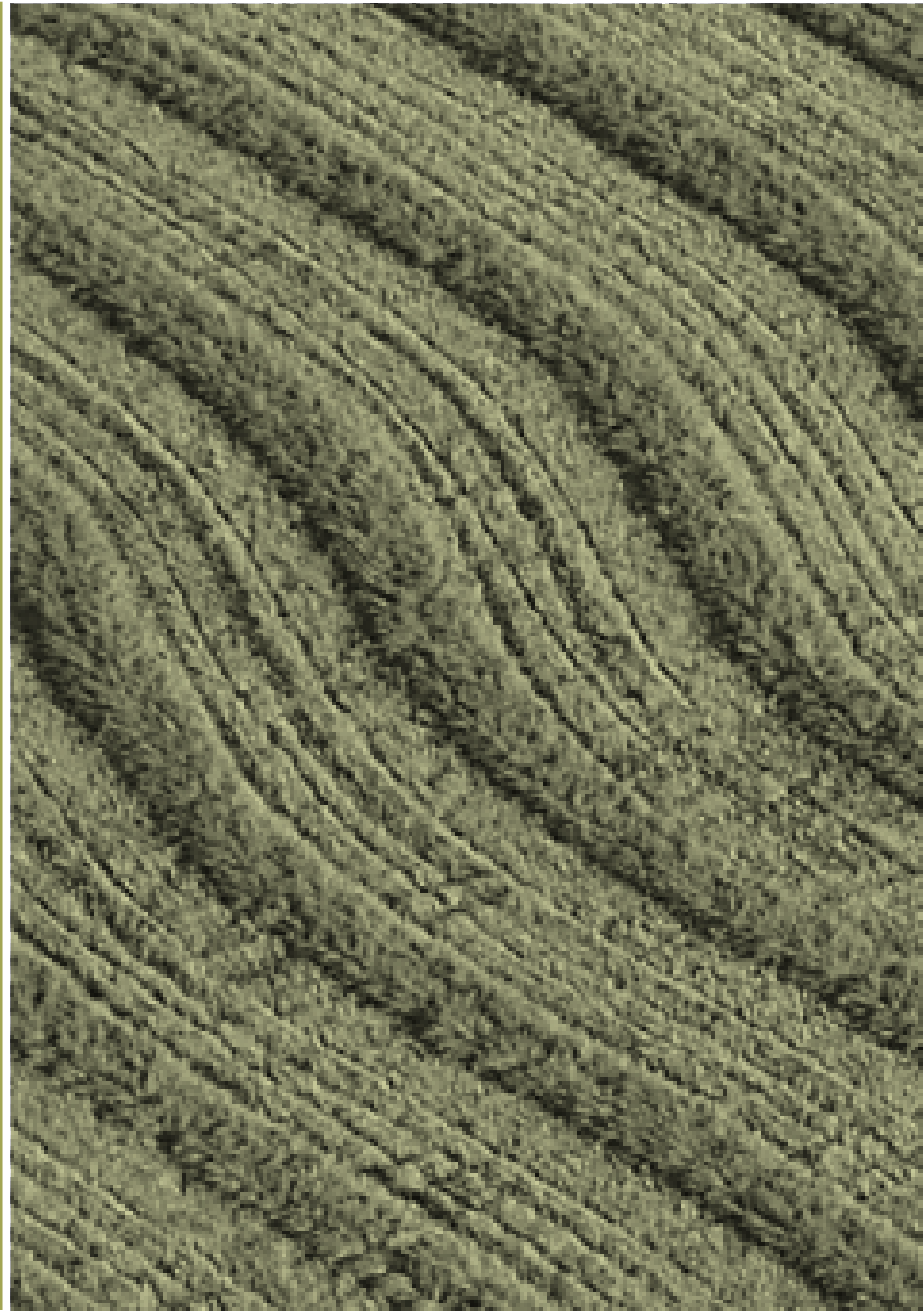


# CONSERVATION SECURITY PROGRAM (CSP)

PROGRAM ASSESSMENT

FEBRUARY 2007

A Report from the Soil and Water Conservation Society and Environmental Defense



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**Conservation Security Program (CSP) Program Assessment  
February 2007**

