Reproduction Biology/ Birds/ Vegetation/ Missouri/ Conservation Reserve Program/ Medicine and biology/ Ecology/ Zoology/ Natural resources and earth sciences/ Natural resource management
Abstract: During 1993-1995, we monitored vegetative conditions and avain abundance, composition, and productivity on 8 blocked sites in northern Missouri containing CP1 (cool-season grass), CP2 (warm-season grass), and rowcrop fields. Total bird abundance (P less than 0.0001 in 1994), grassland bird abundance (P less 0.05 in 1994 and 1995), nest density (P less than 0.001 each year), and number of nesting species (P less than 0.05 each year) were all lower on crop fields than on CRP fields. The bird community using crop fields markedly differed from that of CRP fields, with short-grass and open-ground feeding birds predominant on crop fields. Grassland bird species richness (P equals 0.057 in 1993, P less than 0.0001 each year), Henslow's sparrows (Ammodramus henslowii) (P less than 0.001 in 1993 and 1995), meadowlarks (Sturnella spp.) P less than .01 in 1993 and 1995, and American goldfinches (Carduelis tristis) (P less than 0.01 in 1994 and 1995) were higher on the structurally diverse than on CP2 fields. CP2 fields were tall, dense warm-season grass monocultures having higher abundances of red-winged blackbirds (Agelaius phoeniceus) (P less than 0.05 in 1994) and common yellowthroats (Geothylpis trichas) P less than 0.001 each year than CP1 fields. Difference in nesting success and nest densities of species between CP1 and CP2 fields, although rarely significant, were similar to those of relative abundance. The conservation value of CRP fields for declining grassland bird species was higher for CP1 fields than for CP2 fields; species of concern were either more abundant in both CP types. Monotypic stands of both warm-season and cool-season grasses should be avoided to increase the potential wildlife benefits of CRP and other idle grassland habitats.

254. **Using Conservation Reserve Program Maps Derived From Satellite Imagery to Characterize Landscape Structure.**
Egbert, SL; Park, S; Price, KP; Lee, RY; Wu, JP; and Nellis, AD
Computers and Electronics in Agriculture 37 (1-3): 141-156. (Dec. 2002)
NAL Call #: S494.5.D3C652; *ISSN:* 0168-1699
Descriptors: Remote Sensing/ Conservation Reserve Program/ Landscape Metrics/ Wildlife Habitat/ Great Plains/ Agriculture/ Patch Size/ Accuracy/ Land/ GIS/ Geographic Information Systems
Abstract: The Conservation Reserve Program (CRP) instituted one of the largest and most rapid land use/land cover conversions in US history. Approximately 14.8 million ha (36.5 million acres) of cropland were converted to grassland, woodland, and other conservation uses between 1986 and 1995. As policy makers continue to evaluate the future of the program and as scientists examine its effects, it is critical that the impact of CRP on landscape structure be considered because of its potential influence on wildlife populations. Utilizing multi- seasonal Landsat thematic mapper imagery in an unsupervised classification technique, we produced highly accurate maps of cropland and grassland for 1987 and 1992 for Finney County, Kansas. Post-classification differencing identified regions of cropland that had been converted to CRP. We then used the Finney County CRP map to examine changes in landscape structure caused by the introduction of CRP. Using the FRAGSTATS spatial pattern analysis program, we calculated the number of patches, mean patch size, patch density, edge density, mean shape index, nearest neighbor distance, and an interspersion/juxtaposition index. In addition, we calculated total grassland area and percent of area in grassland for the pre- and post-CRP enrollment years. We found that the total grassland area and the percent area in grassland in Finney County increased due to CRP and that mean grassland patch size also increased. The total number of grassland patches decreased, however, due to coalescence of smaller grassland patches. Patch density, edge density, mean shape index, nearest neighbor distance, and the interspersion/juxtaposition index all showed relatively small changes. These small changes appear to reflect geographic differences in CRP effects within the county-large aggregating patches in the northeast were offset by a number of isolated patches of CRP in other areas. The implication of these findings for wildlife managers is that, for species that require large areas of grassland habitat, especially habitat that is contiguous, CRP in Finney County represents a substantial increase in potential habitat. This holds for species at all levels of management interest. ranging from economically valuable species to species that are rare. threatened, and endangered. These findings emphasize the importance of CRP for wildlife conservation and should further inform ongoing debate concerning the importance of the CRP. (C) 2002 Elsevier Science B.V. All rights reserved.
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255. **Valuation of agriculture's multi-site environmental impacts: An application to pheasant hunting.**
Hansen, L.; Feather, P.; and Shank, D.
Agricultural and Resource Economics Review 28 (2): 199-207. (1999)
NAL Call #: HD1773.A2N6; *ISSN:* 1068-2805
This citation is provided courtesy of CAB International/CABI Publishing.

256. **The value of buffer habitats for birds in agricultural landscapes.**
Best, L. B.
In: A comprehensive review of Farm Bill contributions wildlife conservation, 1985-2000/ Heard, L. P; Hohman, W. L.; Halloum, D. J.; and Wildlife Habitat Management Institute (U.S.); Series: Technical Report USDA/NRCS/WHMI.
Madison, MS: USDA, NRCS, Wildlife Habitat Management Institute, 2000; pp. 75-94
NAL Call #: aS604.6 .C66 2000
Descriptors: wildlife habitats/ conservation buffers/ agricultural land

257. **Value of the Conservation Reserve Program to birds in the Texas southern high plains.**
Berthelsen, P. S.
Lubbock, TX: Texas Tech University, 1989.
Notes: M.S. Thesis
Descriptors: Conservation Reserve Program/ State conservation programs/ Texas
Abstract: Examined what habitat type would provide the greatest potential benefit of the CRP to avian wildlife species in the Texas southern high plains.

258. **Vegetation Management Practices on Conservation Reserve Program Fields to Improve Northern Bobwhite Habitat Quality.**
Greenfield, KC; Burger, LW; Chamberlain, MJ; and Kurzejeski, EW
Wildlife Society Bulletin 30 (2): 527-538. (Summer 2002)
NAL Call #: SK357.A1W5; *ISSN:* 0091-7648
Descriptors: Agriculture/ CRP/ Colinus Virginianus/ Conservation Reserve Program/ Habitat/ Northern Bobwhite/ RUSLE(C)/ Revised Universal Soil Loss Equation/ Missouri/ Wildlife
Abstract: Since 1985, an annual average of more than 14 million ha of very erodible cropland has been removed from production and enrolled in perennial grass practices under the Conservation Reserve Program (CRP). The rate of changes in plant communities on CRP fields can be modified (intentionally or accidentally) by disturbance-management regimes. Throughout the Midwest and Southeast, habitat quality for early successional and grassland species may decline as CRP grasslands age, but premeditated disturbance regimes may enhance and maintain habitat quality for these species. However, concerns regarding perceived conflicts between wildlife habitat and soil erosion objectives of the CRP persist among United States Department of Agriculture (USDA) and Natural Resources Conservation Service (NRCS) personnel. Therefore, we evaluated effects of strip- discing on vegetation structure and composition and soil erosion in tall fescue (Festuca arundiacea) and orchard grass (Dactylis glomerata) CRP fields in Missouri. We interpreted vegetation response in the context of habitat quality for a socially and economically important species, the northern bobwhite quail (Colinus virginianus). Fall discing generally increased percentage bare ground and plant diversity and decreased percentage litter cover and litter depth. However, plant community response and duration of effects differed between fescue and orchard grass fields. Gains in habitat quality in fescue fields were minimal and short-lived, whereas enhancements in orchard grass fields were substantial and longer-lived. Overall, fall discing enhanced bobwhite habitat quality, but responses diminished by the second growing season post-treatment, especially in CRP fields planted to fescue. Soil-loss potential, as estimated by the Revised Universal Soil Loss Equation (RUSLE), was well within USDA tolerable limits for all treatments. Our findings indicated that discing intensity on CRP fields could be increased by 2-3 times without compromising soil erosion provisions of CRP. Therefore, we suggest that strip-discing on a 2- to 3-year rotation should be a permissible and encouraged practice to maintain early succession plant communities on CRP fields in the Midwest and Southeast.
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259. **Vegetation Structure and Avian Species Composition in Diverted Farmland: Evaluation of Vegetation Structure on CRP Lands in Northern Missouri/Avian Species in Diverted Farmland.**
Kurzejeski, E. W.
In: Missouri Department of Conservation Annual Report, 1996. 62 p.
Notes: Final Report; Project Number: MO W-013-R-50/Jobs 1&2/Study 1; Unpublished Wildlife Report; ISSN: 0085-3496
Descriptors: cultivated farmland/ conservation programs/ vegetation/ birds/ abundance/ reproduction/ grassland/ sampling/ nests and nesting/ population density/ species diversity/ statistics/ North America/ United States/ Missouri/ Northern central region/ Knox County/ Macon County/ Linn County
This citation is provided courtesy of NISC, publisher of Wildlife & Ecology Studies Worldwide.

260. **Waterfowl responses to the Conservation Reserve Program in the Northern Great Plains.**
Reynolds, R. E.
In: A comprehensive review of Farm Bill contributions wildlife conservation, 1985-2000/ Heard, L. P; Hohman, W. L.; Halloum, D. J.; and Wildlife Habitat Management Institute (U.S.); Series: Technical Report USDA/NRCS/WHMI.
Madison, MS: USDA, NRCS, Wildlife Habitat Management Institute, 2000; pp. 35-43
NAL Call #: aS604.6 .C66 2000
Descriptors: Conservation Reserve Program/ wetlands/ waterfowl/ wildlife habitats/ wildlife management

261. **Why haven't pheasant populations in western Kansas increased with CRP?**
Rodgers, Randy D.
Wildlife Society Bulletin 27 (3): 654-665. (1999)
NAL Call #: SK357.A1W5; *ISSN:* 0091-7648.
Notes: Project Number: KS FW-009-P; KS W-039-R
Descriptors: Galliformes/ Phasianidae/ Phasianus colchicus/ birds / conservation programs/ Conservation Reserve Program/ ecosystems/ grasslands/ habitat management/ management/ status/ wildlife/ wildlife/ habitat relationships/ phasianus colchicus/ population density/ land management/ federal programs/ Kansas/ Natural Resources/ Land Development, Land Reform, and Utilization (Macroeconomics)/ pheasant, ring necked/ population loss/ food crops/ habitat management for wildlife/ changes detrimental to wildlife/ cultivated farmland/ surveys/ summer/ burning/ pesticides/ habitat changes/ food supply/ land, private/ winter/ common pheasant/ ecological requirements/ habitat change/ agriculture/ loss of habitat/ population dynamics/ reserve / biocide/ vegetation/ ring necked pheasant/ North America/ United States/ Kansas/ Kansas, Western/ western region/ United States Kansas / United States Kansas
Abstract: Ring-necked pheasant (Phasianus colchicus) populations in western Kansas declined an average of 65% from 1966-75 to 1986-95, particularly in the 1980s. Although 686,000 ha of Conservation Reserve Program (CRP) grasslands have been added to the western Kansas landscape since 1985, pheasant populations have not recovered. Summer observations suggested that CRP was used proportionally more by pheasant broods than indicated by its relative availability. Overwinter pheasant use of CRP (a habitat gained) averaged just 37% of that in weedy wheat stubble (a habitat being lost). Widespread deterioration of abundant wheat stubble habitats, largely from increased herbicide use, represents an overwhelming habitat loss in western Kansas for which CRP could not compensate. In addition, anticipated pheasant benefits from CRP were not fully realized due to inadequate plant diversity, poor stand maintenance, and large field size. The habitat value of established CRP can be enhanced by strip-disking fireguards around the margins of fields to facilitate occasional controlled burns, stimulate growth of broad-leaved annuals, and increase edge. Interseeding perennial legumes and other forbs into recently burned grass stands also can be effective. Interspersion of grass-legume strips on intensively farmed croplands through the continuous signup of CRP offers great potential to improve pheasant habitat.
This citation is provided courtesy of NISC, publisher of Wildlife & Ecology Studies Worldwide.

262. **Wildlife and federal cropland retirement programs.**
Berner, A. H.
In: When Conservation Reserve Program contracts expire: The policy options; Ankeny, IA: Soil and Water Conservation Society, 1994.
Descriptors: Conservation Reserve Program/ United States
Abstract: Reviewed studies of wildlife responses to cropland retirement programs from 1956 to 1984 and discussed the future of cropland retirement programs.

263. **Wildlife and Vegetative Response to Diverted Agricultural Land in Gratiot County, Michigan.**
Campa, H.; Winterstein, S. R.; Minnis, R. B.; and Pearks, A. J.
In: Michigan Department of Natural Resources: Annual Report, 1995. 50 p.
Notes: Project Number: MI W-127-R
Descriptors: birds/ blackbirds and cowbirds/ changes detrimental to wildlife/ conservation programs/ cultivated farmland/ cutting/ grassland/ land use / modeling/ pheasant, ring necked/ productivity/ vegetation/ abundance/ cover/ habitat management/ history/ statistics/ North America/ United States/ Michigan/ Gratiot County
Abstract: Project is composed of two separate studies. For the first study, vegetation characteristics of Conservation Reserve Program (CRP) fields and the differences in avian relative abundance, diversity, and productivity between CRP and agricultural fields were evaluated. For the second study, effects of various methods of mowing on vegetation characteristics and avian populations were examined, and information was gathered to evaluate habitat suitability index (HSI) models of selected avian species. Both studies provide management recommendations for a diversity of wildlife species on CRP fields.
This citation is provided courtesy of NISC, publisher of Wildlife & Ecology Studies Worldwide.

264. **Wildlife benefits of the Conservation Reserve Program: A national perspective.**
Allen, A. W.
Land and Water 38: 23-25. (1994)
Descriptors: Conservation Reserve Program/ United States
Abstract: Provided a synopsis of the wildlife benefits of CRP and discussed how the pattern of CRP land distribution within a watershed would influence wildlife.

265. **Wildlife benefits of the Conservation Reserve Program in Ohio.**
Swanson, D. A.; Scott, D. P.; and Risley, D. L.
Journal of Soil and Water Conservation 54 (1): 390-394. (1999)
NAL Call #: 56.8 J822; *ISSN:* 0022-4561
Descriptors: Wildlife management/ Agricultural land/ Habitat utilization/ Nests/ Ohio/ Aves/ Conservation Reserve Program/ Birds/ Conservation/ United States
Abstract: Federal agriculture programs significantly impact a variety of wildlife species. Grassland birds, in particular, should benefit from establishment of permanent vegetative cover through conservation initiatives like the Conservation Reserve Program (CRP). Evaluation of current conservation programs is needed to help shape future initiatives and ensure the long-term continuation of beneficial programs. The vegetative and physical characteristics of CRP fields in Ohio were quantified, the timing and extent of disturbances during the nesting season noted, avian use of these habitats measured, and indices of avian use related to field characteristics. It was found that more than half of the sampled fields were disturbed, primarily by mowing, during the nesting season (May to July). These same fields, however, were used by 43 avian species. Use of CRP fields by several grassland-dependent species was related to the amount of grassland habitat provided by the field and/or adjacent grasslands. Age of permanent cover and field size were not related, however, to total species richness. Eliminating disturbance of vegetative cover during the nesting season could significantly add to the wildlife value of these habitats. Policy options that include establishment of larger fields or grassland cover near existing grasslands should positively benefit the widest array of grassland birds.
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266. **Wildlife habitat criteria in relation to future use of CRP lands.**
Allen, A. W.
Proceedings of the Great Plains Agricultural Council: 41-88. (1993)
NAL Call #: 282.9-G7992; *ISSN:* 0434-5835.
Notes: Meeting held June 2-4, 1993, Rapid City, South Dakota. Includes references.
Descriptors: wildlife / habitats/ land diversion/ selection criteria / federal programs/ United States/ Conservation Reserve Program
This citation is from AGRICOLA.

267. **Wildlife Habitat Incentives Program: A summary of accomplishments, 1998-1999.**
Hackett, E.
In: A comprehensive review of Farm Bill contributions wildlife conservation, 1985-2000/ Heard, L. P; Hohman, W. L.; Halloum, D. J.; and Wildlife Habitat Management Institute (U.S.); Series: Technical Report USDA/NRCS/WHMI.
Madison, MS: USDA, NRCS, Wildlife Habitat Management Institute, 2000; pp. 117-124
NAL Call #: aS604.6 .C66 2000
Descriptors: Wildlife Habitat Incentives Program [WHIP]/ wildlife habitats/ wildlife management/ endangered species/ ecological restoration/ landowners/ Colinus virginianus/ Salmo salar/ conservation programs

268. **Wildlife management on Conservation Reserve Program land: The farmer's view.**
Miller, E. J. and Bromley, P. T.
Journal of Soil and Water Conservation 44 (5): 438-440. ill. (Sept. 1989-Oct. 1989)
NAL Call #: 56.8-J822; *ISSN:* 0022-4561 [JSWCA3]
Descriptors: wildlife management/ soil conservation/ natural resources/ farmers' attitudes
This citation is from AGRICOLA.

269. **Wildlife management on Virginia Conservation Reserve Program land: The farmer's view.**
Miller, E. J.
Blacksburg, VA: Virginia Polytechnic Institute and State University, 1989.
Notes: M.S. Thesis
Descriptors: Conservation Reserve Program/ State conservation programs/ Virginia
Abstract: Surveyed land owners/farmers to ascertain their views on the CRP and its implementation.

270. **Wildlife responses to the Conservation Reserve Program in the Southeast.**
Burger, W.
In: A comprehensive review of Farm Bill contributions wildlife conservation, 1985-2000/ Heard, L. P; Hohman, W. L.; Halloum, D. J.; and Wildlife Habitat Management Institute (U.S.); Series: Technical Report USDA/NRCS/WHMI.
Madison, MS: USDA, NRCS, Wildlife Habitat Management Institute, 2000; pp. 55-73
NAL Call #: aS604.6 .C66 2000
Descriptors: Conservation Reserve Program/ wildlife habitats/ wildlife management

271. **Wildlife responses to wetland restoration and creation: An annotated bibliography.**
Rewa, C.
In: A comprehensive review of Farm Bill contributions wildlife conservation, 1985-2000/ Heard, L. P; Hohman, W. L.; Halloum, D. J.; and Wildlife Habitat Management Institute (U.S.); Series: Technical Report USDA/NRCS/WHMI.
Madison, MS: USDA, NRCS, Wildlife Habitat Management Institute, 2000; pp. 135-150
NAL Call #: aS604.6 .C66 2000
Descriptors: wetlands / constructed wetlands/ water quality/ wildlife habitats

272. **Will conversion of Conservation Reserve Program (CRP) lands to pasture be detrimental for grassland birds in Kansas?**
Klute, David S.; Robel, Robert J.; and Kemp, Kenneth E.
American Midland Naturalist 137(2): 206-212. (1997)
NAL Call #: 410 M58; *ISSN:* 0003-0031
Descriptors: Ammodramus savannarum/ Bartramia longicauda/ Molothrus ater/ Spiza americana/ Sturnella magna/ agricultural practices/ behavior/ birds/ conservation/ Conservation Reserve Program/ ecosystems/ farmland/ grasslands/ habitat use/ land use/ management/ nest parasitism/ nests/ nesting/ pastures/ productivity/ public relations/ status/ wildlife/ federal programs/ wild birds/ nature conservation/ natural resources/ agricultural economics (general)/ land development, land reform, and utilization (macroeconomics)/ dickcissel/ grasshopper sparrow/ meadowlark/ brown headed cowbird/ upland sandpiper/ North America/ United States/ Kansas/ Riley County
Abstract: Most Conservation Reserve Program contracts expire in 1997 and approximately 70 per cent of CRP fields in Kansas may be converted into pastures. The authors compared bird use of CRP fields to their use of pastures. Total avian abundance was greater in pastures than on CRP fields. Data on five species using these habitats are provided.
This citation is provided courtesy of NISC, publisher of Wildlife & Ecology Studies Worldwide.

Other Environmental Effects

273. **After the CRP contract expires.**
Cacek, T.
Journal of Soil and Water Conservation 43 (4): 291-293. (1988)
NAL Call #: 56.8 J822; *ISSN:* 0022-4561
Descriptors: erosion/ soils/ conservation/ vegetation/ landslides and erosion
Abstract: The Conservation Reserve Program will convert 40 million to 45 million acres of highly erodible cropland to perennial vegetation and will become one of the most important conservation and commodity supply control programs in U.S. history. Its overall impact, however, will depend largely on the fate of the land after the 10 year contracts expire. The Soil Bank of the late 1950s and early 1960s serves as a model of what could happen but which conservationists must not allow to happen with CRP. The Soil Bank enrolled several million acres of hayland and established an additional 21 million acres of cover under multi-year contracts. Of this, just over 2 million acres were planted to trees. When the contracts expired, virtually all of this land, with the exception of the acreage in tress, was returned to crop production. While the Soil Bank provided a decade of soil erosion control and superb pheasant hunting, it produced few long-term benefits on most acres.
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274. **Agricultural Conservation: Status of Programs That Provide Financial Incentives.**
General Accounting Office
Washington, DC: GAO; 60 p. (1995)
Notes: Report No.: GAO/RCED-95-169
http://www.gao.gov/archive/1995/rc95169.pdf
Descriptors: USA/ economics/ land use/ agriculture/ conservation/ federal programs/ economic analysis/ sociological aspects/ soil conservation/ erosion control/ environmental protection/ pollution control/ habitat improvement/ farms/ water pollution control/ wildlife conservation/ Environmental action/ Protective measures and control/ Watershed protection
Abstract: The Agriculture Department (USDA) administers 17 programs that provide financial incentives to farmers and ranchers who use conservation measures. Under 10 of the programs, USDA, through direct payments or low-cost loans, helps defray the cost of implementing conservation practices. Under the other seven programs, USDA purchases easements or rents land in order to retire it from agricultural production. The incentive-based conservation programs are intended to encourage voluntary efforts to reduce soil erosion, lessen water pollution, enhance fish and wildlife habitat, and address other conservation concerns. This report provides information on these incentive-based programs since fiscal year 1992, including information on their budgets and levels of activity and on the primary purposes of the conservation measures taken under the programs. GAO also identifies potential options for consolidating them.
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275. **Agricultural conservation: USDA needs to better ensure protection of highly erodible cropland and wetlands: Report to the ranking Democratic member, Committee on Agriculture, Nutrition, and Forestry, U.S. Senate.**
United States. General Accounting Office.
U.S. General Accounting Office, 2003.
Notes: Cover title./ "April 2003."/ Chiefly tables./ Includes bibliographical references (p. 106).
http://www.gao.gov/new.items/d03418.pdf
Descriptors: Agricultural conservation---United States/ Soil conservation---United States/ Wetland conservation---United States

276. **Alfalfa persistence under infrequent cutting.**
Sheaffer, C. C.; Grimsbo Jewett, J.; Barnes, D. K.; Lueschen, W. E.; Swanson, D. R.; and Matthison, R.
Journal of Production Agriculture 10 (4): 558-561. (Oct. 1997-Dec. 1997)
NAL Call #: S539.5.J68; *ISSN:* 0890-8524 [JPRAEN]
Descriptors: medicago sativa/ cultivars/ phleum pratense/ crop mixtures/ fodder crops/ cutting frequency/ persistence/ survival/ stand characteristics/ disease resistance/ clavibacter Michiganensis subsp insidiosus/ fusarium oxysporum f sp medicaginis/ colletotrichum trifolii/ bacterial diseases/ fungal diseases/ federal programs/ Minnesota/ phytophthora medicaginis/ Conservation Reserve Program
Abstract: Alfalfa (Medicago sativa L.) cultivars have been developed for modern forage production systems with three or four cuts per year. Little is known about persistence of alfalfa cultivars in unharvested systems such as Conservation Reserve Program (CRP) fields. Our objective was to determine the stand persistence of alfalfa cultivars that were not harvested or harvested once per year. Twenty-three alfalfa cultivars representing a range of fall dormancy and disease resistance were established in binary mixture with timothy (Phleum pratense L.) at Becker, Grand Rapids, Morris, Rosemount, and Waseca, MN. Cutting treatments, which included a single cut per year (about 1 August) or no cutting were applied for 3 yr. Cutting treatment effects at Rosemount, Becker, Grand Rapids, and Waseca suggest that annual cutting of alfalfa-grass mixtures on CRP land would enhance alfalfa persistence, but stand survival of many cultivars was lower than that normally observed in cultivar trial plots

cut three or four times per year. At Becker and Morris, fall dormancy was a good predictor of stand survival. There was no relationship between stand survival and disease resistance of cultivars. Annual mowing should be considered as a tool for maintaining alfalfa in CRP fields at some locations, but cultivars designed for the CRP program, which normally does not allow cutting, are needed.
This citation is from AGRICOLA.

277. **America's Conservation Reserve Program: Rural planning or just another subsidy.**
Daniels, T. L.
Journal of Rural Studies 4 (4): 405-411. (1988)
NAL Call #: HT401.J68; *ISSN:* 0743-0167
Descriptors: rural planning/ land diversion/ eroded soils/ federal programs/ erosion control/ United States
This citation is from AGRICOLA.

278. **Applying input-output models to natural resource problems: The Conservation Reserve Program.**
Bernat, G. A. Jr. and Johnson, T. G.
In: Evaluating natural resource use in agriculture/ Robertson, T.; English, B. C.; and Alexander, R. R. Ames, IA: Iowa State University Press, 1998; pp. 297-317.
Notes: ISBN: 0813829585; 1st ed.; Paper presented at the Atlantic Economic Society's Thirtieth International Conference, Oct 11-14, 1990, Williamsburg, Virginia
NAL Call #: S22.E835-1998
Descriptors: input output analysis/ federal programs/ mathematical models
This citation is from AGRICOLA.

279. **Boll weevil overwintering in CRP grasses on the Texas High Plains.**
Carroll, S. C. and Rummel, D. R.
Proceedings - Beltwide Cotton Production Research Conferences: 297-299. (1990)
NAL Call #: SB249.N6 [BCOPB].
Notes: Meeting held January 9-14, 1990, Las Vegas, Nevada. Includes references.
Descriptors: anthonomus grandis/ overwintering/ survival/ winter/ grasses/ gramineae/ grasslands/ nature conservation/ conservation areas/ eragrostis curvula/ quercus/ litter plant/ Texas/ Conservation Reserve Program
This citation is from AGRICOLA.

280. **Broadleaf weed control in Conservation Reserve Program (CRP) grass plantings.**
Adams, E. B. and Swan, D. G.
Research Progress Report - Western Society of Weed Science: 367. (1988)
NAL Call #: 79.9-W52R; *ISSN:* 0090-8142
Descriptors: lawns and turf/ descurainia pinnata/ sisymbrium altissimum/ salsola iberica/ herbicide application/ herbicide mixtures/ Washington
This citation is from AGRICOLA.

281. **Changes in ecosystem structure and function along a chronosequence of restored grasslands.**
Baer, S G; Kitchen, D J; Blair, J M; and Rice, C W
Ecological Applications 12 (6): 1688-1701. (2002)
NAL Call #: QH540.E23; *ISSN:* 1051-0761
Descriptors: Conservation Reserve Program/ aboveground vegetation/ chronosequence/ ecosystem structure/ restored grasslands/ soil characteristics/ tallgrass prairie/ vegetation composition
Abstract: Changes in aboveground vegetation, roots, and soil characteristics were examined from a 12-yr chronosequence of formerly cultivated fields restored to native C4 grasses through the Conservation Reserve Program (CRP). Following 6-8 yr in the CRP, the native grasses dominated vegetation composition, and the presence of forbs was negligible. Productivity of the restored grasslands did not exhibit any directional changes with the number of years in the CRP, and productivity was generally higher than native prairie in this region. Over time, the restored grasslands accumulated root biomass of decreasing quality as indicated by increasing root biomass and C:N ratio of roots along the 12-yr chronosequence. Root biomass, root C:N ratio, C storage in roots, and N storage in roots of restored grasslands approached that of native tallgrass prairie within the 12 yr of restoration. Establishment of the perennial vegetation also affected soil physical, chemical, and biological characteristics. Soil bulk density in the surface 10 cm decreased with time since restoration. Total C, microbial biomass C, and C mineralization rates increased as a function of time since restoration. The greatest change in total C occurred in the surface 5 cm, where total C was 26% greater in 12- vs. 2-yr restored grasslands. Extractable soil nitrate and soil N transformations (i.e., net N mineralization rates and net nitrification rates) declined over the restoration chronosequence, but these values were not representative of steady-state conditions due to the high variability in these measures among the native prairies. Although complete restoration of ecosystem structure and function was not the primary intention of the CRP, this study demonstrates that establishment of the matrix vegetation (i.e., native C4 grasses) drives ecosystem processes in the trajectory of the original system. Moreover, restoration may hasten the recovery of soil C pools relative to formerly cultivated systems undergoing natural succession.
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282. **Conservation Reserve Program: Alternatives are available for managing environmentally sensitive cropland: Report to the Committee on Agriculture, Nutrition, and Forestry, U.S. Senate.**
United States. Congress. Senate. Committee on Agriculture, Nutrition and Forestry. and United States. General Accounting Office.
Washington, D.C.: U.S. General Accounting Office; 68 p.: ill., maps. (1995)
Notes: Cover title. "February 1995." "GAO/RCED-95-42." "B-258910"--P. [1]. Includes bibliographical references. SUDOCS: GA 1.13:RCED-95-42.
NAL Call #: S624.A1C66--1995
Descriptors: Conservation Reserve Program---United States/ Soil conservation---Government policy---United States
This citation is from AGRICOLA.

283. **The Conservation Reserve Program: An economic perspective.**
Bartlett, E. T. and Trock, W. L.
Rangelands 9 (4): 147-148. (Aug. 1987)
NAL Call #: SF85.A1R32; *ISSN:* 0190-0528
Descriptors: soil and water conservation/ environmental legislation/ no-tillage/ wildlife conservation/ agricultural economics/ grasses/ legumes/ woody plants/ state government/ reserves/ United States/ Texas/ Colorado
This citation is from AGRICOLA.

284. **Conservation Reserve Program: Implementation and accomplishments, 1986-87.**
Dicks, Michael R.; Llacuna, Felix.; Linsenbigler, Michael.; and United States. Dept. of Agriculture. Economic Research Service.
Washington, D.C.: U.S. Dept. of Agriculture, Economic Research Service; v, 119 p. (1988)
Notes: Cover title. "January 1988" --
P. i. Bibliography: p. 10.
NAL Call #: 1-Ag84St-no.763
Descriptors: Conservation Reserve Program---Evaluation/ Soil conservation---Law and legislation---United States/ Soil Bank program
This citation is from AGRICOLA.

285. **The Conservation Reserve Program Montana perspective.**
Johnson, J. B.
Proceedings of the Great Plains Agricultural Council: 109-121. (1986)
NAL Call #: 282.9-G7992; *ISSN:* 0434-5835 [PGPCA]
Descriptors: land capability/ erosion/ rents/ legislation/ agricultural crises/ agricultural and rural law/ input output analysis/ Montana/ food and security act of 1985
This citation is from AGRICOLA.

286. **Conservation Reserve Program: North Dakota Enhancement Program.**
United States. Farm Service Agency.
Washington, D.C.: USDA, Farm Service Agency; Series: Fact sheet (United States. Farm Service Agency). (2001)
Notes: Title from caption. Ed. statement on html version only. "January 2001."
NAL Call #: aHD1775.N9-C65-2001
http://www.fsa.usda.gov/pas/publications/facts/html/crepnd01.htm
Descriptors: North Dakota Enhancement Program/ Conservation of natural resources---Economic aspects---North Dakota/ Water quality management---Economic aspects---North Dakota/ Agriculture---Economic aspects---North Dakota
This citation is from AGRICOLA.

287. **Conservation Reserve Program: Tree thinning.**
United States. Farm Service Agency.
Washington, D.C.: USDA, Farm Service Agency; Series: Fact sheet (United States. Farm Service Agency). (1999)
Notes: Electronic ed.; Title from caption. Ed. statement on html version only. "July 1999."
NAL Call #: aS930-.C659-1999
http://www.fsa.usda.gov/pas/publications/facts/html/crp%5Ftreethinning99.htm
Descriptors: Conservation Reserve Program---United States/ Forest thinning---United States/ Conservation of natural resources---United States/ Wildlife habitat improvement---United States
This citation is from AGRICOLA.

288. **The Conservation Reserve Program: Where are we heading?**
Goetz, H.
Rangelands 11 (6): 251-252. (Dec. 1989)
NAL Call #: SF85.A1R32; *ISSN:* 0190-0528
Descriptors: resource conservation/ programs/ impact/ environmental impact
This citation is from AGRICOLA.

289. **Conservation reserve tree planting: Can we improve upon success?**
West, A. J.
Journal of Soil and Water Conservation 43 (1): 66-67. (1988)
NAL Call #: 56.8 J822; *ISSN:* 0022-4561
Descriptors: conservation/ wildlife/ habitats/ trees/ ecology/ Basic approaches, Concepts and Theory
Abstract: If one thing is certain, it is that the Conservation Reserve Program presented foresters and landowners with both an opportunity and a challenge. Of a vast array of practices that can be applied on CRP acres, including grasses, windbreaks, trees, wildlife habitat, diversions,

structures, and shallow water areas for wildlife, only one of these--tree planting--has a goal that's etched in the language of the law itself.
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290. **Contribution of the Conservation Reserve Program to General Landscape Structure in Illinois.**
Weber, W. L.; Roseberry, J. L.; and Woolf, A.
In: 16th Annual Symposium of US-International Association of Landscape Ecology. (Held 25 Apr 2001-29 Apr 2001 at Temple, AZ (USA).); 2001.
Notes: Conference Sponsor: The National Endowment for the Arts, U.S. Environmental Protection Agency (Landscape Ecology Branch) Arizona Commission on the Arts; World Meeting Number 000 5525
Descriptors: Biology/ Environmental Science
© Cambridge Scientific Abstracts (CSA)

291. **CRP: Evaluating the options.**
Ohlenbusch, Paul D.; Langemeier, Michael R.; and Watson, Steve L.
Cooperative Extension Service, Kansas State University, 1995.
Notes: 24 pp.: ill.; Cover title. "March 1995"--P. [4] of cover. Includes bibliographical references (p. 9). (application/pdf)
NAL Call #: S544.3.K2K3-no.2078
http://www.oznet.ksu.edu/library/crpsl2/mf2078.pdf

292. **The CRP in Oregon's Columbia basin: A local perspective.**
Carlson, Louis and Bedell, Thomas E.
In: The Conservation Reserve: Yesterday, Today and Tomorrow, Symposium Proceedings. (Held 14 Jan 1991 at Washington, D.C.); pp. 63-65; 1991 .
Notes: U.S. For. Serv. Gen. Tech. Rep. RM No. 203; WR 238
Descriptors: Conservation Reserve Programs/ conservation programs/ public relations/ North America/ United States/ Oregon
This citation is provided courtesy of NISC, publisher of Wildlife & Ecology Studies Worldwide.

293. **Das Conservation Reserve Program der USA: Eine Moeglichkeit zur effizienten Entlohnung von Umweltleistungen der Landwirtschaft?**
Mello, Inken; Heissenhuber, Alois; and Kantelhardt, Jochen
Berichte ueber Landwirtschaft 80 (1): 85-93. (Mar. 2002); *ISSN:* 0005-9080.
Notes: Language: German
Descriptors: American Conservation Reserve Program/ agricultural environmental program/ environmental protection/ farmer service reward system/ national economy/ private farm management/ program transfer potential
Abstract: When implementing agricultural environmental programmes, the main problems frequently revolve round the expense and the rake-off effects. If these programmes are too general in nature, they generate high rake-off effects, if they are too detailed, the costs of control and implementation rise. With the "Conservation Research (sic) Program", the USA appears to have succeeded in developing an efficient environmental programme, and in readying it for practical implementation. This article describes the programme, discussing its implementation on a private farm and looking into its ecological consequences for the national economy. In conclusion, the author points to the potential for transferring this programme to Germany.
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294. **Early results from an old-field loblolly pine spacing study in the Georgia Piedmont with competition control.**
Pienaar, L. V. and Shiver, B. D.
Southern Journal of Applied Forestry 17 (4): 193-196. (Nov. 1993)
NAL Call #: SD1.S63; *ISSN:* 0148-4419 [SJAFD9]
Descriptors: pinus taeda/ seedlings/ stand establishment/ marginal land/ plant competition/ vegetation management/ stand density/ growth/ survival/ diameter/ volume/ plant height/ Georgia
Abstract: The study reported here provides information on the yield potential of improved loblolly pine seedlings planted on marginal agricultural cropland in the Georgia Piedmont with control of herbaceous competition. Early growth rates greatly exceed those in existing plantations established on cutover and mechanically site-prepared land in this region without additional control of competing vegetation. After 8 growing seasons, average tree height, average dbh, basal area per acre, and stem volume per acre were all influenced by planting density, but the mean annual increment of merchantable volume (trees 4.0 in. dbh and bigger to a 2.0 in. top diameter) at age 8 yr, for planting densities of 400 to 1000 trees/ac, was 230 ft3, or approximately 3 cords/ac/yr. This is more than twice the average growth rate in this region of cutover and mechanically site-prepared loblolly plantations without additional vegetation control. These results should be of particular interest to prospective participants in the Conservation Reserve Program (CRP).
This citation is from AGRICOLA.

295. **Economic and environmental impacts of planting flexibility and conservation compliance: Lessons from the 1985 and 1990 Farm Bills for future farm legislation.**
Wu, S.; Walker, D. J.; and Brusven, M. A.
Agricultural and Resource Economics Review 26 (2): 216-228. (Oct. 1997)

NAL Call #: HD1773.A2N6; *ISSN:* 1068-2805
Descriptors: watersheds/ agricultural policy/ legislation/ economic impact/ environmental impact/ federal programs/ program participants/ conservation/ planting/ farm income/ profitability/ deficiency payments/ erosion/ farmers' attitudes/ integer programming/ Idaho/ food security act of 1985/ food, agriculture, conservation and trade act of 1990
This citation is from AGRICOLA.

296. **Economic assessment of a nationwide forestry cost-share program: The case of the U.S. Forestry Incentives Program.**
Ellefson, P. V. and Risbrudt, C. D.
Resource Management and Optimization 4 (2): 167-177. (1987); *ISSN:* 0142-2391
Descriptors: federal programs/ economics/ forestry/ natural resources
Abstract: Major federal natural resources program, Forestry Incentives Program, was evaluated. Program internal rate of return ranged from 8.3 percent to 10.9 percent, depending on costs included. Retention of forest practices established 8 years prior was excellent. Evaluation challenges include dispersion of programs benefits throughout rural U.S., evaluating benefits accruing many years in future (75-100 years), and multiple agency involvement in program administration.
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297. **The economics of a public fund for environmental amenities: A study of CRP contracts.**
Babcock, B. A.; Lakshminarayan, P. G.; Wu, J. J.; and Zilberman, D.
American Journal of Agricultural Economics 78 (4): 961-971. (Nov. 1996)
NAL Call #: 280.8-J822; *ISSN:* 0002-9092 [AJAEBA]
Descriptors: amenity and recreation areas/ federal programs/ environmental protection/ land management/ land diversion/ productivity/ profitability/ Gini coefficient/ wind erosion/ water erosion/ surface water/ water quality/ habitats/ budgets/ acreage/ Conservation Reserve Program/ Lorenz curve/ environmental benefits / environmental quality
Abstract: The problem of targeting CRP purchases to buy environmental amenities under productivity and environmental heterogeneity is considered. Gini coefficients and Lorenz curves are used to measure the effectiveness of spending under alternative targeting criteria. The environmental benefits considered are water erosion, wind erosion, surface water quality, and wildlife habitat. The three alternative targeting criteria examined include purchasing land according to (i) the benefit-to-cost ratio, (ii) the level of benefits, and (iii) the level of cost. Results indicate that the degree of variability and correlation determine the extent to which suboptimal targeting achieves a significant portion of available environmental benefits.
This citation is from AGRICOLA.

298. **Effects of CRP on windbreak planting.**
Bratton, J. and Hoefer, P.
Proceedings of the Society of American Foresters National Convention: 195-198. (1988)
NAL Call #: SD143.S64; *ISSN:* 0899-370X.
Notes: "Economic and Social Development: A Role for Forests and Forestry Professionals," October 18-21, 1987, Minneapolis, Minnesota.
Descriptors: windbreaks/ plant establishment/ programs/ conservation areas/ Conservation Reserve Program
This citation is from AGRICOLA.

299. **The effects of different production systems, technology mixes, and farming practices on farm size and communities: Implications for the Conservation Reserve Program.**
Flora, J. L. and Flora, C. B.
In: General Technical Report RM.
Fort Collins, Colo.: Rocky Mountain Forest and Range Experiment Station, 1988; pp. 75-83.
Notes: Report Series ISSN: 0277-5786; Proceedings of a Symposium on "Impacts of the Conservation Reserve Program in the Great Plains," held Sept 16-18, 1987, Denver, Colorado. Includes references.
NAL Call #: aSD11.A42
Descriptors: rural communities/ farming/ economic impact/ farm size/ farming systems/ resource conservation/ soil conservation/ erosion control/ programs/ northern plains states of USA/ southern plains states of USA/ community vitality / Conservation Reserve Program
This citation is from AGRICOLA.

300. **Effects of emergency haying on vegetative characteristics within selected Conservation Reserve Program fields in the northern Great Plains.**
Allen, A. W.; Cade, B. S.; and Vandever, M. W.
Journal of Soil and Water Conservation 56 (2): 120-125. (2001)
NAL Call #: 56.8-J822; *ISSN:* 0022-4561 [JSWCA3]
Descriptors: land banks/ grasslands/ haymaking/ vegetation/ botanical composition/ grasses/ medicago sativa/ legumes/ weeds/ nature conservation/ North Dakota/ South Dakota
This citation is from AGRICOLA.

301. **Effects of grazing and haying on arthropod diversity in North Dakota Conservation Reserve Program grasslands.**
Hoernemann, C. K.; Johnson, P. J.; and Higgins, K. F.
Proceedings of the South Dakota Academy of Science 80: 283-308. (2001); *ISSN:* 0096-378X
Descriptors: Species diversity/ Agricultural practices/ Grazing/ Catching methods/ Formicidae/ Diplopoda/ Hymenoptera/ Coleoptera/ Diptera/ Ants/ Populations & general ecology
Abstract: A study of arthropod populations in North Dakota CRP grasslands was conducted to determine the impact of grazing and haying management practices on the arthropod fauna. Four sampling methods were used to collect arthropods: flight intercept traps, pitfall traps, sweep net, and soil samples. The three study sites occurred in Bowman, Ward, and Stutsman counties, North Dakota. Each site consisted of three pastures under a twice-over rotation grazed system, one pasture grazed seasonlong, a hayed field, and an idle area which served as a control. Shannon's Index showed there were no significant differences in diversity among pastures or county sites. Correspondence analysis (COA) showed Diplopoda (millipedes) and Formicidae (ants) were correlated to idle and hayed treatments in which both groups had a higher mean abundance. Stutsman County had the highest mean abundance of millipedes. Two beetle families, Elateridae (click beetles) and Curculionidae (weevils), showed a trend toward the idle area from COA, but neither group had a significantly higher mean abundance in idle areas. Ward County had the highest mean abundance of both click beetles and weevils. Miridae (plant bugs) showed a strong trend to hayed fields where they had a significantly higher mean abundance. A significantly higher mean abundance of plant bugs was found in Bowman County. Acrididae (grasshoppers) were found equally abundant in all pasture types in 1995, but fewer were found in idle areas in 1996. The lowest mean abundance of grasshoppers was collected in Ward County. Grasshopper densities did not reach threatening levels in either year of this study. Based on the overall results grazing and haying appear to be viable options for post-contract uses of CRP lands with regard to management of arthropod populations.
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302. **Environmental quality incentives program as part of the Federal Agriculture Improvement and Reform Act (The 1996 Farm Bill): Environmental risk assessment final.**
United States. Dept. of Agriculture.
Washington, D.C.: U.S. Dept. of Agriculture; v, 151, A-W p.: ill., maps. (1997)
Notes: Cover title. "February 11, 1997." Includes bibliographical references (p. A-C).
NAL Call #: aTD171.E58-1997
Descriptors: United States---Federal---Agriculture Improvement and Reform Act of 1996/ Environmental protection---United States/ Environmental policy---United States/ Environmental quality/ Environmental law---United States/ Environmental risk assessment--United States/ Risk assessment/ ORACBA/ methodology/ ecology
This citation is from AGRICOLA.

303. **Establishing clovers on Conservation Reserve Program land.**
Rasnake, M. and Lacefield, G.
In: Proceedings of the American Forage and Grassland Council. (Held 8 Mar 1998-10 Mar 1998 at Indianapolis, Indiana.); Vol. 7.
Georgetown, Tex.: American Forage and Grassland Council; pp. 64-65; 1998.
NAL Call #: SB193.F59
Descriptors: trifolium pratense/ crop establishment/ Kentucky
This citation is from AGRICOLA.

304. **Establishment of native and introduced range plants in the Central Great Plains.**
McGinnies, W. J. and Hassell, W. G.
In: General Technical Report RM.
Fort Collins, Colo.: Rocky Mountain Forest and Range Experiment Station, 1988; pp. 35-41.
Notes: Report Series ISSN: 0277-5786; Proceedings of a Symposium on "Impacts of the Conservation Reserve Program in the Great Plains," held Sept 16-18, 1987, Denver, Colorado. Includes references.
NAL Call #: aSD11.A42
Descriptors: replanting/ grasses/ sowing/ seedbed preparation/ environmental factors/ Colorado/ Kansas/ Nebraska/ Wyoming/ Conservation Reserve Program
This citation is from AGRICOLA.