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# CONSERVATION SECURITY PROGRAM ASSESSMENT — EXECUTIVE SUMMARY

This assessment of the Conservation Security Program (CSP) is one of four assessments of the major U.S. Department of Agriculture (USDA) conservation programs. These assessments are intended to improve understanding of how these programs are working and how they may be improved. Assessing CSP is particularly important because it has great potential to contribute to a well-focused and strategic conservation effort on the nation's working land.

We relied on fiscal year 2005 program information for most of the analyses presented in this report. USDA's Natural Resources Conservation Service (NRCS) graciously provided us with 2005 CSP program data from its ProTracts database. NRCS staff, particularly the CSP program staff, answered many questions about CSP program policies, guidance, and data. We provided NRCS an advance copy of this report, and the agency graciously agreed to check the accuracy of the data and statements about program policy made in this report. The conclusions and recommendations, however, are solely the responsibility of Environmental Defense and the Soil and Water Conservation Society. NRCS's much-appreciated cooperation in completing this assessment must not be interpreted in any way as an endorsement of our conclusions and recommendations.

## **CSP FACES SERIOUS CHALLENGES**

CSP was designed to serve two purposes: (1) to provide a source of income to producers and (2) to improve environmental quality and natural resource condition in agricultural landscapes. These two purposes are complementary but different. Our assessment suggests that CSP is falling short of realizing either of its two purposes.

Urgent action is needed to recover the promise of CSP. Major changes must be made to the program, and a secure funding level must be established if CSP is to have any hope of realizing its potential. The status quo is not sustainable. Budget constraints, reluctance to replace crop production-based subsidies with stewardship-based subsidies, and a lack of emphasis on rewarding new rather than pre-existing conservation effort has put CSP in a no-mans land, impairing its ability to achieve either of its two purposes and increasing the risk that the program will lose the support of producers, conservation organizations, and Congress.

## **ALIGN VISION AND FUNDING**

It is possible for one program to achieve the two purposes of income support (rewarding good stewards) and environmental improvement (providing incentives for producers to take new actions to help the environment), but not without significant public investment. At least so far, Congress and the Administration have not been willing to make that investment; since enactment of the 2002 farm bill, Congress has capped funding for CSP six times.

These funding caps have had a profound effect on how CSP has been implemented. Even with the restrictions imposed to keep CSP within its budget caps, CSP funding will still have to grow at nearly a geometric rate each year. Traditionally, all the annual payments owed a producer under a multi-year contract are obligated in the fiscal year in which the contract is signed. NRCS, however, took a different approach with CSP and uses all of the funding provided in one fiscal year to pay participants only for the payments due in that fiscal year. This approach to meeting contract obligations substantially increased the number of producers who could participate in CSP, but also means that Congress must increase CSP funding every year in order to allow new producers to participate in the program. Even more funding will be needed each year to reward current participants for doing more to improve the environment. Modifications made to 2004 CSP contracts, for example, increased the cost of those contracts by 69%. This is good news: it indicates the willingness of producers to increase their level of conservation effort on their farms and ranches. But the increase in cost also demonstrates the challenge ahead to provide adequate funding both to reward current participants who are willing to do more and to enroll new producers based on what they are already doing. The variable rate enhancement payment policy implemented in the 2005 sign-up will take some of the pressure off the CSP budget but will also increase the demand by current participants wanting to add new activities to shore up their declining payments.

Achieving such a substantial annual growth in funding for CSP in the next farm bill will be challenging given budget realities and competing demands from numerous stakeholders. Moreover, the difficult and troubling budget history of CSP may make some members of Congress reluctant to dramatically increase funding for the program in the farm bill for fear that later Congressional

actions will result in new caps and diversion of the funding to other purposes.