305. **Establishment of shrubs and forbs in the Southern Plains region.**
Ueckert, D. N.
In: General Technical Report RM.
Fort Collins, Colo.: Rocky Mountain Forest and Range Experiment Station, 1988; pp. 47-51.
Notes: Report Series ISSN: 0277-5786; Proceedings of a Symposium on "Impacts of the Conservation Reserve Program in the Great Plains," held Sept 16-18, 1987, Denver, Colorado. Includes references.
NAL Call #: aSD11.A42
Descriptors: revegetation/ shrubs/ grasses/ replanting/ establishment/ southern plains states of USA
This citation is from AGRICOLA.

306. **Evaluating Nonpoint Pollution Policy Using a Tightly Coupled Spatial Decision Support System.**
Bennett, D. A. and Vitale, A. J.
Environmental Management 27 (6): 825-836. (2001)
NAL Call #: HC79.E5E5; *ISSN:* 0364-152X
Descriptors: Agriculture/ Pollution control/ Policies/ Soil erosion/ Sediment transport/ Land use/ Legislation/ Nonpoint pollution/ Decision support systems/ Water pollution control/ Government regulations/ United States/ Illinois/ Cypress Creek/ Nonpoint Pollution Sources/ Environmental Quality/ Erosion/ Land Management/ Prevention and control/ Environmental action/ Water quality control
Abstract: Policy makers often must rely on the cumulative impact of independent actions taken by local landowners to achieve environmental goals. The connection between policy, regulation, and local action, however, is often not well understood and, thus, the impact of proposed policies may be difficult to predict. In this study we evaluate the effectiveness of alternative policy scenarios for agricultural set aside programs (e.g., the Conservation Reserve Program administered by the United States Department of Agriculture) in reducing nonpoint pollution. Two alternative policy scenarios are developed and analyzed; one based on the erodibility index (detachment), the other sediment yield (transport). An estimate of the cumulative impact of associated land use change on nonpoint pollution is made using the AGNPS distributed parameter watershed model. This work is completed within the Cypress Creek watershed in southern Illinois. An analysis of the resulting data suggests that the most efficacious regulatory strategy for achieving nonpoint water pollution goals depends, in part, on place-specific land use patterns. This conclusion provides a solid argument for place-based regulatory strategies.
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307. **Evaluating soil properties of CRP land using remote sensing and GIS in Finney County, Kansas.**
Wu, J.; Nellis, M. D.; Ransom, M. D.; Price, K. P.; and Egbert, S. L.
Journal of Soil and Water Conservation 52 (5): 352-358. (Sept. 1997-Oct. 1997)
NAL Call #: 56.8 J822; *ISSN:* 0022-4561
Descriptors: United States, Kansas, Finney County/ Remote Sensing/ Geographic Information Systems/ Evaluation/ Soil Properties/ Soil Erosion/ Land Use/ CRP/ NRCS/ Watershed protection
Abstract: The Conservation Reserve Program (CRP) began in 1986 with the primary purpose of reducing soil erosion. It also was intended to help the development of sustainable agriculture and associated environmental harmony. However, its effectiveness has been questioned because of the large costs and extensive staff required to conduct the program. The objectives of our study were to test procedures for integrating remote sensing and geographic information systems (GIS) techniques to evaluate the present CRP in terms of its main goal, and to give recommendations for the future of the program in Finney County, Kansas. Three seasonal Landsat Thematic Mapper (TM) images were used to derive the land-use/land cover (LULC) map. This information was incorporated with spatial dimensions of soil surface horizon thickness, surface horizon texture, soil family, soil subgroup, and soil erodibility index (EI), all of which were extracted or calculated from the Natural Resources Conservation Service (NRCS) soil survey geographic (SSURGO) data base. With GIS techniques, calculation of EI was more efficient and the value was more accurate than that calculated by hand. We found the average EI of the county to be 20, with the highest EI of 77 in the southwest portion of the study area. CRP land had higher soil fertility and a lower EI than land currently used for farming; therefore, the CRP for this county did not necessarily include the lands most susceptible to erosion. We suggest continuing the CRP program in Finney County, because the soils are generally at serious risk of erosion. We also suggest modifying the eligibility rules of the program in order to target the most environmentally sensitive lands.
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308. **Evaluating the cost effectiveness of land retirement programs.**
Khanna, M.; Yang, W.; Farnsworth, R.; and Onal, H.
Selected papers from the annual meeting of the American Agricultural Economics Association (2002)
NAL Call #: HD1405-.A44.
Notes: Supplemental online access through http://agecon.lib.umn.edu. Meeting held July 28-31, 2002, in Long Beach, California. Includes references.
Descriptors: land diversion/ land use/ cost benefit analysis/ cost effectiveness analysis/ watersheds/ environmental impact/ mathematical models/ program evaluation/ Illinois/ Lower Sangamon Watershed/ Cass County, Illinois/ Conservation Reserve Enhancement Program
This citation is from AGRICOLA.

309. **Factors associated with loblolly pine mortality on former agricultural sites in the Conservation Reserve Program.**
Mitchell, R. J.; Runion, G. B.; Kelley, W. D.; Gjerstad, D. H.; and Brewer, C. H.
Journal of Soil and Water Conservation 46 (4): 306-311. (July 1991-Aug. 1991)
NAL Call #: 56.8-J822; *ISSN:* 0022-4561 [JSWCA3]
Descriptors: pinus taeda/ seedlings/ mortality/ sulfometuron/ phytotoxicity/ fungal diseases/ insect pests/ plant parasitic nematodes/ carbofuran/ herbicide residues/ land use/ agricultural land/ afforestation/ erosion control/ Georgia
This citation is from AGRICOLA.

310. **Farm bill environmental program may threaten native prairie habitat.**
Baker, B.
Bioscience 50 (5): 400. (May 2000)
NAL Call #: 500-Am322A; *ISSN:* 0006-3568 [BISNAS]
Descriptors: federal programs/ land management/ prairies/ environmental policy/ United States/ Conservation Reserve Program
This citation is from AGRICOLA.

311. **A farm program with incentives to do good.**
Reichelderfer, K.
In: Yearbook of Agriculture; Washington, D.C.: U.S. Department of Agriculture, 1987.
pp. 267-271. ill., maps.
Notes: ISSN: 0886-7690
NAL Call #: 1-AG84Y
Descriptors: conservation/ farmers/ farms/ erosion/ crops/ wetlands/ United States/ Conservation Reserve Program
This citation is from AGRICOLA.

312. **Federal and State Forestry Cost-Share Assistance Programs: Structure, Accomplishments, and Future Outlook.**
Haines, T.
New Orleans, LA: Southern Forest Experiment Station; FSRPSO295; PB96152251XSP, 1995. 21 p.
Notes: Forest Service research paper SO295
http://216.48.37.129/pubs/rp/rp_so295.pdf
Descriptors: Structural timber/ State government/ National government/ Conservation/ Planting/ Harvesting/ Productivity/ Revenue/ Financing/ Forestry management/ Forestry/ Cost sharing/ Government policies/ NIPF/ Nonindustrial private forest/ NIPF lands/ Private land/ Natural resources and earth sciences/ Forestry/ Natural resource management/ Problem solving information for state and local governments/ Environment/ Urban and regional technology and development/ Environmental management and planning
Abstract: Cost-share assistance programs have been an effective policy mechanism for increasing productivity on nonindustrial private forest (NIPF) lands. In light of reduced harvests from Federal lands, timber productivity on these lands has become increasingly important to ensure sufficient timber supplies in the future. Productivity of other forest resources has also been enhanced through these programs. Four Federal programs, the Forestry Incentives Program, the Agricultural Conservation Program, the Stewardship Incentives program, and the Conservation Reserve Program, provided cost-share assistance for tree planting on 467,000 acres in 1993. During the course of this study, the provisions of the individual State programs, funding levels, accomplishments, and outlook for continuation or expansion, were examined. Federal programs were reviewed as well, with respect to their interaction with State-level programs. The results of the study are presented in this paper.

313. **Forestation and the CRP.**
Mixon, J. and Thompson, L.
Journal of Soil and Water Conservation 44 (5): 437. (Sept. 1989-Oct. 1989)
NAL Call #: 56.8-J822; *ISSN:* 0022-4561 [JSWCA3]
Descriptors: afforestation/ soil conservation
This citation is from AGRICOLA.

314. **The future of Alabama's CRP grasslands: AAES study examines prospective uses of CRP grasslands in the Black Belt.**
Goodman, B.; Miller, M.; Gimenez, D.; Milam, B.; Flynn, K.; and Best, T.
Highlights of Agricultural Research (Alabama Agricultural Experiment Station) 42 (4): 19-20. (Winter 1995)
NAL Call #: 100-Al1H; *ISSN:* 0018-1668 [HARAAS]
Descriptors: grasslands/ conservation areas/ erosion control/ program participants/ production possibilities/ hunting/ multiple land use/ landowners/ regional surveys/ demography/ Alabama/ Conservation Reserve Program
This citation is from AGRICOLA.

315. **Future of the Conservation Reserve Program: Joint hearing before the Subcommittee on Environment, Credit, and Rural Development of the Committee on Agriculture, House of Representatives, and the Subcommittee on Agricultural Research, Conservation, Forestry, and General Legislation of the Committee on Agriculture, Nutrition, and Forestry, U.S. Senate, One Hundred Third Congress, second session, September 1, 1994, Aberdeen, SD.**
United States. Congress. House. Committee on Agriculture. Subcommittee on Environment, Credit and Rural Development. United States. Congress. Senate. Committee on Agriculture Nutrition and Forestry. Subcommittee on Agricultural Research Conservation Forestry and General Legislation.
Washington: U.S. G.P.O.; vi, 192 p.: ill., maps. (1995)
Notes: Distributed to some depository libraries in microfiche. Shipping list no.: 95-0090-P. "Serial no. 103-92." Includes bibliographical references (p. 117). SUDOCS: Y 4.AG 8/1:103-92.
NAL Call #: KF27-.A3338-1995; *ISBN:* 0160468345
Descriptors: Conservation Reserve Program U.S/ Soil conservation---Economic aspects---United States/ Agricultural subsidies---United States/ Agriculture and state---United States
This citation is from AGRICOLA.

316. **Future use of Conservation Reserve Program acres: A national survey of farm owners and operators.**
Osborn, C. Tim.; Schnepf, Max; Keim, Russ.; and Soil and Water Conservation Society (U.S.).
Ankeny, Iowa: Soil and Water Conservation Society; 47 p.: ill. (1994)
Notes: Includes bibliographical references (p. 29).
NAL Call #: S624.A1O87--1994
Descriptors: Conservation Reserve Program---United States/ Agricultural conservation---United States/ Land use---Rural---United States/ Agricultural contracts---United States
This citation is from AGRICOLA.

317. **GIS-based spatial indices for identification of potential phosphorous export at watershed scale.**
Giasson, E.; Bryant, R. B.; and DeGloria, S. D.
Journal of Soil and Water Conservation 57 (6): 373-381. (2002)
NAL Call #: 56.8 J822; *ISSN:* 0022-4561
This citation is provided courtesy of CAB International/CABI Publishing.

318. **Grazing Lands and the Conservation Reserve Program.**
Winrock International Institute for Agricultural Development.
Morrilton, AR: Winrock International, 1988. 8 p.
Notes: Original Title: "Grazing Lands and the Conservation Reserve Program: executive summary: third forum, Harpers Ferry, WV, October 11-13, 1988."
NAL Call #: HD241.G73
Descriptors: Grazing Lands and the Conservation Reserve Program/ Grazing districts---United States/ Agricultural conservation---United States
This citation is from AGRICOLA.

319. **Grazing warm-season grasses on post-contract CRP land in Colorado.**
Hart, Charles R. and Colorado State University. Cooperative Extension Service.
Fort Collins, Colo.: Colorado State University Cooperative Extension; XCM-194, 1996.
47 p. Bulletin.
Notes: "January 1996." Includes bibliographical references (p. 29).
NAL Call #: HD241.G75--1996
Descriptors: Conservation Reserve Program---United States/ Grazing---Colorado/ Grasses---Colorado---Growth
This citation is from AGRICOLA.

320. **Growth responses of warm-season tallgrasses to dormant-season management.**
Schacht, W. H.; Smart, A. J.; Anderson, B. E.; Moser, L. E.; and Rasby, R.
Journal of Range Management 51 (4): 442-446. (July 1998)
NAL Call #: 60.18-J82; *ISSN:* 0022-409X [JRMGAQ]
Descriptors: panicum virgatum/ andropogon gerardii/ schizachyrium scoparium/ tillering/ harvesting date/ prescribed burning/ mowing/ grazing intensity/ stocking rate/ grassland improvement/ plant height/ growth stages/ Nebraska
Abstract: A study on Conservation Reserve Program (CRP) land was established in southeastern Nebraska to determine the effect of dormant-season management on subsequent-year growth rates and yields of tallgrasses. The purpose of the management practices was removal of standing dead material and litter that negatively impact plant growth and grazing efficiency. Treatments consisted of a control with no residue manipulation and 5 residue manipulation practices including (1) October shredding and leaving residue; (2) October haying; (3) October intensive grazing; (4) March intensive grazing; and (5) spring prescribed burning. The study was conducted in 1994/95 and 1995/96 on a switchgrass (Panicum virgatum L.) monoculture and mixed stand of warm-season tallgrasses dominated by big bluestem (Andropogon gerardii Vitman) and little bluestem [Schizachyrium scoparium (Michx.) Nash]. The manipulation treatments effectively removed standing dead material without reducing yields in the growing season following application. Marked switchgrass tillers on the control plots increased ($P < 0.1$) in height at a more rapid rate than switchgrass on other treatments until late summer in both years. Rate of morphological development was similar ($P > 0.1$) for all treatments in 1995 and 1996. Rate of height increase and morphological development in big and little bluestem on the mixed grass site generally was comparable or slower on the manipulation treatments than the control in both years; however, big and little bluestem tillers grew relatively rapidly at the end of the 1995 growing season. Because the manipulation treatments generally did not increase tiller growth rates of the dominant grass species, potential harvest dates would be similar to those of untreated areas.
This citation is from AGRICOLA.

321. **Hand planting versus machine planting of bottomland red oaks on former agricultural fields in Louisiana's Mississippi Alluvial Plain: Sixth-year results.**
Michalek AJ; Lockhart BR; Dean TJ; Keeland BD; and McCoy JW
In: General Technical Report, Southern Research Station, SRS 48/ Outcalt KW; Outcalt PA; and Tucker RB, 2002. pp. 352-357.
Notes: Conference: Proceedings of the Eleventh Biennial Southern Silvicultural Research Conference, Knoxville, Tennessee, 20-22 March 2001.
This citation is provided courtesy of CAB International/CABI Publishing.

322. **Herbaceous energy crop production feasibility using Conservation Reserve Program acreage.**
Nelson, R. G.; Langemeier, M. R.; and Ohlenbusch, P. D.
Proceedings of the Annual Conference - American Solar Energy Society: 326-331. (1994)
NAL Call #: TJ810.A54; *ISSN:* 1062-4910.
Notes: Meeting held June 25-30, 1994, San Jose, California. Includes references.
Descriptors: fuel crops/ tripsacum dactyloides/ andropogon gerardii/ sorghastrum nutans/ bioenergy/ energy cost of production/ crop production/ nitrogen fertilizers/ transport/ pyrolysis/ feasibility/ economic analysis/ federal programs/ United States/ Conservation Reserve Program
This citation is from AGRICOLA.

323. **Historical development of native vegetation on the Great Plains.**
Stubbendieck, J.
In: General Technical Report RM.
Fort Collins, Colo.: Rocky Mountain Forest and Range Experiment Station, 1988; pp. 21-28.
Notes: Report Series ISSN: 0277-5786; Proceedings of a Symposium on "Impacts of the Conservation Reserve Program in the Great Plains," held Sept 16-18, 1987, Denver, Colorado. Includes references.
NAL Call #: aSD11.A42
Descriptors: vegetation types/ botanical composition/ environmental factors/ history/ northern plains states of USA/ southern plains states of USA
This citation is from AGRICOLA.

324. **History of cropland set aside programs in the Great Plains.**
Bedenbaugh, E. J.
In: General Technical Report RM.
Fort Collins, Colo.: Rocky Mountain Forest and Range Experiment Station, 1988; pp. 14-17.
Notes: Report Series ISSN: 0277-5786; Proceedings of a Symposium on "Impacts of the Conservation Reserve Program in the Great Plains," held Sept 16-18, 1987, Denver, Colorado.
NAL Call #: aSD11.A42
Descriptors: resource conservation/ soil conservation/ land diversion/ history/ northern plains states of USA/ southern plains states of USA/ food security act of 1985/ Conservation Reserve Program
This citation is from AGRICOLA.

325. **History of grassland plowing and grass planting on the Great Plains.**
Laycock, W. A.
In: General Technical Report RM.
Fort Collins, Colo.: Rocky Mountain Forest and Range Experiment Station, 1988; pp. 3-8.
Notes: Report Series ISSN: 0277-5786; Proceedings of a Symposium on "Impacts of the Conservation Reserve Program in the Great Plains," held Sept 16-18, 1987, Denver, Colorado. Includes references.
NAL Call #: aSD11.A42
Descriptors: grasslands/ land use/ plowing/ revegetation/ resource conservation/ history/ northern plains states of USA/ southern plains states of USA
This citation is from AGRICOLA.

326. **How to determine when your Conservation Reserve Program (CRP) pine plantation is ready to thin.**
Londo AJ; Traugott TA; Dicke SG; and Roberts SD
In: General Technical Report, Southern Research Station, SRS 48/ Outcalt KW; Outcalt PA; and Tucker RB USDA Forest Service, 2002. pp. 159-162.
Notes: Conference: Proceedings of the Eleventh Biennial Southern Silvicultural Research Conference, Knoxville, Tennessee, 20-22 March 2001.
This citation is provided courtesy of CAB International/CABI Publishing.

327. **Impact of leafy spurge on post-Conservation Reserve Program land.**
Hirsch, S. A. and Leitch, J. A.
Journal of Range Management 51 (6): 614-620. (Nov. 1998)
NAL Call #: 60.18-J82; *ISSN:* 0022-409X [JRMGAQ]
Descriptors: euphorbia esula/ conservation areas/ weed control/ species diversity/ economic impact/ grazing/ carrying capacity/ wildlife/ North Dakota
Abstract: Leafy spurge (Euphorbia esula L.), a noxious weed infests some of the 1.2 million hectares of Conservation Reserve Program (CRP) land in North Dakota. Once established a leafy spurge monoculture will reduce expected CRP benefits and impact returns to some post-CRP land uses. The study estimated statewide direct economic impacts of about $351,000 on post-CRP land maintained in vegetative cover, $1.118 million on post-CRP grazing land, and negligible (assumed $0) on post-CRP cropland, for a total of $1.469 million. Total annual

direct and secondary economic impacts to North Dakota's economy were estimated to be $4.665 million, which would support about 57 jobs.
This citation is from AGRICOLA.

328. **Impact of post-CRP alternatives on cotton production in the Texas High Plains.**
Johnson, P.; Segarra, E.; and Ervin, R. T.
Proceedings - Beltwide Cotton Conferences 1: 500-502. (1994)
NAL Call #: SB249.N6; *ISSN:* 1059-2644.
Notes: Meeting held January 5-8, San Diego, California. Includes references.
Descriptors: cotton/ gossypium/ economic analysis/ crop production/ land policy/ erosion/ soil conservation/ Texas/ Conservation Reserve Program
This citation is from AGRICOLA.

329. **Implications of changes in the regional ecology of the Great Plains.**
Joyce, L. A. and Skold, M. D.
In: General Technical Report RM.
Fort Collins, Colo.: Rocky Mountain Forest and Range Experiment Station, 1988; pp. 115-127.
Notes: Report Series ISSN: 0277-5786; Proceedings of a Symposium on "Impacts of the Conservation Reserve Program in the Great Plains," held Sept 16-18, 1987, Denver, Colorado. Includes references.
NAL Call #: aSD11.A42
Descriptors: resource conservation/ soil conservation/ erosion control/ land use/ programs/ USDA/ landscape/ northern plains states of USA/ southern plains states of USA/ Conservation Reserve Program
This citation is from AGRICOLA.

330. **Insects as indicators of land use in three ecoregions in the prairie pothole region.**
Anderson, D. J. and Vondracek, B.
Wetlands 19 (3): 648-664. (1999)
NAL Call #: QH75.A1W47; *ISSN:* 0277-5212
Descriptors: Prairies / Agricultural practices/ Indicator species/ Light traps/ Species diversity/ Species richness/ United States, North Dakota/ Land Use/ Invertebrates/ Insects/ Wetlands/ Agriculture/ Ecological Effects/ Insecta/ Populations & general ecology/ Effects on water of human nonwater activities
Abstract: We sampled populations of insects in the prairie pothole region of North Dakota, USA, to determine whether relationships existed between community- or taxon-level indicators and 11 land-use types. Our goal was to determine if agricultural impacts were reflected in measurable differences for insect indicators: abundance, taxa richness, and diversity. Insects were sampled with light traps at 126 wetland basins in three ecoregions. Sampling was conducted three times each year during the spring and early summer of 1995 and 1996. Sites were selected based on the proportion of cropland to grassland, hayland, and Conservation Reserve Program land surrounding wetland basins at 50 and 400 m radii. Other land-use types included in our analyses were woodland, roadways, and five wetland types: permanent, semi-permanent, seasonal, temporary, and riverine. In both years, taxa richness, abundance, and diversity were greater for the second (June) and third (July) sampling periods than for the first period (May), and indicators were greater in the Drift Plain and Red River Valley ecoregions than in the Missouri Coteau ecoregion. Our analyses indicated several significant associations between insect indicators and land-use types; however, r super(2) values were generally low. Much more of the variance in insect measures was explained by temperature, seasonal, and ecoregion effects. Several associations were significant within individual ecoregions (i.e., abundance of aquatic insects, Caenidae, Scarabaeidae, and Lepidoptera and number of Ephemeroptera families). However, no indicators were found in common for all three ecoregions. Several significant associations with land use were identified across all sites (i.e., all ecoregions combined). A small number of the significant relationships found across all sites were related to agricultural land use, and several indicated a negative relationship with grasslands. However, we observed several positive relationships between our insect indicators and riverine wetlands across sites and in the Red River Valley ecoregion for both years and spatial scales (i.e., the abundance of Caenidae, Scarabaeidae, Ceratopogonidae, Hydropsychidae, and Hydroptilidae).
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331. **Landscape cover type and pattern dynamics in fragmented southern Great Plains grasslands, USA.**
Coppedge, B. R.; Engle, D. M.; Fuhlendorf, S. D.; Masters, R. E.; and Gregory, M. S.
Landscape Ecology 16 (8): 677-690. (2001)
NAL Call #: QH541.15.L35L36; *ISSN:* 0921-2973
This citation is provided courtesy of CAB International/CABI Publishing.

332. **Local socioeconomic impacts of the Conservation Reserve Program.**
Hodur NM; Leistritz FL; and Bangsund DA
Fargo, N.D.: Department of Agribusiness and Applied Economics, North Dakota State University; Agribusiness and Applied Economics Report (AAER) 476, 2002. 16 p.
This citation is provided courtesy of CAB International/CABI Publishing.

333. **Long-term harmful effects of crested wheatgrass on Great Plains grassland ecosystems.**
Lesica, P. and DeLuca, T. H.
Journal of Soil and Water Conservation 51 (5): 408-409. (Oct. 1996)
NAL Call #: 56.8 J822; *ISSN:* 0022-4561
Descriptors: ecological effects/ species diversity/ vegetation/ soil erosion/ erosion control/ United States, Great Plains/ exotic species/ crested wheatgrass/ Watershed protection
Abstract: Many Eurasian grasses have been intentionally introduced throughout temperate North America, primarily for hay and pasture. The most commonly planted exotic grass in western North America is crested wheatgrass (Agropyron cristatum, A. desertorum). There are between 15 and 26 million acres of crested wheatgrass on this continent. The conversion of native prairie to crested wheatgrass primarily occurred after the drought of the late 1920s and 1930s when large areas of marginal cropland were abandoned and then seeded with non-native grasses to reduce soil erosion potential. Today, crested wheatgrass continues to be planted over large areas of the Northern Great Plains. Since 1985 several million acres of crested wheatgrass have been planted on idled cropland as part of the Conservation Reserve Program.
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334. **A look at CRP land: Returning to cotton production.**
Johnson, J.; McGregor, K.; and Dabney, S.
Proceedings - Beltwide Cotton Conferences 2: 1351-1352. (1996)
NAL Call #: SB249.N6; *ISSN:* 1059-2644
This citation is from AGRICOLA.

335. **Maximizing the environmental benefits per dollar expended: An economic interpretation and review of agricultural environmental benefits and costs.**
Poe, Gregory L. and New York State College of Agriculture and Life Sciences. Dept. of Agricultural, Resource and Managerial Economics.
Ithaca, NY: Dept. of Agricultural, Resource, and Managerial Economics, College of Agriculture and Life Sciences, Cornell University; 45 p. (1997)
Notes: Cover title. "July 1997." Includes bibliographical references (p. 32-42).
NAL Call #: HD1775.N7-E25-no.-97-10
http://nysdocs.nysed.gov/scandocs1.asp?oclc=37497244
Descriptors: Agriculture---Economic aspects/ Agriculture---Environmental aspects/ Environmental protection---Cost effectiveness
This citation is from AGRICOLA.

336. **Minnesota wood energy scale-up project 1994 establishment cost data.**
Downing, M.; Pierce, R.; and Kroll, T.
Oak Ridge, Tenn. Oak Ridge National Laboratory; ORNL TM12914, 1996. 58 p.
Notes: DE96010091XSP; Sponsored by Department of Energy, Washington, DC.; Contract: AC0596OR22464
Descriptors: Economic Analysis/ Energy Source Development/ Socio Economic Factors/ Biomass Plantations/ Minnesota/ Poplars/ Wood Fuels/ Business and economics/ Energy reserves/ Energy policies, regulations and studies/ Fuels
Abstract: The Minnesota Wood Energy Scale-up Project began in late 1993 with the first trees planted in the spring of 1994. The purpose of the project is to track and monitor economic costs of planting, maintaining and monitoring larger scale commercial plantings. For 15 years, smaller scale research plantings of hybrid poplar have been used to screen for promising, high-yielding poplar clones. In this project 1000 acres of hybrid poplar trees were planted on Conservation Reserve Program (CRP) land near Alexandria, Minnesota in 1994. The fourteen landowners involved re-contracted with the CRP for five-year extensions of their existing 10-year contracts. These extended contracts will expire in 2001, when the plantings are 7 years old. The end use for the trees planted in the Minnesota Wood Energy Scale-up Project is undetermined. They will belong to the owner of the land on which they are planted. There are no current contracts in place for the wood these trees are projected to supply. The structure of the wood industry in the Minnesota has changed drastically over the past 5 years. Stumpage values for fiber have risen to more than $20 per cord in some areas raising the possibility that these trees could be used for fiber rather than energy. Several legislative mandates have forced the State of Minnesota to pursue renewable energy including biomass energy. These mandates, a potential need for an additional 1700 MW of power by 2008 by Northern States Power, and agricultural policies will all affect development of energy markets for wood produced much like agricultural crops. There has been a tremendous amount of local and international interest in the project. Contractual negotiations between area landowners, the CRP, a local Resource Conservation and Development District, the Minnesota Department of Natural Resources and others are currently underway for additional planting of 1000 acres in spring 1995.

337. **National Survey of Conservation Reserve Program (CRP) Participants on Environmental Effects, Wildlife Issues, and Vegetation Management on Program Lands.**
Allen, A. W. and Vanderever, M. W.
Fort Collins, CO: U.S. Geological Survey, Fort Collins Science Center; USGS BSR 2003-001, 2003. 56 p.
Notes: ADA418145XSP; Biological Sciences Report; Prepared in cooperation with Johnson Controls World Services, Inc., Fort Collins, CO 80526-8118.
http://www.fort.usgs.gov/products/publications/21075/21075.pdf
Descriptors: Ground water/ Air quality/ Soil erosion/ Wildlife/ Plants Botany/ Fire hazards/ Surveys/ Long range Time/ Environmental impact/ Land use/ Conservation Reserve Program/ Natural resources and earth sciences/ Agriculture and food/ Agricultural equipment facilities and operations/ Medicine and biology/ Ecology/ Environmental pollution and control
Abstract: A national survey of Conservation Reserve Program (CRP) contractees was completed to obtain information about environmental and social effects of the program on participants, farms, and communities. Of interest were observations concerning wildlife, attitudes about long-term management of program lands, and effectiveness of U.S. Department of Agriculture (USDA) assistance in relation to these issues. Surveys were delivered to 2,189 CRP participants with a resultant response rate of 64.5%. Retired farmers represented the largest category of respondents (52%). Enhanced control of soil erosion was the leading benefit of the CRP reported. Over 73% of respondents observed increased numbers of wildlife associated with lands enrolled in the program. The majority of respondents reported CRP benefits, including increased quality of surface and ground waters, improved air quality, control of drifting snow, and elevated opportunities to hunt or simply observe wildlife as part of daily activities, income stability, improved scenic quality of farms and landscapes, and potential increases in property values and future incomes also were seen as program benefits. Negative aspects, reported by a smaller number of respondents, included seeing the CRP as a source of weeds, fire hazard, and attracting unwanted requests for trespass. Over 75% of respondents believed CRP benefits to wildlife were important. A majority of respondents (82%) believed the amount of assistance furnished by USDA related to planning and maintaining wildlife habitat-associated with CRP lands was appropriate. Nearly 51% of respondents would accept incorporation of periodic management of vegetation into long-term management of CRP lands to maintain quality of wildlife habitats. Provision of funds to address additional costs and changes in CRP regulations would be required to maximize long-term management of program lands.

338. **North Dakota's CRP Grazing and Haying Demonstration Project.**
Printz, J. L.
Rangelands 15 (4): 163-165. (Aug. 1993)
NAL Call #: SF85.A1R32; *ISSN:* 0190-0528
Descriptors: soil conservation/ grazing/ hay/ grazing systems/ stocking rate/ herbage/ North Dakota/ Conservation Reserve Program
This citation is from AGRICOLA.

339. **Noxious weed control in Conservation Reserve Program grass stands.**
Ohlenbusch, P. D.
In: L: Cooperative Extension Service, Kansas State University, 816 (April 1990); Manhattan, Kan.: Cooperative Extension Service,
Kansas State University, 1990. 4 p.
NAL Call #: 275.29-K13LE
Descriptors: weed control/ grasslands/ cover crops/ herbicides/ Kansas
This citation is from AGRICOLA.

340. **Overwintering by the boll weevil (Coleoptera: Curculionidae) in Conservation Reserve Program grasses on the Texas High Plains.**
Carroll, S. C.; Rummel, D. R.; and Segarra, E.
Journal of Economic Entomology 86 (2): 382-393. (Apr. 1993)
NAL Call #: 421-J822; *ISSN:* 0022-0493 [JEENAI]
Descriptors: anthonomus grandis/ diapause/ habitats/ overwintering/ plains/ plateaus/ survival/ conservation areas/ grasses/ Texas
Abstract: Scarcity of suitable overwintering habitat is a major obstacle to the establishment of the boll weevil, Anthonomus grandis grandis Boheman, in cotton-producing counties of the Texas High Plains (THP). After introduction of the Conservation Reserve Program (CRP) in 1985, a 3-yr study was conducted to investigate the overwintering potential of the boll weevil in two CRP grass habitats on the THP. Overwintering survival of the boll weevil in leaf litter of sand shinnery oak, Quercus havardii (Rydberg), in the Texas Rolling Plains (TRP) served as a comparison. CRP grasses provide marginal overwintering habitat when compared with sand shinnery oak leaf litter. For a given level of winter severity, total winter survival and effective emergence (emergence after approximately 15 June in the study area) were consistently lower in the CRP grasses than in sand shinnery oak leaf litter. Even with lower survival rates in THP grasses, economically damaging boll weevil infestations could follow mild winters if large diapausing populations develop in the fall. Pheromone traps located in CRP pastures on the THP indicated a relatively low level of overwintered boll weevil emergence during all three study years.
This citation is from AGRICOLA.

341. **Perennial wheat germ plasm lines resistant to eyespot, Cephalosporium stripe, and wheat streak mosaic.**
Cox, C. M.; Murray, T. D.; and Jones, S. S.
Plant Disease 86 (9): 1043-1048. (Sept. 2002)
NAL Call #: 1.9-P69P; *ISSN:* 0191-2917
Descriptors: Plant diseases/ Wheat germ/ Disease resistance/ Eye spot/ Stripe/ Streak/ Eyespot/ Wheat streak mosaic virus/ Cephalosporium gramineum/ Tapesia yallundae/ Pseudocercosporella herpotrichoides/ Thinopyrum ponticum/ Thinopyrum intermedium/ Washington/ Susceptibility & virus multiplication/ General/ United States
Abstract: A perennial wheat cropping system on the Palouse Prairie of eastern Washington may provide an alternative to the Federal Conservation Reserve Program and reduce soil erosion while providing a harvestable crop for growers. Twenty-four perennial wheat germ plasm lines resulting from crosses between wheat and wheatgrass were evaluated under controlled environment conditions for resistance to Wheat streak mosaic virus (WSMV), Cephalosporium gramineum, and Tapesia yallundae (anamorph Pseudocercosporella herpotrichoides var. herpotrichoides). Perennial wheat lines SS452, SS103, SS237, MT-2, and PI 550713 were resistant to all three pathogens. Eight lines (33%) were resistant to WSMV at 21 degree C and 25 degree C; AT3425 was resistant to WSMV at 21 degree C but not at 25 degree C. Thirteen lines (54%) were highly to moderately resistant to C. gramineum. Thirteen lines (54%) were resistant to T. yallundae in each experiment, but the reactions of four lines differed between experiments. The wheatgrasses Thinopyrum intermedium (PI 264770) and Thinopyrum ponticum (PI 206624) are reported as new sources of resistance to T. yallundae. Perennial wheat must have resistance to these diseases in order to be feasible as a crop in the Pacific Northwest.
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342. **Pine and CRP as alternative cropland uses: An application of the southeast land allocation model.**
Atwood, J. D.; English, B. C.; and Robertson, T.
Southern Journal of Agricultural Economics 21 (1): 189. (July 1989)
NAL Call #: HD101.S6; *ISSN:* 0081-3052
Descriptors: pines/ land use/ farmland/ crop mixtures/ south eastern states of USA
This citation is from AGRICOLA.

343. **Plow: Lessons Learned From CRP - Point.**
Mitchell, J. E.
In: 50th Annual Meeting of the Society for Range Management. (Held 15 Feb 1997-20 Feb 1997 at Rapid City, SD (USA).); 1997.
Notes: Conference Sponsor: South Dakota Section of the Society for Range Management; HQ: Society for Range Management (Denver, CO); World Meeting Number 971 0113
© Cambridge Scientific Abstracts (CSA)

344. **Post-contract grassland management and winter wheat production on former CRP fields in the southern Great Plains.**
Dao, T. H.; Stiegler, J. H.; Banks, J. C.; Bogle Boerngen, L.; and Adams, B.
Agronomy Journal 92 (6): 1109-1117. (Nov. 2000-Dec. 2000)
NAL Call #: 4-AM34P; *ISSN:* 0002-1962 [AGJOAT]
Descriptors: triticum aestivum/ grassland management/ abandoned land/ semiarid climate/ land management/ efficacy/ bothriochloa ischaemum/ gossypium hirsutum/ fertilizers/ application rates/ regrowth/ conservation tillage/ herbicides/ no-tillage/ land banks/ Oklahoma/ Conservation Reserve Program
Abstract: Integrated management guidelines for postcontract land use Conservation Reserve Program lands in semiarid regions are generally lacking. We determined the relative efficacy of four systems of transitional conservation practices for producing 'Old World' bluestem (OWB) (Bothriochlora ischaemum L.) and dryland wheat (Triticum aestivum L.) and cotton (Gossypium hirsutum L.) on former CRP fields. The sites were located on Dalhart fine sandy loam (Aridic Paleustalf) and La Casa-Aspermont clay loam (Typic Paleustoll) near Forgan and Duke, OK, respectively. Removing old growth increased cumulative OWB yields between 1994 and 1997. Applications of 67 kg N and 16.5 kg P ha(-1) increased yields by 0, 70, and 180% at Forgan and 290, 70, and 280% at Duke in 1995 to 1997, respectively. Removing the old dry matter and regrowth vigor also enhanced chemical suppression and killing of the grass, the performance of conservation tillage, and achieving a uniform crop stand. Early OWB suppression conserved stored water that was vital to cool-season crop production in the year the contract expired. First-year wheat yields averaged 970, 490, and 1002 kg ha(-1) at Forgan and 1590, 600, and 830 kg ha(-1) at Duke under unfavorable weather conditions (i.e., drought, late freeze) of 1995 through 1997, respectively. No-till generally produced higher yields, averaging 10 and 35% greater than conservation systems at Forgan and Duke, respectively. In variable semiarid environment, the chance of success for agronomic production decreased in the order of grass production, NT wheat, tilled wheat, and dryland cotton on former CRP lands.
This citation is from AGRICOLA.

345. **Post-CRP land management and sustainable production alternatives for highly erodible lands in the Southern Great Plains.**
Dao, T. H. Sustainable Agriculture Research and Education SARE research projects Southern Region. 1995. 35 p.
Notes: Author Affiliation: USDA, ARS, Conservation & Production Research Laboratory, Bushland, TX; SARE Project Number: LS94-58
NAL Call #: S441.S8552
Descriptors: triticum aestivum/ gossypium hirsutum/ conservation tillage/ tillage/ no-tillage/ bothriochloa ischaemum/ prescribed burning/ crop density/ crop management/ land management/ federal programs/ crop yield/ Texas/ Oklahoma/ Conservation Reserve Program
This citation is from AGRICOLA.

346. **RCA III influence of social trends on agricultural natural resources: Community, social capital, and conservation.**
Washington D.C.: NRCS, USDA, 1997. vii, 61 p.: map; 28 cm.
NAL Call #: aS930.U6 R23 1997
Descriptors: Agriculture---Social aspects---United States/ Community development---United States/ Conservation of natural resources---United States
This citation is from AGRICOLA.

347. **RCA III influence of social trends on agricultural natural resources: Property rights, conservation, and ecosystem-based assistance.**
Washington, D.C.: NRCS, USDA, 1997. vii, 17 p.; 28 cm.
NAL Call #: aHD255 .R23 1997
Descriptors: Agricultural ecology---United States/ Right of property---United States/ Ecosystem management---United States
This citation is from AGRICOLA.

348. **Resource conservation: Hearing before the Subcommittee on Forestry, Conservation, and Rural Revitalization of the Committee on Agriculture, Nutrition, and Forestry, United States Senate, One Hundred Fourth Congress, first session ... June 6, 1995.**
United States. Congress. Senate. Committee on Agriculture, Nutrition and Forestry. Subcommittee on Forestry Conservation and Rural Revitalization. Washington: U.S. G.P.O.; iv, 151 p.: ill.; Series: United States. Congress. Senate. S. Hrg. 104-496. (1996)
Notes: Distributed to some depository libraries in microfiche. Shipping list no.: 97-0026-P. Includes bibliographical references. SUDOCS: Y 4.AG 8/3:S.HRG.104-496.
NAL Call #: Fiche--S-133-Y-4.AG-8/3:S.HRG.104-496-; *ISBN:* 0160535514
Descriptors: Conservation Reserve Program---United States/ Conservation of natural resources---Government policy---United States/ Agriculture and state---United States
This citation is from AGRICOLA.

349. **Revamped CRP growing again.**
Osborn, T.
Agricultural Outlook [AO] (175): 22-25. (June 1991)
NAL Call #: aHD1751.A42; *ISSN:* 0099-1066
Descriptors: federal programs/ land diversion/ erosion control/ legislation/ United States/ Conservation Reserve Program/ food, agriculture, conservation and trade act of 1990
This citation is from AGRICOLA.

350. **Reverting Conservation Reserve Program lands to wheat and livestock production: Effects on ground beetle (Coleoptera: Carabidae) assemblages.**
French, B. W.; Elliott, N. C.; and Berberet, R. C.
Environmental Entomology 27 (6): 1323-1335. (Dec. 1998)
NAL Call #: QL461.E532; *ISSN:* 0046-225X [EVETBX]
Descriptors: carabidae/ insect communities/ community ecology/ species diversity/ population density/ pastures/ conservation areas/ reserved areas/ bothriochloa bladhii/ land use/ agricultural land / triticum aestivum/ minimum tillage/ no-tillage/ livestock/ grazing/ Oklahoma/ species composition/ species abundance
Abstract: Highly erodible lands enrolled in the Conservation Reserve Program soon will revert to agricultural production. This study was designed to determine the effects of reversion of Conservation Reserve Program lands to wheat and livestock production on ground beetle assemblages. Reversion strategies included no reversion of Conservation Reserve Program grass (unmanaged bluestem), simulated grazing of Conservation Reserve Program grass (managed bluestem), minimum-tillage practices for wheat production, and no-tillage practices for wheat production. A randomized block experimental design was established with 4 replicates. More ground beetles were captured in pitfall traps in 1995 than in 1996, and abundances within years differed among reversion strategies. Of the 73 ground beetle species collected, 9 species accounted for 61.7% of total abundance. Abundances of these 9 species differed with respect to reversion strategy. Species diversity and evenness differed among the reversion strategies in 1995, but only evenness differed in 1996. Canonical correspondence analysis showed that annual and monthly variation were the predominant factors in separating ground beetle assemblages. Lack of rainfall may have accounted for a large portion of differences in abundances between years. A partial canonical correspondence analysis showed that simulated grazing and no-tillage

wheat were the predominant reversion strategies in separating ground beetle assemblages. These treatments represent disturbance levels intermediate to unmanaged bluestem and minimum-tillage wheat. This citation is from AGRICOLA.

351. **Review of the Conservation Reserve Program, Conservation Reserve Enhancement Program, and other conservation matters affecting U.S. agriculture: Hearing before the Subcommittee on General Farm Commodities, Resource Conservation, and Credit of the Committee on Agriculture, House of Representatives, One Hundred Sixth Congress, second session, March 31, 2000, Mankato, MN.**
United States. Congress. House. Committee on Agriculture. Subcommittee on General Farm Commodities, Resource Conservation and Credit.
Washington: U.S. G.P.O.; iii, 119 p.: ill., maps. (2000)
Notes: Distributed to some depository libraries in microfiche. Shipping list no.: 2000-0275-P. "Serial no. 106-49." SUDOCS: Y 4.AG 8/1:106-49.
NAL Call #: KF27-.A3452-2000a; *ISBN:* 0160606020
Descriptors: Conservation Reserve Program---United States/ Conservation Reserve Enhancement Program---United States/ Wetland mitigation banking---Minnesota/ Wetland conservation---Minnesota/ Soil conservation---Minnesota
This citation is from AGRICOLA.

352. **RIM and CRP: Two marginal cropland retirement programs.**
Taff, Steven J.
St. Paul, Minn.: University of Minnesota, Institute of Agriculture, Forestry and Home Economics, 1987.
16 p.: ill.
Notes: Staff paper P, 0090-1334; P87-21.; "July 1987." Bibliography: p. 15.
NAL Call #: HD1761.A1M5-no.87-21
This citation is from AGRICOLA.

353. **The role of the Conservation Reserve Program in controlling rural residential development.**
Johnson, J. and Maxwell, B.
Journal of Rural Studies 17 (3): 323-332. (July 2001)
NAL Call #: HT401.J68; *ISSN:* 0743-0167
Descriptors: land use / residential areas/ rural development/ federal programs/ land policy/ land management/ prediction/ Montana/ Three Forks, Montana
Abstract: Rural population growth in the form of residential development frequently results in the loss of agricultural productive land as well as loss of adjacent open space that often characterizes rural communities. A land-use prediction model was used to determine what influence the USDA Conservation Reserve Program (CRP) may have on urban sprawl and rural community sustainability. The model demonstrated that the projected mean rural residential growth rate was almost half the growth rate with CRP as compared to without CRP in the local land management mix. In addition, ecosystem integrity on the land surrounding a rural community was sharply increased with the introduction of CRP. However, community economics and subsequent social character of the community may have been significantly impacted by CRP. In order to partially mitigate CRP-induced community impacts we propose future CRP guidelines support the establishment of within-production field scale ecological refuges. These refuges would satisfy the conservation requirements of the program, return a level of traditional agricultural production to the land management mix, and provide the adjacent community with aesthetic and recreational amenities that are frequently associated with modern rural economies.
This citation is from AGRICOLA.

354. **Russian thistle control in Conservation Reserve Program (CRP) grass plantings.**
Adams, E. B. and Swan, D. G.
Research Progress Report - Western Society of Weed Science: 368. (1988)
NAL Call #: 79.9-W52R; *ISSN:* 0090-8142
Descriptors: lawns and turf/ salsola iberica/ herbicide application/ Washington
This citation is from AGRICOLA.