CSP cannot continue to function with such a large gap between the vision of an open-ended entitlement program and the reality of strict caps on annual funding. The current gap between vision and reality has already sparked intense criticism of the implementation decisions NRCS has made to keep the program within funding caps.

Congress must either provide the funding needed to fully realize the vision or limit the vision of CSP to fit within available funding.

## **REWARD MORE THAN THE STATUS QUO**

CSP, as currently implemented, presents conservationists with a dilemma. Taxpayers are largely paying for environmental benefits they are already receiving. Existing practice payments (4% of payments), stewardship payments (14% of payments), and all of the enhancement payments paid through the end of fiscal year 2005 (82% of payments) are for benchmark, that is, pre-existing practices and activities. Essentially all of the CSP payments made through the end of fiscal year 2005 and a large majority of total payments anticipated over the life of 2005 CSP contracts, then, are rewarding participant's status quo level of conservation effort.

As implemented, CSP puts the priority on rewarding the status quo. Improving the status quo depends entirely on whether Congress increases CSP funding enough to modify current contracts and reward producers for going above and beyond their benchmark (pre-existing) level of conservation effort. Unless CSP reverses its priorities, it will do little to help agriculture meet its serious and growing environmental challenges. Meeting those environmental challenges requires changing the status quo, not rewarding the status quo.

Rewarding the status quo—providing farmers and ranchers a return on their past and ongoing investment in conservation—is a much better way to support income than the current amalgam of crop and income subsidies in place today. It is also a laudable way to reward the good actors in conservation rather than directing taxpayer funding to producers who have not made much of an investment in conservation. But this approach will be costly and will likely require transforming current crop production-based subsidies to subsidies based on stewardship. Until such a fundamental shift in farm policy is made, rewarding the status

quo with limited conservation program dollars is an inefficient and likely ineffective way to meet the significant environmental challenges confronting agriculture.

There are many ways CSP could be reformed to do a much better job of helping agriculture meet these challenges. Enhancement payments, for example, could be reserved only for new effort above and beyond the benchmark (pre-existing) level of effort rewarded through stewardship payments. Alternatively, contracting periods in CSP could be shortened to five years and producers be required to do more in order to renew their contracts (and receive higher payments) for another five years. Alternatively, producers could be required to plan for and commit to new conservation practices and activities as part of their CSP contract with their CSP payment growing as those new practices and activities come online.

The CSP framework provides multiple opportunities to increase its effectiveness to improve the status quo level of conservation on U.S. agricultural land. The best specific option to choose depends on many factors, not least of which is the funding level Congress provides for CSP in the future. It is imperative that a future CSP devote much more of its resources to spurring new effort to meet agriculture's mounting environmental challenges.

## **EMPHASIZE QUALITY OVER QUANTITY**

CSP, in statute and in implementation, rewards addressing a broad range of resource concerns. That makes the program more flexible and recognizes the multiple benefits flowing from working land. It also introduces the danger that quantity—the number of resource concerns addressed—outweighs quality—the comprehensiveness with which an individual resource concern is addressed. In other words, doing a little for a lot of resource concerns may result in the same reward as doing a lot for a few resource concerns even if those few are of the greatest importance to conserve resources and improve environmental quality in a particular area. The environmental performance of CSP should be enhanced by taking the following steps:

- **Emphasize management intensity**
- **Focus on resources that matter most**
- **Improve quality criteria**

## **EMPHASIZE MANAGEMENT INTENSITY**

Management intensity is a measure of how completely a producer is addressing a specific resource concern. The intensity with which a resource concern is addressed is often a more direct indication of the environmental benefits produced than simply the number of resources concerns addressed or the total acres treated.

Tying enhancement payments to management intensity could and should help simplify CSP by reducing the number of activities qualifying for enhancement payments. In 2005, for example, there were 52 individual enhancements all of which had some effect on nutrient management and each of which has its unique requirements and payment levels. Instead of such a complex set of individual enhancements, there could, for example, be a single nutrient management enhancement payment, scaled to the intensity and comprehensiveness of treatment, and tailored to the farming system and geographic features of the local watershed. Such an approach would simplify and streamline the program, reduce administrative burdens, and improve the environmental performance of the program.