355. **Russian wheat aphid (Homoptera : Aphididae) performance on perennial grasses.**
Mowry, T. M.; Halbert, S. E.; and Pike, K. S.
Journal of Economic Entomology 88 (3): 635-639. (1995)
NAL Call #: 421 J822; *ISSN:* 0022-0493
Descriptors: grasses/ Diuraphis noxia/ Aphididae/ Homoptera/ survival/ fecundity/ host plants/ Relations to plants
Abstract: Russian wheat aphid, Diuraphis noxia (Kurdjumov), survival and fecundity on 25 perennial grasses in their 1st yr of growth was measured in greenhouse experiments. Thirteen grasses that had survived heading, seed set, and induced dormancy were tested for aphid host suitability of plants in their 2nd yr of growth. In general, wheatgrasses were the most suitable Russian wheat aphid hosts in both 1st- and 2nd-yr growth experiments. Siberian wheatgrass P-27 and crested wheatgrass 'Ephraim' were better hosts for the Russian wheat aphid 1 yr after establishment than in the 1st yr; however, there was no difference in host suitability between concurrently tested 1st- and 2nd-yr plants. Great Basin wildrye 'Magnar' was a less suitable host in the second year, but this perennial grass was a poor host over all plant ages. These greenhouse results support the conclusion that certain perennial grasses that are

suitable for Russian wheat aphid survival and fecundity in the 1st yr of growth remain so in second and subsequent years following establishment. For acreage set aside in the Conservation Reserve Program, it is advisable to plant perennial grasses that are poor Russian wheat aphid hosts from the outset.
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356. **Selected Effects of the Conservation Reserve Program on Program Participants: A Report to Survey Respondents.**
Vandever, M. W.; Allen, A. W.; and Sexton, N. R.
Fort Collins, CO: U.S. Geological Survey, Fort Collins Science Center; USGSOFR02476, 2003. 30 p.
Notes: USGS Open file rept. 2476; Sponsored by Farm Service Agency, Lakewood, CO
http://www.fort.usgs.gov/products/publications/10023/10023.pdf
Descriptors: Surveys/ Natural resources conservation/ Conservation/ Wildlife/ Habitats/ Social effect/ Public opinion/ Conservation Reserve Program/ Natural resources and earth sciences/ Natural resource management/ Agriculture and food/ Agricultural economics
Abstract: In the summer of 2001, we drew a random sample of 2,212 persons holding active Conservation Reserve Program (CRP) contracts across all USDA Farm Production Regions because we wanted information from people intimately familiar with the program's effects on their land and communities, we did not send surveys to contracts held in the name of trusts, banks, or other non-personal ownership (49 contracts). To carry out the survey, we followed a dependable step-by-step process designed to maximize the quality and quantity of responses for mail surveys (Dillman 1978, 2000). As a result, the overall response rate for the survey was 65%. Of the 35% who did not respond, only 1% (29 people) formally refused to participate. We were able to summarize the survey results nationally and by USDA Farm Production Region.

357. **Slippage effects of the Conservation Reserve Program.**
Wu, J. J.
American Journal of Agricultural Economics 82 (4): 979-992. (Nov. 2000)
NAL Call #: 280.8-J822; *ISSN:* 0002-9092 [AJAEBA]
Descriptors: land use/ land diversion/ federal programs/ conservation/ agricultural land/ environmental impact/ regression analysis/ erosion/ United States
Abstract: Each year, billions of dollars of public funds are expended to purchase conservation easements on farmland. One unintended impact of these programs is that they may bring non-cropland into crop production. Such a slippage effect can be caused by increased output prices and by substitution effects. This article shows that for each one hundred acres of cropland retired under the Conservation Reserve Program (CRP) in the central United States, twenty acres of non-cropland were converted to cropland, offsetting 9% and 14% of CRP water and wind erosion reduction benefits, respectively. Implications of these results for the design of conservation programs are discussed.
This citation is from AGRICOLA.

358. **Spatial modeling of preferred wireworm (Coleoptera : Elateridae) habitat.**
Lefko, S. A.; Pedigo, L. P.; Batchelor, W. D.; and Rice, M. E.
Environmental Entomology 27 (2): 184-190. (Apr. 1998)
NAL Call #: QL461.E532; *ISSN:* 0046-225X [EVETBX]
Descriptors: elateridae/ insect pests/ spatial distribution/ habitats/ models/ geographical information systems/ sampling/ soil water content/ pest management/ agricultural land/ federal programs/ Iowa/ habitat preference/ pest scouting/ Conservation Reserve Program
Abstract: Potential damage to crops after the Conservation Reserve Program is widespread. One probable result is the increased occurrence of soil-insect pests, primarily wireworms (Coleoptera: Elateridae). The likelihood of wireworm problems in the Iowa Conservation Reserve Program was compounded by the large amount of land enrolled in the program and the economic importance of corn, Zea mays L., the crop most often damaged by wireworms in the state. As a result, farmers need to consider pest management options that should include pest scouting. Wireworm presence/absence data from 1995 and 1996, and estimates of soil moisture from 89 Conservation Reserve Program fields were used to estimate variables useful for identifying where wireworms are more likely to occur. The most useful variables were a soil-moisture threshold of 17% and a moisture analysis that included meteorological data from only 1 yr before sampling occurred. These variables were coupled with a hydrologic model and embedded in a geographic information systems (GIS) framework. This computerized habitat model was run on the study area, Story County, Iowa, and generated a map indicating areas where wireworms were more likely to occur and where scouting should begin. Results of the model run indicate that most of Story County is suitable wireworm habitat and that there were areas considered highly favorable. The map generated by this computer model can be used as a guide for directing scouting within a field but does not identify areas where management tactics are necessary. The methodology used in this study is relatively simple, yet it performs the difficult task of combining time, space, and climatological variables to evaluate

wireworm habitat over a landscape. Moreover, it demonstrates one application of GIS technology in a discipline where the subject has characteristics that are inherently spatial.
This citation is from AGRICOLA.

359. **The supply of land for conservation uses: Evidence from the Conservation Reserve Program.**
Plantinga, A. J.; Alig, R.; and Cheng, H. T.
Resources, Conservation and Recycling 31 (3): 199-215. (2001)
NAL Call #: TP156.R38R47; *ISSN:* 0921-3449
This citation is provided courtesy of CAB International/CABI Publishing.

360. **A survey of CRP land in Minnesota: Legume and grass persistence.**
Jewett, J. G.; Sheaffer, C. C.; Moon, R. D.; Martin, N. P.; Barnes, D. K.; Breitbach, D. D.; and Jordan, N. R.
Journal of Production Agriculture 9 (4): 528-534. (Oct. 1996-Dec. 1996)
NAL Call #: S539.5.J68; *ISSN:* 0890-8524 [JPRAEN].
Notes: Subtitle: [Part] I.
Descriptors: land diversion/ federal programs/ regional surveys/ permanent grasslands/ legumes/ grasses/ persistence/ soil fertility/ phosphorus/ potassium/ soil ph/ Minnesota/ Conservation Reserve Program
Abstract: The federal Conservation Reserve Program (CRP), which had goals including reduced soil erosion and increased wildlife habitat, funded diversion of land from annual crops into permanent vegetation. The survival of grasses and legumes planted in CRP fields was not known. Our objectives were to assess the persistence and coverage of grasses and legumes in 6- to 8-yr-old CRP fields and to determine changes in soil pH, P, and K levels. We studied 151 CRP fields chosen from 10 counties in four geographical regions of Minnesota: 108 in the conservation practice 1 (CP-1) cover type (planted cool-season perennial grasses and legumes); 17 in the CP-2 cover type (planted warm-season native grasses); and 26 in the CP-10 cover type (existing vegetation). Statewide, legumes persisted in 82% of CP-1 fields planted to legumes, with 23% groundcover. Grasses persisted in 90% of the planted CP-1 fields with 47% groundcover. Alfalfa (Medicago sativa L.) and birdsfoot trefoil (Lotus corniculatus L.), the most persistent legumes, persisted in 90 and 67% of the planted fields with 21 and 32% groundcover, respectively. Smooth bromegrass (Bromus inermis Leyss), reed canarygrass (Phalaris arundinacea L.), and switchgrass (Panicum virgatum L.) persisted in over 90% of the planted fields and had 50% groundcover or more. Other legumes and grasses persisted in 50% or less of the planted fields and had 10% groundcover or less. To maintain legumes in CRP fields, clipping is required or cultivars should be developed that persist without defoliation. Generally, soil pH, P, and K levels did not change from initial to final samples and should be adequate to obtain low levels of forage production.
This citation is from AGRICOLA.

361. **A survey of CRP land in Minnesota: Weeds on CRP land.**
Jewett, J. G.; Scheaffer, C. C.; Moon, R. D.; Martin, N. P.; Barnes, D. K.; Breitbach, D. D.; and Jordan, N. R.
Journal of Production Agriculture 9 (4): 535-542. (Oct. 1996-Dec. 1996)
NAL Call #: S539.5.J68; *ISSN:* 0890-8524 [JPRAEN].
Notes: Subtitle: [Part] II.
Descriptors: land diversion/ federal programs/ regional surveys/ permanent grasslands/ botanical composition/ weeds/ infestation/ coverage/ frequency distribution/ rodents/ disturbed land/ colonization/ Minnesota/ Conservation Reserve Program
Abstract: The federal Conservation Reserve Program (CRP) funded the conversion of eroding cropland to grass or grass-legume cover that was not to be tilled, hayed, or grazed for 10 yr. It was not known what the species composition of CRP fields would be after years of minimal disturbance. Our objective was to document the presence and percentage groundcover of weeds in 151 CRP fields located in 10 Minnesota counties; including 108 Conservation Practice (CP)-1 (cool-season legumes and grasses) fields, 17 CP-2 (native grasses) fields, and 26 CP-10 (existing vegetation) fields. Groundcover of each species present and of bare ground was scored in six 106-sq-ft sample plots per field. The most prevalent species were the primary noxious weed Canada thistle [Cirsium arvense (L.) Scop.], the secondary noxious weed quackgrass [Elytrigia repens (L.) Desv. ex. Nevski], and the non-noxious weeds dandelion (Taraxacum officinale Weber.) and goldenrod (Solidago spp.). Weed percentage groundcover was higher in CP-10 fields than in CP-1 or CP-2 fields, probably because many CP-10 stands were already thinning at the start of the CRP contract. Volunteer legumes and grasses were common in CP-10 fields. In CP-1 fields, legume and grass percentage groundcover usually was correlated negatively with weed percentage groundcover. Weed percentage groundcover and species richness were correlated positively. Gopher mounding was correlated positively with the amount of bare ground and with the percentage groundcover of annual and biennial weed species. Primary, secondary, and non-noxious weeds were each found in nearly 90% of the

fields studied. Widespread presence of noxious weeds on CRP fields is a cause for concern. Weed control issues should be addressed in planning a new CRP.
This citation is from AGRICOLA.

362. **Systemic constraints to ecological well-being: The case of the 1985 Food Security Act.**
Glenna, L. L.
Rural Sociology 64 (1): 133-171. (Mar. 1999)
NAL Call #: 281.28-R88; *ISSN:* 0036-0112 [RUSCA].
Notes: Comment by E.M. DuPuis, p. 158-163; Reply by L.L. Glenna, p. 164-171; Includes references.
Descriptors: conservation/ environmental legislation/ environmental protection/ erosion control/ constraints/ agricultural policy/ capitalism/ United States
Abstract: Although the conservation title of the 1985 Food Security Act was hailed by many as revolutionary in its attempts to control soil erosion, it has failed to live up to its billing. A theory is used that asserts that the state's systemic commitment to promoting capitalist growth constrains it from establishing and implementing policies that accomplish anything more than displacing one environmental problem onto others. The theory is tested through a discourse analysis of the hearings surrounding the Federal government's attempt to control soil erosion through the 1985 Food Security Act, which revealed that policy recommendations challenging the drive to maximize efficiency and production were declared flawed and unacceptable. Hence, the hearings were systematically distorted in favor of the dominant instrumental rationality. It is concluded that government policy initiatives alone are insufficient and that creating alternative social organizations of production is necessary to promote ecological well-being.
This citation is from AGRICOLA.

363. **Targeting and the Environmental Quality Incentive Program.**
Day, Esther
Washington, D.C.: American Farmland Trust, 2001.
Notes: Cited (Web): 7 January 2002, 14 April 2004.
http://www.aftresearch.org/researchresource/wp/wp01-1.pdf
Descriptors: United States---Environmental policy/ Environment---United States
Abstract: Analyzes how well initial allocations made under the Program addressed environmental problems identified by the government and key stakeholders; variables considered when distributing Program funds to states, grouped by: soil erosion, water quality/quantity, grazing, animal waste, wetland and wildlife issues, flooding threats, and other categories; US.
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364. **Tillage and management alternatives for returning Conservation Reserve Program land to crops.**
Shapiro, C. A.; Holshouser, D. L.; Kranz, W. L.; Shelton, D. P.; Witkowski, J. F.; Jarvi, K. J.; Echtenkamp, G. W.; Lunz, L. A.; Frerichs, R. D.; and Brentlinger, R. L.
Agronomy Journal 93 (4): 850-862.
(July 2001-Aug. 2001)
NAL Call #: 4-AM34P; *ISSN:* 0002-1962 [AGJOAT]
Descriptors: glycine max/ zea mays/ sorghum bicolor/ crop management/ tillage/ nature conservation/ land use/ land management/ crop residues/ litter plant/ plowing/ discing/ no-tillage/ grasslands/ field experimentation/ crop yield/ crop density/ weed control/ land banks/ Nebraska/ Iowa
Abstract: Accumulated vegetative residue was a concern when Conservation Reserve Program (CRP) land returned to grain crop production. This study was conducted to determine the effect of residue management, tillage, and crop choice on grain yield in the first year of cropping on CRP land that was predominately smooth brome (Bromis inermis Leyss). Three residue management practices (undisturbed, shred, and remove), three tillage systems [moldboard plow, disk, and no till], and three crops [corn (Zea mays L.), soybean [Glycine max (L.) Merr.], and grain sorghum [Sorghum bicolor (L.) Moench]] were used in a factorial arrangement of a 3-yr field experiment conducted in Nebraska on fine-silty, mixed, mesic Udic Haplustoll; fine-silty, mixed (calcareous), mesic Typic Ustorthent; and fine-silty, mixed, mesic Cumolic Halustoll soils. Residue management was not significant for corn ($P > F = 0.16$), sorghum ($P > F = 0.113$), and soybean ($P > F = 0.491$) although there were significant residue x tillage interactions. Tillage system was not significant ($P > F = 0.125$) for soybean yields, but plowing significantly ($P > F = 0.0001$) increased both corn and sorghum yields. Mean corn yields were 13% less for the no-till system than for the moldboard plow system. However, no-till corn yield differences were not significant ($P > F = 0.255$) when plant population (a possible measure of planter performance) and percent green rating (a measure of weed control) were included as covariates. Our recommendation for the first year of grain crop production on smooth brome CRP land is to shred the residue and plant soybean in a no-till system.
This citation is from AGRICOLA.

365. **Tree planting on CRP acres in the South.**
Lentz, R. J.
Journal of Soil and Water Conservation 43 (1): 60-61. (1988)
NAL Call #: 56.8 J822; *ISSN:* 0022-4561
Descriptors: forestry / trees/ conservation/ state programs/ USDA Forest Service/ forestry
Abstract: State forestry agencies in cooperation with

U.S. Department of Agriculture agencies and other state and local organizations were primarily responsible for reforesting 760,000 acres of non-industrial private forest lands in the 1985-1986 planting season using Forestry Incentives Program, Agricultural Conservation Program, and state incentive program funds.
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366. **Using GIS to assess and manage the Conservation Reserve Program in Finney County, Kansas.**
Wu J; Ransom MD; Nellis MD; Kluitenberg GJ; Seyler HL; and Rundquist BC
PE and RS: Photogrammetric Engineering and Remote Sensing 68 (7): 735-744; 40 ref. (2002)
NAL Call #: 325.28 P56
This citation is provided courtesy of CAB International/CABI Publishing.

367. **Using the cow instead of the plow: A management option on former CRP land in the southern Great Plains.**
Riddle, Richard R.; Donges, Randy D.; and United States. Natural Resources Conservation Service.
Washington, D.C.: USDA, NRCS, Natural Resources Conservation Service; 11 p.: col. ill. (1999)
Notes: Cover title. Shipping list no.: 2000-0043-P. Includes bibliographical references (p. [11]).
SUDOCS: A 57.2:C 83/3.
NAL Call #: aSF85.3-.R53-1999
Descriptors: Conservation Reserve Program---United States/ Range management Great Plains/ Grazing Great Plains
This citation is from AGRICOLA.

368. **Weed control guide for the Conservation Reserve Program.**
Kidder, D. W.
In: PNW - Pacific Northwest Extension Publication, Washington, Oregon, and Idaho State Universities, Cooperative Extension Service, 329; Corvallis, Or.: Washington, Oregon, and Idaho State Universities, Cooperative Extension Service, 1987. 8 p.
Notes: ISSN: 0887-7254
NAL Call #: 275.29-W27PN
Descriptors: weed control/ abandoned land/ herbicide application/ herbicide recommendations
This citation is from AGRICOLA.

369. **Weed control in CRP plantings.**
Wrage, Leon J.
Brookings, S.D.: South Dakota State University, College of Agriculture & Biological Sciences; Series: FS (South Dakota State University. Cooperative Extension Service) 525-CRP; 10, 1 p.: ill. (2000)
Notes: Sponsoring agency: Cooperative Extension Service, U.S. Dept. of Agriculture; Caption title. "May 2000"--p. [11].
NAL Call #: 275.29-So85Fs-no.-525-CRP
This citation is from AGRICOLA.

370. **Weed control in the Conservation Reserve Program and newly established grasses.**
Whitson, T. D. and Miller, S. D.
In: Bulletin: Wyoming University, Cooperative Extension Service, 442.4; Laramie, Wyo.: Wyoming University, Cooperative Extension Service, 1989. 6 p.
Notes: In subseries: Wyoming weed control series.
NAL Call #: 275.29-W99B
Descriptors: grassland improvement/ erosion control/ federal programs/ herbicides/ weed control/ Wyoming
This citation is from AGRICOLA.

371. **Weed management for cover establishment and maintenance on Conservation Reserve Program acres.**
Yenish, Joe.; Stannard, Mark.; and Washington State University. Cooperative Extension.
Pullman, Wash.: Cooperative Extension, Washington State University; Series: Extension bulletin (Washington State University. Cooperative Extension) 1867. (1998)
Notes: Title from web page. "Published January 1998" Description based on content viewed Nov. 3, 2002.
NAL Call #: 275.29-W22P-no.-1867
http://cru.cahe.wsu.edu/CEPublications/eb1867/eb1867.html
Descriptors: Conservation Reserve Program---United States/ Grasses---Weed control---United States/ Legumes---Weed control---United States/ Weeds---Control---United States
This citation is from AGRICOLA.

372. **Weed population dynamics in land removed from the Conservation Reserve Program.**
Felix, J. and Owen, M. D. K.
Weed Science 47 (5): 511-517.
(Sept. 1999-Oct. 1999)
NAL Call #: 79.8-W41; *ISSN:* 0043-1745 [WEESA6]
Descriptors: zea mays/ glycine max/ amaranthus/ andropogon gerardii/ bromus inermis/ melilotus officinalis/ population dynamics/ weeds/ field experimentation/ seasonal variation/ herbicides/ band placement/ broadcasting/ tillage/ land banks/ rotations/ no-tillage/ botanical composition/ crop yield/ Iowa/ amaranthus rudis
Abstract: A field study was established in southern Iowa in 1994 to study seasonal and long-term weed population dynamics on land being brought back into production after 8 yr as part of the Conservation Reserve Program (CRP). The study was a split-plot design with four replications; two tillage regimes, two crop rotations, and three herbicide application

methods were used. Even though the tillage regime did not influence individual weed population density throughout the study, the no-till (NT) regime had more weeds compared to conventional tillage (CT). However, when weeds were grouped into categories, tillage influenced broadleaf weeds in 1994 and 1996 and total weeds in 1995. Plots under the NT regime had an average of 46 broadleaf weeds m(-2) compared to 27 in CT in 1994, with Amaranthus rudis Sauer (common waterhemp) being the most prevalent. NT had a total of 186 weeds m(-2) compared to 125 m(-2) weeds in CT in 1995; however, in 1996, CT plots had 184 weeds m(-2) compared to 121 m(-2) in the NT regime. Except for broadleaf weeds in 1994, crop rotation did not influence the number of weeds, and herbicide application methods had the greatest effect on weed populations. Overall, weed populations were greater in 1997, 1996, and 1995 than in 1994 for all herbicide application methods. The no-herbicide treatment had the highest number of weeds throughout the study. The total number of weeds in band and broadcast treatments averaged 41 and 26 m(-2) in 1994; 96 and 24 m(-2) in 1995; 96 and 12 m(-2) in 1996; and 109 and 95 m(-2) in 1997. The use of broadcast herbicides in NT should be recommended for land coming out of CRP. Regardless of the herbicide application method or crop rotation, CT plots had. better yields for both Zea mays L. (corn) and Glycine max L. (soybean). Glycine max had a better stand compared to Z. mays in the first year, indicating that a rotation starting with G. max might be preferred in the land coming out of CRP.
This citation is from AGRICOLA.

373. **Weed seedbank dynamics in post Conservation Reserve Program land.**
Felix, J. and Owen, M. D. K.
Weed Science 49 (6): 780-787.
(Nov. 2001-Dec. 2001)
NAL Call #: 79.8-W41; *ISSN:* 0043-1745 [WEESA6]
Descriptors: chenopodium album/ amaranthus/ weeds/ seed banks/ buried seeds/ nature reserves/ tillage/ rotations/ weed control/ species diversity/ population density/ seed output/ band placement/ broadcasting/ seasonal variation/ Iowa
Abstract: The influence of tillage, crop rotation, and weed management regimes on the weed seedbank in land previously under the Conservation Reserve Program (CRP) for 8 yr was determined from 1994 through 1997. The study was a split-plot design with four replications, two tillage systems, two crop rotations, and three weed management treatments. Eleven weed species were recorded in 1994 and 1995, and 13 in 1996 and 1997. The weed seedbank was dominated by broadleaf species. In 1994, the first year after CRP, the seed population density in the top 15 cm of the soil profile was 51,480 seeds m(-2), of which 60 and 20% were pigweed and common lambsquarters. The population density of pigweed seeds in the seedbank increased over time and reached 51,670 seeds m(-2) in 1996. In contrast, the seed population density for foxtail species was only 417 seeds m(-2) in 1994, but it increased to 7,820 seeds m(-2) in 1997. The large increase in foxtail species seed population density in the 4-yr period was mainly in the no-herbicide weed management treatment. The weed seedbank was reduced similarly by band and broadcast herbicide treatments. Tillage and crop rotation did not influence the weed seedbank or Shannon's diversity index, nor did they interact with the weed management treatments in any of the years. The weed seedbank population density varied with the years and time of soil sampling. Weed seed population densities tended to be greater in the fall but declined significantly by time of the spring sampling. The no-herbicide treatment had a more diverse weed seedbank compared with band and broadcast herbicide weed management treatments. An average of one grass and three broadleaf weed species were identified in the three weed management treatments. Band and broadcast herbicide treatments reduced the weed seedbank population density but did not affect the number of broadleaf weed species observed.
This citation is from AGRICOLA.

374. **When CRP contracts expire: Alternative strategies to encourage environmentally acceptable land use.**
Rietveld, W. J.
Proceedings of the Great Plains Agricultural Council: 89-96. (1993)
NAL Call #: 282.9-G7992; *ISSN:* 0434-5835.
Notes: Meeting held June 2-4, 1993, Rapid City, South Dakota.
Descriptors: land use / contracts/ environmental protection/ land diversion/ great plains states of USA/ Conservation Reserve Program
This citation is from AGRICOLA.

375. **Wireworm (Coleoptera: Elateridae) incidence and diversity in Iowa conservation reserve environments.**
Lefko, S. A.; Pedigo, L. P.; Rice, M. E.; and Batchelor, W. D.
Environmental Entomology 27 (2): 312-317.
(Apr. 1998)
NAL Call #: QL461.E532; *ISSN:* 0046-225X [EVETBX]
Descriptors: elateridae/ insect pests/ incidence/ species diversity/ geographical distribution/ sampling/ agricultural land/ federal programs/ Iowa/ Conservation Reserve Program
Abstract: The extended fallow period required by Conservation Reserve Program contracts will likely heighten farmers' concerns about pests when returning acreage to production, particularly,

wireworms (Coleoptera : Elateridae). An extensive sampling program was conducted to estimate wireworm incidence and subsequent pest potential of wireworms in Iowa conservation reserve land. Eighty-nine fields were sampled during May and June of 1995 and 1996. Wireworms were recovered from approximately 45% of conservation reserve fields. Bait sampling provided a more precise means of detecting wireworm presence than core sampling. The spatial distribution of wireworms in Iowa, and consequent crop damage, probably is less restricted by environment than previously thought. This is attributable to the relatively large species diversity. Fourteen of the 15 elaterid species recovered have been associated with or are considered serious pests of corn. As a result, integrated pest management tactics, including insect pest scouting, will likely benefit the risk-averse grower in these newly converted lands.
This citation is from AGRICOLA.

376. **Agri-Environmental Policy at the Crossroads: Guideposts on a Changing Landscape.**
Claassen, R.; Hansen, L.; Peters, M.; Breneman, V.; Weingerg, M.; Catteneo, A.; Feather, P.; Gadsby, D.; Hellerstein, D.; Hopkins, J.; Johnston, P.; Morehart, M.; and Smith, M. USDA, FSA; Agricultural Economic Report No. 794, 2001.
Descriptors: environmental benefits/ conservation programs/ evaluation
http://www.ers.usda.gov/publications/aer794/aer794.pdf
Abstract: Discussed development and implementation of a farmer payment system based on a comprehensive measurement of environmental benefits and tradeoffs from agricultural practices endorsed under numerous USDA conservation programs.

377. **Agricultural Conservation: State Advisory Committees' Views on How USDA Programs Could Better Address Environmental Concerns.**
Washington, DC: General Accounting Office; GAO-02-295, 2002. 86 p.
Notes: PB-2002104592XSP; Report to the Congress.
http://www.gao.gov/new.items/d02295.pdf
Descriptors: Program participation/ Surveys/ Payments/ Funding/ Benefits/ Congressional reports/ Conservation programs/ Agricultural conservation/ Environmental concerns/ State technical committees/ State advisory committees/ United States Department of Agriculture/ Agriculture and food/ Environmental pollution and control
Abstract: The future of USDA conservation programs has been the subject of extensive debate within the environmental and agricultural communities and in the Congress. This debate has centered on increasing the environmental and natural resource benefits resulting from the programs by allocating more funding to them, modifying them, or creating new programs. Pursuant to this debate, the omnibus farm bill is expected to become law in 2002. In this context, you asked us to obtain the views of members of state technical committees on (1) the effectiveness of USDA's conservation efforts in addressing environmental concerns related to agriculture and (2) any program elements that hinder the achievement of environmental objectives related to agriculture, as well as program characteristics that current or new programs might include to better meet these objectives. Also, you asked us to provide information on program participation and the extent to which applications for program participation exceed program funding as well as the geographic distribution of payments for each program. This information is provided in appendixes I and II, respectively. To provide information on the views of members of state technical committees for our first two objectives, we mailed a questionnaire to all NRCS state conservationists and a sample of 1,470 committee members and received 996 responses. We drew the sample from the 2,124 state technical committee members in all 50 states and two territories. The sample was stratified by geographic region and the organizations the members represent, and the overall survey results are generalizable to the entire population. All percentage estimates from the survey have sampling errors of plus or minus 7 percentage points or less, unless otherwise noted. The survey solicited views on the effectiveness of CRP General Enrollment, CRP Continuous Enrollment, CREP, Wetlands Reserve Program, Environmental Quality Incentives Program, Wildlife Habitat Incentives Program, and Farmland Protection Program. For CREP and the Farmland Protection Program, which are relatively new programs, our results include only those states where the programs were implemented at the time of our survey.

378. **Agricultural Conservation: Survey of USDA State Technical Committee Members.**
Washington, DC: General Accounting Office; GAO02371SP, 2002. 228 p.
Notes: ADA400304XSP
http://www.gao.gov/new.items/d02371sp.pdf
Descriptors: United States government/ Natural resources/ Surveys/ Conservation/ Environmental protection/ Water quality/ Habitats/ Wildlife/ Payment/ Environmental management/ Agriculture/ USDA/ GAO reports/ Agriculture and food/ Agricultural economics/ Natural resources and earth sciences/ Natural resource management
Abstract: Farmers, ranchers, and private forest landowners own and manage more than two-thirds of the continental United States 1.9 billion acres and thus are the primary stewards of our soil, water, and wildlife habitat. Because of this important responsibility, how private land is used is increasingly being recognized as vital to the protection of the nation's environment and natural resources. For example, state water quality agencies report that agricultural production is a leading contributor to impaired water quality; similarly, habitat loss associated with agriculture has been a factor in the declining populations of many wildlife species, including many threatened or endangered native species. In recognition of the critical role played by private landowners, the Congress directed the U.S. Department of Agriculture (USDA) to implement the numerous programs aimed at improving the stewardship practices on these lands. USDA currently has over 70 million acres of privately owned land enrolled in programs that offer landowners financial incentives to implement conservation

practices to protect or improve soil and water quality and wildlife habitat. USDA's conservation efforts are intended to address specific environmental concerns, target funding toward state and local environmental priority areas, and include partnerships with state or local entities to leverage limited funding. USDA's Conservation Reserve Program (CRP), the federal government's largest single conservation program, has an enrollment of almost 34 million acres and makes annual payments of about $1.5 billion on these acres.

379. **The American Conservation Reserve Programme: The chance to reward farmers for services to the environment?**
Mello I; Heissenhuber A; and Kantelhardt J
Berichte uber Landwirtschaft 80 (1): 85-93; 9 ref. (2002)
This citation is provided courtesy of CAB International/CABI Publishing.

380. **Assessing the effectiveness of technical assistance for soil conservation practices.**
Esseks, J Dixon and Kraft, Steven E
Policy Studies Review 6: 245-259. (1986); *ISSN:* 0278-4416
Descriptors: Soil conservation/ Agricultural extension/ Government agencies Evaluation/ United States Soil conservation service
Abstract: Conservation Technical Assistance program of the Soil Conservation Service, U.S. Department of Agriculture; based on conference paper. Based on 1982 data from both recipients and nonrecipients of the program at six diverse sites.
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381. **Benefit cost analysis of the 2002 EQIP Farm Bill provisions.**
Atwood, J.; Knight, L.; Cattaneo, A.; and Smith, P.
Selected papers from the annual meeting of the American Agricultural Economics Association. (2003)
NAL Call #: HD1405 .A44.
Notes: Supplemental online access through http://agecon.lib.umn.edu.
Descriptors: Farm Bill/ cost benefit analysis/ environmental quality/ environmental policy/ United States/ environmental quality incentives program
This citation is from AGRICOLA.

382. **Budgetary and farm-sector impacts of the 1985-1990 Conservation Reserve Program.**
Barbarika, A. Jr. and Langley, J.
Journal of Soil and Water Conservation 47 (3): 264-267. (May 1992-June 1992)
NAL Call #: 56.8-J822; *ISSN:* 0022-4561 [JSWCA3]
Descriptors: agricultural economics/ federal programs/ computer simulation/ simulation models/ commodity markets/ maize/ wheat/ soybeans/ cotton/ economic impact/ farm sector/ farm income/ market prices/ agricultural prices/ cost analysis/ budgets/ public expenditure/ subsidies/ price support/ public loans/ acreage/ conversion/ soil conservation/ erosion control/ USDA/ acreage reduction/ commodity programs
This citation is from AGRICOLA.

383. **Cattle and forages can play a vital role in sustainable agriculture.**
Gustafson, Ronald A
Food Review 14: 2-5. (1991); *ISSN:* 1056-327X
Descriptors: Livestock industry---United States/ Soil conservation---United States/ Grazing lands---United States/ United States---Agricultural policy/ Agriculture---Environmental aspects/ Forage plants---United States
Abstract: Achievements of U.S. Conservation Reserve Program in expanding forage production and rejuvenating cropland pasture.
© 2004 PAIS, published by OCLC Public Affairs Information Service

384. **Changes in pesticide leaching potential between 1982 and 1992: A national perspective.**
Kellogg, R. L. and Wallace, S.
In: Clean water, clean environment: 21st century team agriculture: Working to protect water resources conference proceedings. (Held 5 Mar 1995-8 Mar 1995 at Kansas City, Missouri.)
St. Joseph, Mich.: ASAE; 1995.
NAL Call #: TD365.C54-1995; *ISBN:* 0929355601
Descriptors: pesticides/ leaching/ risk/ losses from soil/ surveys/ arable land/ arable soils/ land diversion/ application rates/ rain/ geographical information systems/ United States/ pesticide leaching index/ Conservation Reserve Program
This citation is from AGRICOLA.

385. **Characteristics of recently restored wetlands in the prairie pothole region.**
Galatowitsch, S. M. and Van Der Valk, A. G.
Wetlands 16 (1): 75-83. (1996)
NAL Call #: QH75.A1W47; *ISSN:* 0277-5212
Descriptors: wetlands / vegetation/ hydrology/ land reclamation/ hydrological regime/ aquatic plants/ United States, Iowa/ United States, Minnesota/ United States, South Dakota/ community composition/ environment management/ ecosystem management/ plant populations/ reclamation/ nature conservation/ environmental restoration/ Water and plants/ Protective measures and control/ Reclamation
Abstract: Between 1987 and 1991, 1892 prairie potholes were restored in northern Iowa, southern Minnesota, and southeastern South Dakota by state and federal agencies, most as part of the Conservation Reserve Program. The total area covered by these restored wetlands is approximately 2714 ha. Most restorations are small (less than 4 ha)

wetlands with a seasonal hydrologic regime. Wetlands with an ephemeral/temporary water regime are under-represented compared to their pre-drainage extent. Information on basin morphometry, hydrology, and vegetation-zone development was collected on 62 wetlands restored in 1988. Earthen dams are installed on most (73%) restorations in the region, increasing the full pool volume but not the mean depth of the basin. Overall, restored wetlands have basin morphometries that are comparable to those of similarly sized natural wetlands. About 60% of the basins had their predicted hydrology or held water longer than predicted. Nevertheless, about 20% of the projects that we examined were hydrologic failures and either never flooded or had significant structural problems. Most restored wetlands had developed emergent and submersed aquatic vegetation zones, but only a few had developed wet prairie and sedge meadow vegetation zones.
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386. **Conservation Reserve Enhancement Program: Early results from a federal-state partnership.**
Smith, M. E. [Also available as: Agricultural Outlook 277: 16-20 (Dec 2000).], 2000.
Notes: CODEN: AGOUD7; ISSN: 0099-1066 (application/pdf)
NAL Call #: aHD1751.A42
http://jan.mannlib.cornell.edu/reports/erssor/economics/ao-bb/2000/ao277.pdf
Descriptors: federal programs/ state government/ USDA/ incentives/ land diversion/ United States
This citation is from AGRICOLA.

387. **Conservation Reserve Program: Alternatives are available for managing environmentally sensitive cropland.**
General Accounting Office
Washington, DC: GAO, 1995.
Notes: GAO/RCED-95-42
http://www.gao.gov/archive/1995/rc95042.pdf
Descriptors: cultivated lands/ land management/ agriculture/ land use/ water quality/ Watershed protection
Abstract: If not properly managed, agricultural production on the nation's 382 million cropland acres can adversely affect the quality of water and air, the productivity of soil, and the availability of wildlife habitat. In an effort to reduce these effects by temporarily removing highly erodible cropland from production, the Congress enacted the Conservation Reserve Program (CRP) in 1985. The CRP was also designed to reduce surplus crop production and support farm income. Under the CRP, the U.S. Department of Agriculture (USDA) contracted with farmers to take 36.4 million acres out of production for 10 years in return for rental and cost-share payments of almost $20 billion through the year 2002. These contracts will begin to expire in 1995, with the contracts for the majority of acres-22 million-expiring in 1996 and 1997.
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388. **Conservation Reserve Program: An Economic Assessment.**
Young, C. E. and Osborn, C. T.
Washington, DC: Economic Research Service; ERSAER626XSP, 1990. 37 p.
Notes: Agricultural economic rept. 626; Replaces PB90-183179.
Descriptors: Farms/ Income/ Food/ Prices/ Soil erosion/ Water quality/ Evaluation/ Conservation/ Agricultural economics/ Natural resources management/ Costs/ Programs/ Environment management/ Agriculture and food/ Agricultural economics/ Natural resources and earth sciences/ Natural resource management/ Soil sciences
Abstract: The Conservation Reserve Program (CRP) will boost net farm income and improve environmental quality substantially over the life of the program (1986-99). These gains will come at the cost of somewhat higher food prices and Government administrative expenses, and potential downturns in farm input industries and other local economic activity tied to farming where enrollment is heavy. Net economic benefits of the program range between $3.4 billion and $11.0 billion in present value, according to estimates derived in the report. The report also looks behind the bottom-line estimate to determine how well the CRP does in reaching each of its multiple goals, which are to reduce soil erosion, protect the Nation's long-term capability to produce food and fiber, reduce sedimentation, improve water quality, create better habitat for fish and wildlife, curb production of surplus commodities, and provide income support to farmers.

389. **The Conservation Reserve Program: Changes on the Horizon.**
Monson, M. and Cassidy, D.
In: North Central Extension Industry Soil Fertility Conference.; 1996.
Descriptors: Conservation Reserve Program/ United States
Abstract: Demonstrated that most of the environmental benefits anticipated to be lost upon contract expiration were retained through continuous signup.

390. **Conservation Reserve Program (Chapter 6).**
United States Department of Agriculture, Economic Research Service ERS
In: Agricultural Resources and Environmental Indicators, 1996-97: Agricultural Handbook, No. 712; Washington, D.C.: U.S. Department of Agriculture, Economic Research Service, 1997.
Descriptors: Conservation Reserve Program
Abstract: Detailed description of the history of the CRP, development of the EBI, and accomplishments to date.

391. **The Conservation Reserve Program: Effects on soil, water and environmental quality.**
Blackburn, W. H.; Newman, J. B.; and Wood, J. C.
In: General Technical Report RM.
Fort Collins, Colo.: Rocky Mountain Forest and Range Experiment Station, 1991; pp. 27-36.
Notes: Report Series ISSN: 0277-5786
NAL Call #: aSD11.A42
Descriptors: soil conservation/ erosion control/ federal programs/ reserved areas/ simulation models/ percolation/ evapotranspiration/ water erosion / runoff/ United States/ Wind Erosion Equation / WEE/ Water Erosion Prediction Project/ WEPP
This citation is from AGRICOLA.

392. **Conservation Reserve Program: Environmental risk assessment.**
United States. Dept. of Agriculture.
Washington, D.C.: U.S. Dept. of Agriculture; 2, 127 leaves: ill., maps. (1997)
Notes: Cover title. "February 1997" Includes bibliographical references (leaves 117-127).
NAL Call #: aS930.C662-1997
Descriptors: Conservation Reserve Program---United States/ Conservation of natural resources---United States/ Environmental risk assessment---United States/ risk assessment
This citation is from AGRICOLA.

393. **Conservation Reserve Program may be good for the environment, farms, and rural communities.**
Siegel, P. B. and Johnson, T. G.
Rural Development Perspectives 8 (3): 25-31. (1992)
NAL Call #: aHN90.C6R78; *ISSN:* 0271-2172
Descriptors: federal programs/ environmental impact/ farms/ rural communities/ conservation/ United States
This citation is from AGRICOLA.

394. **Conservation Reserve Program sign-up 20: Environmental benefits index.**
United States. Farm Service Agency.
Washington, D.C.: USDA, Farm Service Agency; Series: Fact sheet (United States. Farm Service Agency). (1999)
Notes: Title from caption. "September 1999."
NAL Call #: aS930-.C658-1999
http://www.fsa.usda.gov/pas/publications/facts/ebiold.pdf
Descriptors: Conservation Reserve Program---United States/ Conservation of natural resources---United States/ Wildlife habitat improvement---United States/ Water quality management---Economic aspects---United States/ Agriculture---Economic aspects---United States
Abstract: The Environmental Benefits Index (EBI) is used to evaluate and rank land offered for enrollment in the Conservation Reserve Program (CRP) during a general signup. Scores are based on the expected environmental benefits to soil resources, water quality, wildlife habitat, and other resource concerns during the time the land is to be enrolled in the program. Each offer submitted is assigned a point score based on its relative environmental benefits. Each offer is compared nationally with all other offers at the end of the sign-up. Offers are determined acceptable or rejected based on the ranking results. [Document overview]
This citation is from AGRICOLA.

395. **The Conservation Reserve Program: Status, Future, and Policy Options.**
Osborn, T.
Journal of Soil and Water Conservation 48 (4): 271-278. (1993)
NAL Call #: 56.8 J822 [JSWCA3]
Descriptors: Agriculture/ Conservation Reserve Program/ Economic aspects/ Environmental protection/ Erosion control/ Federal jurisdiction/ Regulations/ Soil conservation/ Contracts/ Costs/ Soil erosion/ Water quality/ Water law and institutions/ Watershed protection
Abstract: After Conservation Reserve Program (CRP) contracts expire, annual rental payments made by USDA to CRP participants will end and producers will decide the next use of their land. Most CRP acres will either be planted to crops, depending largely on commodity market conditions, placed in annual acreage set-asides, kept in grass for livestock production, or left idle. Land first placed in the CRP will be available for crop production or other uses starting in late 1995. The expiration of CRP contracts raises concerns over the extent of conservation, wildlife and environmental reversals that will occur, particularly if commodity markets are favorable in 1996 and 1997. While the conservation compliance provision of farm legislation will not prevent much CRP land from returning to production, it will moderate increases in soil erosion and onsite productivity losses on most CRP land that is recropped. However, the effectiveness of conservation compliance in protecting water quality is unclear, and it will do little to maintain wildlife habitat benefits currently provided by CRP. Keeping all CRP

land under contract currently costs nearly two billion dollars each year. Adoption of something similar to the bid acceptance procedure used for the post-1990 CRP signups offers promise for targeting CRP land under whatever post-contract program Congress might enact. (Brunone-PTT)
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396. **Conservation Reserve: Yesterday, Today and Tomorrow, Symposium Proceedings.**
Joyce, L. A.; Mitchell, J. E.; and Skold, M. D.
Fort Collins, CO: Rocky Mountain Forest and Range Experiment Station; Series: Forest Service general technical rept. 203; 71 p. (1991)
Notes: Meeting held January 14, 1991 at Washington, DC; FSGTRRM203; PB91208413XSP
Descriptors: Agriculture/ Future planning Projected/ Land use/ Environmental effects/ Decision making/ Implementation/ Economic impacts/ Reserves/ Farm management/ Contracts/ Land ownership/ History/ Wildlife/ Recreation/ Ecology/ Crop yields/ Meetings/ Land conservation/ Resource conservation/ Agricultural Resources Conservation Program/ Food Security Act of 1985 / Farm Bill of 1990/ Conservation Reserve Program/ Great Plains Region United States/ Natural resources and earth sciences/ Natural resource management/ Agriculture and food/ Agricultural equipment facilities and operations/ Urban and regional technology and development/ Regional administration and planning
Abstract: Contents: The Conservation Reserve Program--How Did We Get Where We Are and Where Do We Go From Here; An Overview of the Agricultural Resources Conservation Program; Economics of Livestock and Crop Production on Post-CRP Lands; Landowner Options When CRP Ends; The Conservation Reserve Program: Effects on Soil, Water and Environmental Quality; Conservation Reserve Program Effects on Wildlife and Recreation; Future Costs and Benefits of Conservation Reserve Lands; Impacts of the Conservation Reserve Program in the Central Great Plains; Research Questions Related to the Conservation Reserve Program; Some Sociological and Ecological Effects of the Conservation Reserve Program in the Northern Great Plains; The CRP in Oregon's Columbia Basin: A Local Perspective.

397. **Conservation title impacts on the Great Plains.**
Dicks, M.; Ray, D.; and Sanders, L. D.
Current Farm Economics (Agricultural Experiment Station, Division of Agriculture, Oklahoma State University) 63 (1): 21-33. (Mar. 1990)
NAL Call #: HD1775.O5C87; *ISSN:* 0030-1701
Descriptors: soil conservation/ legislation/ United States
This citation is from AGRICOLA.

398. **Conversion of Conservation Reserve Program (CRP) grassland for dryland crops in a semiarid region.**
Unger, P. W.
Agronomy Journal 91 (5): 753-760. (Sept. 1999-Oct. 1999)
NAL Call #: 4-AM34P; *ISSN:* 0002-1962 [AGJOAT]
Descriptors: sorghum bicolor/ triticum aestivum/ grasslands/ agricultural land/ tillage/ conservation tillage/ no-tillage/ plowing/ prescribed burning/ vegetation/ ammonium nitrate/ application rates/ soil water content/ drought/ crop yield/ water stress/ land banks/ Texas
Abstract: Information was needed regarding practices suitable for returning grassland to cropland when Conservation Reserve Program (CRP) contracts expired. A study on Pullman soil (Torrertic Paleustoll) involved seven tillage treatments (no-tillage and reduced, sweep, disk, moldboard plus disk, burn-sweep, and burn-disk tillage) with vegetation retained and the five non-burn tillage treatments with vegetation removed before treatment. Fertilizer (NH(4)NO(3)) was applied at 0, 34, and 67 kg N ha(-1) in 1995 and at 0, 67, and 134 kg N ha(-1) in 1996 and 1997. Initial soil water contents were low, and soil never was filled with water at planting time. Sorghum [Sorghum bicolor (L.) Moench] yielded < or = 720 kg ha(-1) in 1995, and the 1995-1996 wheat (Triticum aestivum L.) crop failed. Sorghum was not planted in 1996 because of a drought. Sorghum yielded 2260 to 4700 kg ha(-1) in 1997. Wheat yielded 1410 to 1980 kg ha(-1) in 1996-1997. Vegetation retention or removal affected yields slightly. Fertilization affected sorghum yields slightly and increased wheat yields. Vegetation control was difficult with no-tillage. Disk tillage to dislodge grass, followed by reduced or no-tillage, appears best for converting CRP grassland to cropland in this semiarid region. Because of low initial soil water contents, a 90-d period is inadequate for obtaining adequate soil water storage unless precipitation is much above normal. Forgoing planting a crop soon after killing the vegetation when precipitation is low would provide more time for storing soil water and increase the potential for obtaining favorable yields.
This citation is from AGRICOLA.