The concept of management intensity could and should also be incorporated into stewardship payments. Currently, a producer can increase his/her stewardship payment by: (1) addressing more resource concerns, (2) treating more acres, or (3) treating land with higher rental payments. Stewardship payments could and should also be scaled to the level of intensity with which a priority resource concern is addressed. A producer, then, could increase his/her stewardship payment by intensifying his/her management in addition to, or rather than simply by, treating more resource concerns or more acres. Movement to higher tiers could also be based on increasing the intensity and comprehensiveness with which those resource concerns are addressed.

The quantitative indices currently used in CSP could easily be incorporated into a system of graduated payments that increase with increasing level of effort and anticipated environmental benefits. Where such quantitative indices do not exist, the use of practice-based indices could help fill the gap. Strict guidance will be needed to ensure the concept of management intensity is implemented using consistent methods and approaches across the nation and to ensure those methods and approaches are rigorous and technically sound.

## **FOCUS ON RESOURCES THAT MATTER MOST**

The environmental benefits provided by CSP could be greatly increased if the program was targeted at achieving greater level of treatment of only those resource concerns most critical to the environment in a local area or watershed. Allowing the state offices to specify the three most important resources of concern, instead of using soil and water quality as the national bar for eligibility, would allow states to emphasize which resources producers need to address. In watersheds where wildlife habitat or air quality might be particularly problematic, producers would be required to address these issues first. This would ensure that CSP participants are addressing the most important environmental issues in a given area.

We also recommend tying enhancement payments closely to conservation and environmental management needs that address the most important local environmental priorities and contribute substantially to achieving regional and national environmental priorities. This could be accomplished by adjusting the payment rate on selected enhancements to reflect the greater value created by addressing the most important local, regional, and national environmental priorities.

Strict guidance will need to be developed to ensure that the methods and approaches used to target enhancements at critical, local environmental problems produce consistent results across the nation and that the targeting process is driven by rigorous and technically sound criteria.

## **IMPROVE QUALITY CRITERIA**

The rigor and technical soundness of quality criteria are fundamental determinants of the environmental performance of CSP. Quality criteria are used to determine whether treatment of a resource concern is sufficient to meet the nondegradation standard and determine the size of tier-based stewardship and existing practice payments the producer will receive. Quality criteria are also used to determine which conservation activities on the farm or ranch qualify for enhancement payments. Taken together, these two determinations—both based on quality criteria—largely determine how much CSP will spend and what environmental benefits will be produced.

We applaud the efforts NRCS has already taken to strengthen quality criteria. A comprehensive review of quality criteria was beyond the scope of this report, but a cursory review suggests that substantial additional work is needed. Some quality criteria are largely practice-based while others are based on indices. Some indices are more rigorous and quantitative while others are largely qualitative. We recommend three areas to focus effort on improving quality criteria.

First, we applaud and encourage the use of indices, such as the Soil Conditioning Index (SCI) as the basis for quality criteria. We encourage NRCS to continuously test, evaluate, and improve the SCI and other existing indices and to place a high priority on the development of additional indices that can serve as the basis for quality criteria for CSP and all other conservation programs. The role of the SCI has been questioned. The questions raised include technical concerns about the index's applicability to particular farming systems and landscapes and policy questions about the fairness or effectiveness of placing so much emphasis on soil quality in CSP. It is imperative that the technical issues surrounding SCI and all other such indices be thoroughly evaluated and improved on an ongoing basis. One of the most important contributions CSP could make to the portfolio of USDA conservation programs is the development, testing, and application of such indices.

Second, we recommend that greater priority and weight be given to those enhancements for which quality criteria are most rigorous and robust while other quality criteria are strengthened and developed.