399. **Costs and Benefits of the Conservation Reserve Program.**
Young, C. E. and Osborn, C. T.
Journal of Soil and Water Conservation 45 (3): 370-373. (1990)
NAL Call #: 56.8 J822 [JSWCA3]
Descriptors: Cost benefit analysis/ Cropland/ Economic aspects/ Erosion control/ Land use/ Soil conservation/ Administration/ Administrative agencies/ Conservation Reserve Program/ Cultivated lands/ Federal jurisdiction/ Soil erosion/ Watershed protection

Abstract: The economic efficiency of the Conservation Reserve Program (CRP) was evaluated. The CRP is a voluntary, long-term cropland retirement program with a targeted enrollment of 40-45 million acres. In exchange for retiring cropland with highly erodible soils or other environmentally sensitive land for 10 years, the U.S. Department of Agriculture pays CRP participants (farm owners or operators) an annual per-acre rent and one-half the cost of establishing a permanent land cover. The CRP's primary goal is to reduce soil erosion on highly erodible cropland. Primary effects of the CRP are the following: changes in farm income; timber production; consumer costs; soil productivity; surface water quality, including filter strips; wildlife habitat; wind erosion; administrative costs; cost-sharing of vegetative cover; and technical assistance costs. CRP impacts were uniformly compared to a baseline situation characterized by the absence of CRP. Based upon estimates of the primary effects, the present value of net benefits for a 45 million acre CRP could range from $3.4 to $11.0 billion. (MacKeen-PTT)
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400. **The CRP balancing act: Trading off costs and multiple environmental benefits.**
Cattaneo, A.; Bucholtz, S.; Dewbre, J.; and Nickerson, C.
Selected papers from the annual meeting of the American Agricultural Economics Association. (2002)
NAL Call #: HD1405-.A44.
Notes: Supplemental online access through http://agecon.lib.umn.edu. Meeting held July 28-31, 2002 in Long Beach, California. Includes references.
Descriptors: erosion control/ land diversion/ federal programs/ cost benefit analysis/ indexes/ environmental protection/ Monte Carlo method/ United States/ Conservation Reserve Program/ environmental benefits index
This citation is from AGRICOLA.

401. **CRP & Landscape Structure in IL.**
Weber, W.
In: 62nd Midwest Fish and Wildlife Conference. (Held 3 Dec 2000-6 Dec 2000 at Minneapolis, MN (USA).); 2000.
Notes: Paper No. 118; Conference Sponsor: NCD-AFS; World Meeting Number 000 5249
Descriptors: Aquatic Science/ Biology/ Environmental Science
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402. **Ecological benefits of the Conservation Reserve Program.**
Dunn, C. P.; Stearns, R.; Guntenspergen, G. R.; and Sharpe, D. M.
Conservation Biology 7 (1): 132-139. (1993)
NAL Call #: QH75.A1C5; *ISSN:* 0888-8892
Descriptors: soil conservation/ government policy/ enhancement/ biological diversity/ wildlife/ ecosystem stability/ Conservation
Abstract: The Conservation Reserve Program was initiated in 1985 to reduce soil loss on highly erodible agricultural land. This stated objective of the program has been quite successful. However, there are other unintentional yet significant ecological benefits to the program that merit evaluation. These benefits include the reversal of landscape fragmentation, maintenance of regional biodiversity, creation of wildlife habitat, and favorable changes in regional carbon flux. These and other benefits should be used by policy makers and federal officials to maintain the program even after enrollment expectations have been achieved.
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403. **Economic and ecological aspects of State land conservation policy in the USA.**
Samoylov D
Mezhdunarodnyi Sel'skokhozyaistvennyi Zhurnal 4: 3-6. (1998)
This citation is provided courtesy of CAB International/CABI Publishing.

404. **Economic and Environmental Implications of Expiring Conservation Reserve Program Contracts.**
Diebel, P. L.; Janssen, L. L.; and Smith, K.; NC-214 Committee Final Report, 1997.
Descriptors: Conservation Reserve Program/ United States/ State conservation programs/ North Carolina
Abstract: Discussed policy implications of a new 1996 farm bill, using state level studies of environmental benefits and a demographic analysis of enrollees.

405. **Economic Valuation of Environmental Benefits and the Targeting of Conservation Programs: The Case of the CRP.**
Feather, P.; Hellerstein, D.; and Hansen, L.
Washington, DC: Economic Research Service, Resource Economics Div.; ERS AER778, 1999. 64 p.
Notes: Agriculture economic rept. 778
http://www.ers.usda.gov/publications/aer778/
Descriptors: Habitats / Wildlife/ Soil erosion/ Erosion control/ Preservation/ Recreation/ Hunting/ Ecosystems/ Value/ Cost benefit analysis/ Alternatives/ Program administration/ U.S. Department of Agriculture/ Environmental quality / Natural resource conservation/ Environmental Benefits Index/ CRP/ Conservation Reserve Program/ Valuation/ Natural resources and earth sciences/ Natural resource management/ Medicine and biology/ Ecology/ Agriculture and food/ Business and economics
Abstract: As the largest program designed to mitigate the negative environmental effects of

agriculture, the Conservation Reserve Program (CRP) has broadened its initial focus on reductions in soil erosion to consider other landscape factors that may also be beneficial. For example, preserving habitats can help protect wildlife, thus leading to more nature-viewing opportunities. This report demonstrates how nonmarket valuation models can be used in targeting conservation programs such as the CRP.

406. **Effects of soil and agricultural chemicals management on farm returns and ground water qualtiy.**
Setia, P. and Piper, S.
Review of Agricultural Economics 14 (1): 65-80. (Jan. 1992)
NAL Call #: HD1773.A3N6; *ISSN:* 0191-9016
Descriptors: maize/ soybeans/ pesticides/ agricultural chemicals/ soil management/ groundwater/ water quality/ leaching/ returns/ tillage/ federal programs/ conservation/ Corn Belt of USA/ Conservation Reserve Program/ conservation compliance program
Abstract: Economic and physical simulation models were utilized to evaluate the effect of alternative soil and agricultural chemical management systems, implemented under the Conservation Reserve and Conservation Compliance Programs, on pesticides' leaching, and returns to fixed farm resources. Findings of the study show that the selection of appropriate soil and chemical systems may not only increase farm returns but may also result in a significant reduction in leaching and hence ground water degradation.
This citation is from AGRICOLA.

407. **Enhancing CRP values.**
Hawn, T. and Getman, M.
Journal of Soil and Water Conservation 47 (2): 134-135. (1992)
NAL Call #: 56.8 J822; *ISSN:* 0022-4561
Descriptors: erosion control/ land resources/ resource management/ wildlife/ habitats/ Conservation Reserve Program/ agricultural economics (general)/ land development, land reform, and utilization (macroeconomics)/ natural resources
This citation is provided courtesy of NISC, publisher of Wildlife & Ecology Studies Worldwide.

408. **Environmental conservation strategies: What works and what might work better.**
Lovejoy, S. B.
In: Flexible incentives for the adoption of environmental technologies in agriculture/ Casey, F.; Schmitz, A.; Swinton, S.; and Zilberman, D. Norwell, Mass.: Kluwer Academic Publishers, 1999; pp. 43-54.
Notes: ISBN: 0-7923-8559-4
This citation is provided courtesy of CAB International/CABI Publishing.

409. **Environmental indices and the politics of the Conservation Reserve Program.**
Ribaudo, M. O.; Hoag, D. L.; Smith, M. E.; and Heimlich, R.
Ecological Indicators 1 (1): 11-20. (Aug. 2001); *ISSN:* 1470-160X
Descriptors: Environment management/ Agricultural land/ Soil erosion/ Environmental monitoring/ Conservation/ Indicators/ Agriculture/ Management/ Enviromental & Natural Resource Development
Abstract: Environmental indicators can be used to target public programs to provide a variety of benefits. Social scientists, physical scientists, and politicians have roles in developing indicators that reflect the demands of diverse interest groups. We review the US Department of Agriculture's Conservation Reserve Program (CRP), the largest agricultural conservation program of the United States, to determine how a set of environmental indicators were developed and used, and assess results of their application. The use of such indicators has helped the CRP increase and broaden the program's environmental benefits beyond erosion reduction, which was the primary focus of early program efforts, to meet other demands. This case study provides an example about how integration and assessment for the purpose of managing public resources requires more than natural science disciplines. Social science can help explain how public values influence what information is collected and how it is interpreted. Examples are given to show how the indices used for the CRP integrated science, politics and social values. In the end, the environmental benefits index (EBI) used to target US$ 20 billion of CRP funds reflects compromises made between science and policy considerations. It is our intention that studying this index will yield ideas and understanding from the natural science community that develops ecosystem indices about how to better plug in to programs in the future.
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410. **Erodibility, ownership, and infrastructure: The Conservation Reserve Program as a planning tool.**
Willette, A. M.; Weisman, B.; Kramer, J. L.; Sweson, C. J.; Fonkert, J.; Baker, B. D.; and Gersmehl, P. J.
In: 1992 International Winter Meeting sponsored by the American Society of Agricultural Engineers. (Held 15 Dec 1992-18 Dec 1992 at Nashville, Tennessee.) St. Joseph, Mich.: American Society of Agricultural Engineers; 8 p.; 1992.
Notes: Paper numbers: 92-2502/92-2520; ISSN: 0149-9890
NAL Call #: 290.9-Am32P
Descriptors: soil conservation/ erosion/ environmental management
This citation is from AGRICOLA.

411. **Erodible land and state water quality programs: A linkage.**
Ogg, C. W.
Journal of Soil and Water Conservation 41 (6): 371-373. ill., maps. (Nov. 1986-Dec. 1986)
NAL Call #: 56.8-J822; *ISSN:* 0022-4561 [JSWCA3]
Descriptors: soil and water conservation/ erosion/ erosion control/ water composition and quality/ pollution by agriculture/ reserves/ state government/ United States/ Conservation Reserve Program
This citation is from AGRICOLA.

412. **Evaluating the sustainability of alternative farming systems: A case study.**
Ikerd, J.; Devino, G.; and Traiyongwanich, S.
*American Journal of Alternative Agriculture 11 (1): 25-29. (*1996)
NAL Call #: S605.5.A43; *ISSN:* 0889-1893 [AJAAEZ]
Descriptors: alternative farming/ farming systems/ sustainability/ assessment/ environmental impact/ economic impact/ social impact/ federal programs/ case studies/ Missouri/ Conservation Reserve Program/ alternative versus conventional farming systems
Abstract: The sustainability of farming systems must be assessed by their potential environmental, economic, and social performance. We present a case study to illustrate an assessment of relative sustainability that uses all three performance criteria. We developed two scenarios for farmland currently enrolled in the Conservation Reserve Program (CRP) in Putnam County, Missouri: a conventional scenario reflecting farming practices typical of northern Missouri, and an alternative that we hypothesize to be more environmentally sound. We used selected economic and social indicators to assess whether the latter would be at least as economically viable and socially responsible as the conventional system. Estimated direct farm income was $3.4 million for the alternative and $2.4 million for the conventional scenario. The alternative system applies more labor and management to a given land resource and may support more farming families. Estimated total community economic impacts were 25% greater for the alternative than the conventional farming scenario. CRP land, therefore, could be resumed to production in a way that could significantly enhance local economic and social benefits while retaining many of the CRP's environmental benefits.
This citation is from AGRICOLA.

413. **Expanding the conservation reserve to achieve multiple environmental goals.**
Ogg, C. W.; Hostetler, J. E.; and Lee, D. J.
Journal of Soil and Water Conservation 43 (1): 78-81. (1988)
NAL Call #: 56.8 J822; *ISSN:* 0022-4561
Descriptors: conservation/ soils/ environmental management/ ecology/ Food Security Act 1985/ Standards, laws, regulations and policy
Abstract: The 1985 Food Security Act (P.L. 99-198) authorizes the largest Conservation Reserve Program in history. Although this act emphasizes the need to alleviate huge surpluses of federally stored grain and reduce financial distress among farmers, it designates only certain highly erodible acres or other acres that "pose an off-farm environmental threat" for CRP eligibility. The program has the potential to both conserve soil and reduce crop surpluses by idling within the next five years as many acres as last year's unusually large farm program acreage set-aside.
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414. **Exploring methods of selecting cropland for conservation.**
Feather, P.; Hellerstein, D.; and Hansen, L.
Agricultural Outlook (AO) (No. AO-254): 21-24. (1998)
NAL Call #: aHD1751.A422
This citation is provided courtesy of CAB International/CABI Publishing.

415. **Farms and wetlands benefit from farm bill conservation measures.**
Pederson, Roger L
National Wetlands Newsletter 23 (3): 9-12. (2001); *ISSN:* 0164-0712
Descriptors: Wetlands---Conservation---Legislation/ Environmental law---United States/ United States---Environmental policy---Legislation/ Farms---Environmental aspects/ Agriculture---Environmental aspects/ Nature conservation---United States---Legislation
Abstract: Discusses wetland conservation, focusing on three federal programs: Wetlands Reserve Program, Conservation Reserve Program, and Wetland Conservation Restrictions of the Food Security Act of 1985, known as "Swampbuster"; policy options; US.
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416. **Final Programmatic Environmental Impact Statement for the Conservation Reserve Program (CRP).**
Farm Service Agency,
U. S. Department of Agriculture
Washington, D.C.:
U.S. Department of Agriculture, 2003.
Notes: Contains Appendix D, Literature Review and Research Recommendations for the Conservation Reserve Program, which "documents a preliminary review of available scientific studies on the efficacy and benefits of the Conservation Reserve Program."
http://www.fsa.usda.gov/dafp/cepd/epb/impact.htm
Descriptors: Conservation Reserve Program/ environmental impact statements/ natural resource management/ wildlife conservation/ wildlife management/ wildlife habitats

417. **Financial and economic analysis of CRP, row crop, and white pine production on erodible lands of southern Ohio.**
Shakya, B. S. and Hitzhusen, F. J.
In: ESO: Economics and sociology occasional paper; Columbus, Ohio: Ohio State University, Dept. of Agricultural Economics and Rural Sociology, 1992. 14 p.
NAL Call #: HD1411.O3
Descriptors: erosion/ pinus/ economic analysis/ federal programs/ marginal land/ mathematical models/ finance/ Ohio/ Conservation Reserve Program
This citation is from AGRICOLA.

418. **First principles: The definition of highly erodible land and tolerable soil loss.**
Benbrook, C. M.
Journal of Soil and Water Conservation 43 (1): 35-38. (1988)
NAL Call #: 56.8 J822; *ISSN:* 0022-4561
Descriptors: land resources/ erosion/ water quality/ resource management/ conservation/ basic approaches, concepts, and theory
Abstract: There is much to celebrate, The Conservation Title of the farm bill is widely acclaimed as an historic breakthrough. The Conservation Reserve Program has already attracted 23 million acres into stable land uses, accounting for the most dramatic and rapid reduction in soil erosion ever achieved by government action in this country.
© Cambridge Scientific Abstracts (CSA)

419. **Food Security Act of 1985: Impact on resource management and utilization.**
Teels, B. M.
In: Conference proceedings Income Opportunities for the Private Landowner Through Management of Natural Resources and Recreational Access. (Held 9 Apr 1989-12 Apr 1989 at Wheeling, W.Va.)
Grafton, William N. (eds.)
Morgantown, W.Va.: West Virginia University Extension Service; pp. 38-45; 1990.
NAL Call #: GV191.6.I52-1989
Descriptors: wildlife / wetlands/ habitats/ erosion/ soil conservation/ legislation/ federal programs/ environmental protection/ economic impact/ recreation / income/ resource management/ resource utilization/ USDA/ land diversion/ United States/ Conservation Reserve Program/ Swampbuster/ Sodbuster
This citation is from AGRICOLA.

420. **The Food Security Act of 1985: The Conservation Title and its impact on the South.**
Batie, S. S.
SRDC Series - Southern Rural Development Center (86): 67-73. (Oct. 1986)
NAL Call #: HT401.S72.
Notes: Paper presented at a Regional Workshop on: "The Food Security Act of 1985--Impact for Extension Farm Management, Marketing, and Policy Programs in the South," April 8-9, 1986, Knoxville, Tennessee.
Descriptors: land use / wetlands/ erosion/ soil conservation/ legislation/ public opinion/ economic impact/ south eastern states of USA/ south central states of USA
This citation is from AGRICOLA.

421. **From Microlevel Decisions to Landscape Changes: An Assessment of Agricultural Conservation Policies.**
Wu, J. J.; Adams, R. M.; Kling, C. L.; and Tanaka, K.
American Journal of Agricultural Economics 86 (1): 26-41. (2004); *ISSN:* 0002-9092
This citation is provided courtesy of CAB International/CABI Publishing.

422. **From the field: What farmers have to say about Vermont's Farmland Conservation Program.**
Ferguson, Kirsten. and Cosgrove, Jeremiah.:
Saratoga Springs, NY: American Farmland Trust, c2000.; 40 p.: ill., maps; 28 cm. (2000)
NAL Call #: S604.62.V5 F47 2000
http://www.farmlandinfo.org/documents/29389/From_The_Field.pdf
Descriptors: Vermont Farmland Conservation Program/ Agricultural conservation---Vermont/ Farms---Vermont
This citation is from AGRICOLA.

423. **Grazing and haying effects on runoff and erosion from a former Conservation Reserve Program site.**
Gilley, J. E.; Patton, B. D.; Nyren, P. E.; and Simanton, J. R.
Applied Engineering in Agriculture 12 (6): 681-684. (Nov. 1996)
NAL Call #: S671.A66; *ISSN:* 0883-8542
Descriptors: agricultural land/ land management/ federal programs/ land use/ change/ soil conservation/ grassland management/ grazing/ rotational grazing/ haymaking/ prescribed burning/ runoff/ water erosion/ sediment/ losses from soil/ canopy/ vegetation/ coverage/ surface roughness/ bulk density/ soil compaction/ North Dakota/ season long grazing
Abstract: Grazing and haying effects on runoff and erosion from a former Conservation Reserve Program (CRP) site near Streeter, North Dakota, were determined. Treatments included undisturbed CRP, twice-over rotational grazing, season-long grazing, haying, and burning. Runoff and erosion were measured from simulated rainfall which was applied to 3.7 X 10.7 m (12.0 X 35.1 ft) plots. Following an initial stabilization period, no significant difference in runoff or erosion was found between the season-long grazing and burned treatments. Use of the CRP site for grazing or haying resulted in a significant increase in runoff compared to leaving the area in an undisturbed condition. Similar amounts of erosion were measured from the twice-over rotational grazing, season-long grazing, and hayed treatments. If adequate canopy and basal cover is maintained, use of this CRP site for grazing or haying would not be expected to result in excessive erosion.
This citation is from AGRICOLA.

424. **The Great Plains: America's best chance for ecosystem restoration, part 1.**
Licht, Daniel S.
Wild Earth 4 (2): 47-53. (1994); *ISSN:* 1055-1166
Descriptors: Canis latrans/ Mephitis/ Microtus pennsylvanicus/ Procyon lotor/ Vulpes vulpes/ Ciconiiformes/ Fringillidae/ Passeriformes/ Scolopacidae/ Ammodramus bairdii/ Bartramia longicauda/ Catoptrophorus semipalmatus/ Gallinago gallinago/ Limosa fedoa/ Molothrus ater / Phalaropus tricolor/ agricultural practices/ birds/ Conservation Reserve Program/ ecosystem management/ ecosystems/ farmland/ grasslands/ habitat alterations/ land, private/ mammals/ management/ restoration/ coyote/ red fox/ raccoon/ skunk/ meadow vole/ Baird's sparrow/ brown headed cowbird/ marbled godwit/ upland sandpiper/ common snipe/ Wilson's phalarope/ willet/ North America: Great Plains
Abstract: The author discusses the Conservation Reserve Program (CRP) in the United States and its effect on Great Plains wildlife and ecosystems. Although a large number of acres are temporarily taken out of agricultural use under the CRP program, the individual tracts are small. Very often, farmers plant exotic grasses on the CRP tracts instead of native ones that would support native wildlife species. This citation is provided courtesy of NISC, publisher of Wildlife & Ecology Studies Worldwide.

425. **Haying, tillage, and nitrogen fertilization influences on infiltration rates at a Conservation Reserve Program site.**
Wienhold, B. J. and Tanaka, D. L.
Soil Science Society of America Journal 64 (1): 379-381. (2000)
NAL Call #: 56.9-So3; *ISSN:* 0361-5995 [SSSJD4]
Descriptors: mollisols/ entisols/ infiltration/ grassland soils / land use/ conversion/ harvesting/ tillage/ no-tillage/ minimum tillage/ nitrogen fertilizers/ North Dakota
Abstract: Effect of haying (hayed or not hayed prior to tillage), tillage (no-tillage, minimum tillage, or conventional tillage), and N fertilization (0 or 67 kg ha(-1)) on surface infiltration rates, Q(h), was evaluated for Conservation Research Program (CRP) site conversion. Soils included Amor loam (fine-loamy, mixed, superactive, frigid Typic Haplustoll) and Cabba silt loam (loamy, mixed, superactive. calcareous, frigid, shallow Typic Ustorthent). In reference plots Q(h) increased from 1995 to 1997 (27.2 +/- 3.2 vs. 36.4 +/- 2.9 mm h(-1) at 50-mm tension, 10.9 +/- 12 vs. 20.6 +/- 1.4 mm h(-1) at 100-mm tension, and 4.1 +/- 0.6 vs. 10.9 +/- 1.1 mm h(-1) at 150 mm-tension) under permanent vegetation. Plots hayed prior to tillage exhibited higher Q(h) when no fertilizer was applied than plots hayed and fertilized or not hayed (31.9 +/- 2.9 vs. 23.3 +/- 1.3 mm h(-1) at 50-mm tension and 18.1 +/- 1.3 vs. 13.5 +/- 0.6 mm h(-1) at 100-mm tension). As tillage intensity increased, Q(h) at 50-mm tension increased (20.1 +/- 2.6 mm h(-1) under no-tillage, 25.5 +/- 1.6 mm h(-1) under minimum tillage, and 30.1 +/- 2.0 mm h(-1) under conventional tillage). Q(h) did not change from 1995 to 1997 in cropped plots.
This citation is from AGRICOLA.

426. **The Impacts of CRP in the Future.**
Dicks, M. R.
In: Proceedings of the American Society of Farm Managers and Rural Appraisers' Annual Meeting. (Held 21 Oct 1996-28 Oct 1996 at Dallas,TX.) Chicago, Ill.: American Society of Farm Managers and Rural Appraisers; 1996.
Descriptors: Conservation Reserve Program/ State conservation programs/ Oklahoma
Abstract: Analyzed the economic, environmental and land use interactions of CRP expiration with reduced supply management under FAIR.