Third, wildlife habitat quality criteria appear to be the weakest link currently. We recommend high priority be given to strengthening these criteria. Wildlife habitat management enhancements were the fourth largest category of expenditures for enhancements in 2005. In addition, it appears that a determination of whether benchmark practices and activities were sufficient to meet wildlife habitat quality criteria was the determining factor for placing many operations in Tier III. Making sure habitat criteria are meaningful is critical to ensuring the public is getting real wildlife benefits from CSP.

## **INCREASE TECHNICAL ASSISTANCE**

In addition, Congress must remove the present 15% cap for technical assistance and give the Secretary of Agriculture the flexibility to allocate the amount of funding for technical assistance needed to ensure CSP is implemented effectively and efficiently. The statutory limit on technical assistance has led to decisions that have reduced the environmental performance of the program.

Most important, limited field technical staff and short contracting periods have seriously constrained planning for new practices and activities in the out-years of a producer's CSP contract. This is one of the primary reasons that nearly all of the long-term financial commitment created by 2005 CSP contracts is for "benchmark" practices—practices that were already in place when the producer signed up for CSP.

CSP demands a high degree of technical assistance to conduct benchmark assessments, evaluate the extent to which current efforts meet appropriate treatment standards, and assist producers to plan, and eventually implement, new conservation practices and activities. A stronger technical assistance network is essential to implementing all of the recommendations in this report. Arbitrary limits on technical assistance are unhelpful and impede progress toward creating the effective and efficient program CSP should become.

## **STRENGTHEN THE PORTFOLIO**

CSP has the potential to become a successful conservation incentives program. CSP, or any other reward-based conservation program alone, however, will not be sufficient to meet the environmental agenda confronting U.S. agriculture. The other conservation programs in the portfolio must also grow in funding and effectiveness to create the balanced conservation portfolio needed to meet the environmental challenge U.S. producers' face. Serious reforms must be made to other programs in the conservation title to ensure the most cost-effective practices and systems are encouraged, that a critical mass of participation is achieved to produce real improvements in environmental quality, that critical habitat and landscape features are restored, and to support cooperative, locally led conservation projects on a large scale across the United States. Such reforms are beyond the scope of this assessment but are being developed and will be shared in other reports.

# INTRODUCTION

The Conservation Security Program (CSP) is a voluntary conservation program intended to reward the stewardship of private agricultural lands by providing payments based on a farm's environmental performance. CSP's stated intent is to "reward the best and motivate the rest"—in other words, to identify and reward those farmers and ranchers who are meeting the highest standards of conservation and environmental performance on their operations and to provide an incentive for other farmers to improve their conservation efforts.

CSP differs from traditional conservation programs in three important ways:

- CSP pays farmers and ranchers for having achieved a certain level of environmental performance for the conservation practices and systems *already in place on the farm or ranch* that meet the program's standards. This makes CSP unique among all other United States Department of Agriculture (USDA) conservation programs, which pay only those producers willing to make new or additional efforts above and beyond what they are already doing to address specific resource conservation needs and environmental problems.
- CSP payments are based to a significant extent on indices of conservation performance or resource condition rather than on a percentage of the cost of implementing a conservation practice.
- CSP was enacted as an entitlement program. Instead of being limited by a set annual budget, entitlement funding is controlled by the eligibility criteria and payment calculations that determine how many producers participate and how much they receive.

CSP has been through a number of changes since it was first implemented in 2004. There have been three sign-up periods for the program, each under a slightly different interim final rule. The USDA Natural Resources Conservation Service (NRCS) has structured the rule to allow for changes to the program to

be published in each sign-up notice. This allows the NRCS to further adapt the program to respond to funding constraints and to adjust program requirements to improve environmental performance.

This assessment is intended to evaluate the performance of CSP thus far and to provide suggestions for areas where the program could be improved. The assessment will examine whether the program as implemented adequately and accurately rewards environmental performance, and how the program could be structured to generate more environmental benefits while preserving the unique features CSP could bring to the nation's conservation effort.