427. **Impacts of the Conservation Reserve Program in the Great Plains: Symposium Proceedings.**
Mitchell, J. E.
Fort Collins, Co: Rocky Mountain Forest and Range Experiment Station; Series: Forest Service general technical rept. 158; 142 p. (1988)
Notes: Meeting held September 16-18, 1987 at Denver, Colorado; PB88225164XSP
Descriptors: Land use / Farm management/ Agricultural economics/ Erosion control/ Vegetation/ Government policies/ Federal assistance programs/ Meetings/ Soil conservation/ Soil erosion/ Food Security Act of 1985/ Conservation Reserve Program/ Food Security Act/ Great Plains/ Land Management/ Natural resources and earth sciences/ Natural resource management/ Agriculture and food/ Agricultural economics
Abstract: The Conservation Reserve Program, created by the Food Security Act of 1985, will place up to 45 million acres of cropland under permanent cover for 10 years. It provides opportunities to reduce soil erosion, enhance wildlife habitat, stimulate the farm economy, and reduce commodity surpluses in the Great Plains area. Topics covered in the symposium include the history of plowing and planting on the Great Plains, program rationale, climatologic and weather factors, establishment of range plants, shrubs and forbs in various plains regions, socioeconomic impact of the reserve program, current land use situation and anticipated ecological impacts of the program, total ranch management planning, Midwest policy issues, role of wildlife and wetlands, farm bill legislation history and economics, the native plant seed industry, changes in regional ecology, research needs, and the role of federal agencies in program implementation.

428. **Implementing CRP: Progress and prospects.**
Hertz, M.
Journal of Soil and Water Conservation 43 (1): 14-16. ill. (Jan. 1988-Feb. 1988)
NAL Call #: 56.8-J822; *ISSN:* 0022-4561 [JSWCA3]
Descriptors: soil and water conservation/ water composition and quality/ participation/ program evaluation/ projections/ United States/ food security act of 1985/ Conservation Reserve Program/ enrollment/ retired acres
This citation is from AGRICOLA.

429. **Implementing the Conservation Reserve Program.**
Dicks, M. R.; Reichelderfer, K.; and Boggess, W.
Washington, DC: Economic Research Service, Natural Resource Economics Div.; AGES861213; PB87154191XSP, 1987. 27 p.
Notes: Staff report
Descriptors: Soil erosion/ Water erosion/ Wind erosion/ Stream erosion/ Soil conservation/ Erosion control/ Agricultural economics/ Conservation Reserve Program/ 1985 Food Security Act/ Natural resource management/ Natural resources and earth sciences/ Soil sciences/ Agriculture and food/ Agricultural economics
Abstract: The Conservation Reserve Program (CRP) is a multi-year, the multi-objective program of the 1985 Food Security Act Scheduled to retire 40 million acres of highly erodible cropland by 1990. The Secretary of Agriculture has considerable discretion in implementing the program. The report analyzes the effects of various eligibility, pooling, and bid selection criteria on the performance of the Conservation Reserve. The program can be implemented to favor erosion reduction, supply control, or budget reduction to varying degrees. Furthermore, the operation and performance of the CRP are closely linked with other conservation and commodity program provisions of the 1985 Food Security Act.

430. **Implementing the Conservation Reserve Program: Analysis of Environmental Options.**
Ogg, C. W.; Aillery, M. P.; and Ribaudo, M. O.
Washington, DC: Economic Research Service, Resources and Technology Div.; USDAAER618; ERSAER618XSP, 1989. 33 p.
Notes: Agricultural economic rept. 618; See also PB87-154191; Replaces PB90-127721
Descriptors: Soil erosion/ Cost analysis/ Profits/ Environmental impacts/ Watersheds/ Water quality/ Wildlife/ Ground water/ Water conservation/ Irrigation/ Habitats/ Agriculture and food/ Agricultural equipment facilities and operations/ Natural resource management/ Natural resources and earth sciences/ Hydrology and limnology/ Environmental pollution and control/ Water pollution and control
Abstract: Benefits would be mixed if the Conservation Reserve Program (CRP) were expanded to include irrigated land, highly erodible land, and land with wetness problems, which contribute to environmental problems. The report examines the following options for implementing environmental provisions of the CRP: Irrigated land. Enrollment costs for the acreage are high since irrigation is profitable in many areas. Net environmental benefits would not likely increase. Erodible land in watersheds with pollution problems. Water quality could benefit considerably by targeting selected watersheds. Targeting modest acreages of buffer strips near streams would increase benefits even more. Wildlife habitat would improve by restoring up to 6 million acres to wetlands.

431. **Implementing the conservation title.**
Ervin, C. A.
Journal of Soil and Water Conservation 44 (5): 367-370. (Sept. 1989-Oct. 1989)
NAL Call #: 56.8-J822; *ISSN:* 0022-4561 [JSWCA3]
Descriptors: soil conservation/ implementation of research/ erosion/ environmental impact
This citation is from AGRICOLA.

432. **Implementing the Conservation Title of the Food Security Act of 1985: A field-oriented assessment.**
Soil and Water Conservation Society (U.S.)
Ankeny, Iowa: Soil and Water Conservation Society; 74 p.: ill., 1 map. (1990)
NAL Call #: HD256.I47--1990
Descriptors: Land use, Rural---Government policy---United States
This citation is from AGRICOLA.

433. **Implications of land conversions and management for the future.**
Roath, L. R.
In: General Technical Report RM.
Fort Collins, Colo.: Rocky Mountain Forest and Range Experiment Station, 1988; pp. 66-69.
Notes: Report Series ISSN: 0277-5786; Proceedings of a Symposium on "Impacts of the Conservation Reserve Program in the Great Plains," held Sept 16-18, 1987, Denver, Colorado. Includes references.
NAL Call #: aSD11.A42
Descriptors: erosion/ erosion control/ soil conservation/ land diversion/ revegetation/ Conservation Reserve Program
This citation is from AGRICOLA.

434. **Interim Appraisal and Analysis of Conservation Alternatives.**
Washington, DC: Natural Resources Conservation Service; PB2003104447XSP, 2001. CD-ROM
Notes: Relation:
http://www.nrcs.usda.gov/technical/land/pubs/rca/
This document is color dependent and/or in landscape layout. It is currently available on CD-ROM, PDF and paper only.
http://www.nrcs.usda.gov/technical/land/pubs/rca/NRCSfinal.pdf
Descriptors: Technical assistance/ Finance/ Incentives/ U.S. Department of Agriculture/ Government programs/ Farms/ Agriculture/ Farmland/ Land use planning/ Natural resources conservation/ CRP/ Conservation Reserve Program/ Agriculture and food/ Agriculture and food/ Agricultural economics/ Natural resources and earth sciences/ Natural resource management
Abstract: The report identifies technical assistance and financial incentives to accomplish different resource conservation objectives based on analysis of possible conservation initiatives. The initiatives include reducing erosion on all cropland, implementing a cropland stewardship proposal, accomplishing two million miles of buffers for the nations waterways, enrolling 250,000 additional acres per year in the Wetlands Reserve Program, investing $65 million per year in the Farmland Protection Program and expanding the Conservation Reserve Program to 45 million acres. Overall results indicate that there are significant opportunities to improve soil, water and other environmental conditions into the future.

435. **Land Retirement.**
Smith, Mark
In: Agricultural and Resource Economics Indicators/ United States Department of Agriculture, Economic Research Service Resource Economics Division, 2000. [Chapter 6.2]
Notes: Report ID: AH 722
http://www.ers.usda.gov/publications/arei/ah722/arei6_2/AREI6_2landretire.pdf
Descriptors: Conservation Reserve Program/ United States
Abstract: Provided a review of the CRP and WRP from their inception, including acres enrolled, cover practices, the EBI, and a summary of costs and benefits.

436. **Monitoring the conservation title.**
Cook, K. A.
Journal of Soil and Water Conservation 43 (1): 54-57. (Jan. 1988-Feb. 1988)
NAL Call #: 56.8-J822; *ISSN:* 0022-4561 [JSWCA3]
Descriptors: soil and water conservation/ wetlands/ monitoring/ program development/ agricultural policy/ program evaluation/ United States/ policymakers/ conservation reserve program
This citation is from AGRICOLA.

437. **Natural Resources and Users Benefit from the Conservation Reserve Program.**
Ribaudo, M. O.; Colacicco, D.; Langner, L. L.; Piper, S.; and Schaible, G. D.
Washington, DC: Economic Research Service, Resources and Technology Div.; USDAAER627; ERSAER627XSP, 1990 . 54 p.
Notes: Replaces PB90-167452; Also available from Supt. of Docs.
NAL Call #: A281.9--Ag8A-no.627
Descriptors: Protection/ Erosion control/ Planting/ Grasses/ Trees Plants/ Agriculture/ Improvement/ Ground water/ Wildlife/ Water quality/ Air quality/ Evaluation/ Losses/ Benefit cost analysis/ Models/ Tables Data/ Soil conservation/ Natural resources/ Land retirement program / Habitats/ Natural resources and earth sciences/ Soil sciences
Abstract: The Conservation Reserve Program (CRP) may generate $6-14 billion (present value) in benefits to natural resources if 45 million acres of highly

erodible or environmentally sensitive cropland are removed from agricultural production by 1990. Protecting the soil by retiring and planting permanent grasses and trees on such land for 10 years will improve soil productivity, water quality, air quality, wildlife habitat, and groundwater supply. But the magnitude and distribution of benefits can be altered by changing the emphasis of the program. The report estimates how retiring cropland benefits natural resources under three scenarios of CRP enrollment.

438. **New CRP criteria enhance environmental gains.**
Osborn, T.
Agricultural Outlook [AO] (245): 15-18. (Oct. 1997)
NAL Call #: aHD1751.A42; *ISSN:* 0099-1066 [AGOUD7]
Descriptors: land use / federal programs/ environmental protection/ Conservation Reserve Program
This citation is from AGRICOLA.

439. **New roles for long term cropland diversion.**
Ogg, C. and Kuch, P.
Journal of Soil and Water Conservation 49 (5): 438-439. (1994)
NAL Call #: 56.8 J822; *ISSN:* 0022-4561
Descriptors: soil conservation/ soil management/ government supports/ wildlife habitats/ cropland/ economic aspects/ water quality management/ Watershed protection
Abstract: In the early 1980s, articles in this Journal made ambitious claims regarding long term cropland diversion. They said that the U.S. could dramatically reduce soil erosion while avoiding annual, paid diversion programs, which cost much more. The Conservation Reserve Program (CRP) now plays a central role in farm bill debates largely because it is delivering on those promises, while meeting wildlife needs, as well. Success opens up new opportunities to design effective programs based, again, on good analysis, but focusing more on wildlife and water quality benefits from crop diversions and on supporting resource management on land remaining in crop production.
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440. **North Central Oregon Conservation Reserve Program Survey: A summary of results.**
McLeod, Donald M.
Corvallis: Dept. of Agricultural and Resource Economics, Oregon State University; 46 p.: ill.; Series: Special report (Oregon State University. Agricultural Experiment Station 959. (1996)
Notes: "April 1996." Includes bibliographical references (p.36-37).
NAL Call #: 100--Or3M-no.959
This citation is from AGRICOLA.

441. **Offsite sediment damage benefits of the Conservation Reserve Program in the southern United States.**
Alexander, R. R.; English, B. C.; Robertson, T.; and Post, D.
Southern Journal of Agricultural Economics 21 (1): 189. (July 1989)
NAL Call #: HD101.S6; *ISSN:* 0081-3052
Descriptors: sediment pollution/ pollution by agriculture/ soil conservation/ south eastern states of USA/ south central states of USA/ Conservation Reserve Program
This citation is from AGRICOLA.

442. **Overview of the present land-use situation and the anticipated ecological impacts of program implementation.**
Newman, J. B.
In: General Technical Report RM.
Fort Collins, Colo.: Rocky Mountain Forest and Range Experiment Station, 1988; pp. 55-59.
Notes: Report Series ISSN: 0277-5786; Proceedings of a Symposium on "Impacts of the Conservation Reserve Program in the Great Plains," held Sept 16-18, 1987, Denver, Colorado. Includes references.
NAL Call #: aSD11.A42
Descriptors: resource conservation/ soil conservation/ erosion control/ land diversion/ programs/ revegetation/ northern plains states of USA/ southern plains states of USA/ Conservation Reserve Program
This citation is from AGRICOLA.

443. **Regional and state perspectives on Conservation Reserve Program (CRP).**
Allen, A. W.
Fort Collins, CO: National Ecology Research Center, National Biological Survey; U.S. Fish and Wildlife Service Federal Aid Report, 1994.
Descriptors: Regional conservation programs/ State conservation programs/ Conservation Reserve Program/ United States
Abstract: Literature reviewed of information furnished by state and federal biologists on regional effects of CRP on wildlife in agricultural ecosystems.

444. **Risk Assessment for National Natural Resource Conservation Programs.**
Powell, M. R. and Wilson, J. D., 1997. 31 p.
Resources for the Future Discussion Papers 97-49.
http://www.rff.org/rff/Documents/RFF-DP-97-49.pdf
Descriptors: Conservation Reserve Program/ United States
Abstract: Reviewed risk assessments prepared by the USDA in support of regulations implementing CRP and EQIP.

445. **Runoff, erosion, and soil quality characteristics of a former Conservation Reserve Program site in southwestern Oklahoma.**
Gilley, J. E.; Donan, J. W.; and Dao, T. H.
Applied Engineering in Agriculture 13 (5): 617-622. (Sept. 1997)
NAL Call #: S671.A66; *ISSN:* 0883-8542
Descriptors: triticum aestivum/ winter wheat/ bothriochloa/ ischaemum/ grassland soils/ wheat soils/ erodibility/ land use/ conversion/ erosion/ runoff/ soil/ losses from soil/ soil fertility/ quality/ land productivity/ no-tillage/ conservation tillage/ erosion control/ soil properties/ federal programs/ Oklahoma/ consevation reserve program/ erodible soils/ soil quality
Abstract: This study was conducted to measure runoff, erosion, and soil quality characteristics of a site in southwestern Oklahoma the first year following conversion from the Conservation Reserve Program (CRP). Treatments included undisturbed CRP, Old World bluestem (Bothriochlora ischaemum L.), no-till wheat (Triticum aestivum L.) and conservation-till wheat. Significant differences in surface cover were found between each of the experimental treatments, with values ranging from 100% on the undisturbed CRP site to 42% for the conservation-till treatment. No significant difference in runoff was found among the various experimental treatments. The Old World bluestem and winter wheat treatments had only minimal erosion during the first year following conversion from the CRP. Production of Old World bluestem maintained levels of soil quality similar to those of the undisturbed CRP. Conversion of this CRP area to winter wheat production significantly reduced biological nutrient reserves, suggesting a degradation of soil quality. If this trend continues, long term productivity and the quality of air and water resources at this site could be affected.
This citation is from AGRICOLA.

446. **Sea of grass in New Mexico: A perspective on CRP.**
Garcia, H. B.
Rangelands 15 (1): 18-21. (Feb. 1993)
NAL Call #: SF85.A1R32; *ISSN:* 0190-0528
Descriptors: sown grasslands/ range management/ prescribed burning/ introduced species/ wildlife management/ erosion control/ grazing systems/ New Mexico
This citation is from AGRICOLA.

447. **Socioeconomic impacts of the Conservation Reserve Program in North Dakota.**
Leistritz, F Larry; Hodur, Nancy M.; and Bangsund, Dean A.
Rural America 17 (3): 57-65. (Fall 2002)
Descriptors: Rural population---Economic conditions/ Farms---Economic aspects/ Land utilization---Environmental aspects/ North Dakota---Environmental policy/ United States---Agricultural policy/ North Dakota---Social conditions/ North Dakota---Economic conditions/ Wildlife conservation---United States---North Dakota/ Conservation of resources---United States---North Dakota
Abstract: Examines effects of the CRP of long-term land retirement, focusing on income stability for participating landowners, environmental benefits, farm supply, decline of rural population, wildlife conservation, and recreation; policy issues.
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448. **Third Grazing Lands Forum: Grazing Lands and the Conservation Reserve Program, Full report (Held 11-13 October 1988 at Harpers Ferry, WV).**
Heimlich, Ralph E.
Morrilton, AR: Winrock International, 1989. 51 p.: ill.
NAL Call #: HD241.G7-1988
Descriptors: Grazing Lands and the Conservation Reserve Program/ Grazing districts---United States/ Agricultural conservation---United States
This citation is from AGRICOLA.

449. **Tillage effects on water runoff and soil erosion after sod.**
Lindstrom, M. J.; Schumacher, T. E.; Cogo, N. P.; and Blecha, M. L.
Journal of Soil and Water Conservation 53 (1): 59-63. (1998)
NAL Call #: 56.8-J822; *ISSN:* 0022-4561 [JSWCA3]
Descriptors: medicago sativa/ bromus inermis/ grasslands/ land use/ conversion/ change/ plowing/ chiselling/ no-tillage/ infiltration/ runoff/ water erosion/ soil/ losses from soil/ land diversion/ federal programs/ soil structure/ erodibility/ erosion control/ South Dakota/ Conservation Reserve Program
This citation is from AGRICOLA.

450. **Trends in agriculture in the LEASEQ watersheds, 1975-1995.**
Richards RP; Baker DB; and Eckert DJ
Journal of Environmental Quality 31 (1): 17-24; 12 ref. (2002)
NAL Call #: QH540.J6
This citation is provided courtesy of CAB International/CABI Publishing.

451. **Twelve Years of Abandoned Mineland Reclamation Activities by the United States Department of Agriculture: Soil Conservation Service in Southwest Pennsylvania.**
Bogovich, W. M.
In: Land Reclamation: Advances in Research & Technology/ Younos, T.; Diplas, P.; and Mostaghimi, S.; Series: ASAE Publication 92-14. St. Joseph, Michigan: American Society of Agricultural Engineers, 1992; pp. 230-239.

Notes: 10 Fig, 6 Ref.
NAL Call #: TA705.2.L36 1992
Descriptors: Coal mining effects/ Department of Agriculture/ Environmental restoration/ Land reclamation/ Mining/ Pennsylvania/ Soil Conservation Service/ Acid mine drainage/ Costs/ Erosion control/ Hazards/ Legislation/ Sediment control/ Soil stabilization/ Strip mines/ Surface Mining Control Act/ Toxicity/ Vegetation establishment/ Waste capping/ Wetland construction/ Water quality control/ Watershed protection
Abstract: One-sixth of all abandoned coal-mine land in the United States is in the twelve southwestern counties of Pennsylvania. The Surface Mining Control Act of 1977 established several programs to reclaim abandoned coal mine land, one of which is the Rural Abandoned Mine Program. Sites reclaimed to date have all been Priority I sites, defined as those which present an imminent danger to life and property. 136 sites totalling 1137 acres (460 ha) have been reclaimed in the twelve counties over the last 12 years. One of the biggest problems associated with black gob piles is their potential toxicity to vegetation. A soil covering has been used on two of the 136 sites. Black locust and arnot bristly locust have been propagated on sites from seed during the vegetation phase of reclamation. During construction, both temporary and permanent measures for the control of erosion and sedimentation are installed, including: straw-bale barriers, filter-fabric fence, sediment basins and rock filter dams. Before reconstruction, many of the sites had high rates of sediment leaving the site. Surface-water control practices are used to stabilize the soil material and reduce the amount of gully erosion; examples are diversions, vegetated waterways, and rock-lined waterways. Mine openings and air shafts may discharge water and poorly-oxygenated air, and 183 openings have been closed to prevent access. Wetlands have been constructed on 11 sites to mitigate acid mine drainage. The average total cost of reclamation is approximately 9500 dollars per acre. (See also W94-00972) (Brunone-PTT)
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452. **USDA Conservation Programs: A Look at the Record.**
Hanson, LeRoy and Claassen, Roger
Agricultural Outlook (AO) (AGO-284): 22-25. (2001)
NAL Call #: aHD1751.A422; *ISSN:* 0099-1066
Descriptors: Environmental protection United States/ Agricultural conservation United States

453. **What We've Done--and What We Can Do: A Historical Perspective on the Food Security Act.**
Berg, N. A.
In: Groundwater and agrichemicals: Suggested policy directions for 1990; Navarre, Minnesota: Freshwater Foundation, 1990. P. 5-14, 8 ref.
Descriptors: Agricultural practices/ Environmental law/ Erosion control/ Food Security Act/ Policy making / Subsidies/ Water pollution control/ Education/ Farm management/ Nonpoint pollution sources/ Research/ Soil erosion/ Wetlands/ Wildlife habitats/ Water law and institutions/ Water quality control/ Watershed protection
Abstract: The Food Security Act of 1985 consists of eighteen titles which are designed to reduce soil erosion, improve wildlife habitat, decrease loss of wetlands acreage, and lower contamination of water quality from the nation's farmland. This policy radically differs from that of the 1970s, when the U.S. Department of Agriculture (USDA) promoted 'fence-row-to-fence-row' cultivation. Then, land best suited for grass, trees, or wetlands was converted to cropland that qualified for USDA commodity and credit programs. Yet damage from the all-cut-production thrust surfaced as the USDA prepared the 1982 National Resources Inventory (NRI) and reviewed the 1977 NRI information. Soil erosion, water quality and quantity, and loss of aquatic and terrestrial habitat continued, while production increases led to piled up surpluses and economic stress. Since the 1985 promulgation of the Food Security Act, over 30 million acres of highly erodible and scouring cropland have been planted with suitable vegetative cover for a ten-year period to reduce soil erosion under the Conservation Reserve Program (CRP) provision, 150,000 acres of wetlands have been preserved, and 2 million acres of trees have been planted to enhance wildlife habitat. The CRP acres do not require agrichemicals which benefits the land and water. Passage of the 1985 Food Security Act demonstrated that: (1) a small ad hoc conservation coalition could influence a largely urban Congress that the farm commodity programs, as costly as they had become, represented leverage on the everyday decisions of thousands of individual food and fiber producers; (2) public interest conservation groups could join traditional farm interests at the legislative table; and (3) the American tax-payer can demand stewardship, as a trade-off for their support of USDA commodity, credit, and insurance programs. In the future, maintenance of the 1985 Food Security Act should be encouraged, while passage of the 1990 farm policy should include: (1) removing policy constraints regarding introduction of grasses and/or legumes into cropping systems; (2) use of a carrot and stick approach to reduce the use of chemicals; (3) support for more education and technical assistance to farmers; and (4) accelerated research to provide the technology for sustainable, profitable farming. As the 1985 bill did for soil erosion, the 1990 farm policy will do for water quality protection. (See also W92-03438) (Collins-PTT)
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454. **When the CRP Ends: A Look at Production Alternatives for Highly Erodible Land in Southern Iowa.**
Jolly, R. W.; Vontalge, A.; Peterson, B.; and Spraque, R. Southern Iowa Forage and Livestock Committee and Iowa State University, Agriculture and Home Economics Experiment Station, University Extension; PM-1619, 1995.
Descriptors: Conservation Reserve Program/ State conservation programs/ Iowa
Abstract: Predicted the possible uses for land in Southern Iowa if CRP were ended, based on productivity and ownership characteristics.

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