We relied on fiscal year 2005 program information for this assessment. The number of participants and eligible watersheds was far greater in 2005 than in 2004 or 2006, and detailed data on 2006 CSP contracts were not available as we completed this report. In addition, we drew heavily on proposed and interim final CSP rules and sign-up announcements published in the federal register, and on three reports by other organizations that had reviewed CSP implementation to date:

- U.S. Government Accountability Office (GAO). April 2006. Conservation Security Program: Despite Cost Controls, Improved USDA Management Is Needed to Ensure Proper Payments and Reduce Duplication with Other Programs. GAO-06-312.
- Maryland Center for Agro-Ecology, Inc. December 2005. Assessing and Developing the Opportunities for Green Payments Programs for Maryland's Farmers. MCAE Pub-2005-05.
- The Friedman School of Nutrition, Science, and Policy and the American Farmland Trust. 2006. The Conservation Security Program: Rewards and Challenges for New England Farmers.

The NRCS graciously provided us with 2005 CSP program data from its ProTracts database. The ProTracts database

aggregates information contained in CSP contracts about payments, practices, resource concerns, and other components of a CSP contract. The data we examined were anonymous. NRCS staff, particularly the CSP program staff, answered many questions about CSP program policies, guidance, and data. NRCS was provided with an advance copy of this report, and graciously agreed to check the accuracy of the data and statements about program policy made in this report. The conclusions and recommendations, however, are solely the responsibility of Environmental Defense and the Soil and Water Conservation Society (SWCS). NRCS's much-appreciated cooperation in completing this assessment must not be interpreted in any way as an endorsement of our conclusions and recommendations.

This assessment of CSP is one of a set of four assessments of the major USDA conservation programs. The other three assessments review the Environmental Quality Incentives Program (EQIP), the Conservation Reserve Program (CRP), and the programs designed to provide technical assistance to producers participating in USDA conservation programs. The intent of these assessments is to better understand how these programs are working today and how they might be made to work better. Assessing CSP is particularly important because its unique features create both opportunities and challenges for ensuring the program meets its twin goals: rewarding producers for what they are already doing to produce environmental benefits for the public and encouraging all producers to do more. CSP is still in the early stages of development and a great deal of learning is taking place as experience is gained each year the program operates. This report is intended to contribute to that learning process.

CSP has experienced a complex and difficult funding history since its authorization in the 2002 farm bill. That funding history has had powerful effects on the implementation and shape of the program in 2005. See sidebar for basic provisions.

## BASIC PROVISIONS OF 2005 CSP

The Farm Security and Rural Investment Act of 2002 (2002 Farm Bill) created the Conservation Security Program (CSP). The program was first implemented in 2004. The program as implemented has been through many changes since 2004 and differs significantly from the program envisioned in the 2002 farm bill. Here is a quick summary of the major provisions of the 2005 CSP program.

**WATERSHED ROTATION.** CSP sign-ups are offered in selected watersheds across the nation. Producers have only one chance to sign up for CSP; different watersheds are opened for enrollment the following year. Producers who didn't get into the program in 2005 will have to wait at least eight years for another chance to sign up, if USDA's current sign-up schedule stays in place. CSP is limited to selected watersheds in order to meet funding limits set by Congress. In 2005, 202 new watersheds were opened for CSP sign-ups—up from 18 in 2004. Only 60 watersheds were opened for enrollment in 2006 because of further funding cuts.

**BASIC ELIGIBILITY.** Producers complete a self-assessment, including a description of conservation activities on their operations, to determine eligibility for CSP. Eligible producers in the selected watersheds who have completed the self-assessment schedule an interview and submit an application at their local NRCS office. NRCS determines CSP eligibility and in which program tier and enrollment category the applicant may participate. The producer and the operation must meet these basic eligibility criteria:

- The land must be privately owned or tribal land and the majority of the land must be located within one of the selected watersheds.
- The applicant must be in compliance with highly erodible and wetland provisions of the Food Security Act of 1985, have an active interest in the agricultural operation, and have control of the land for the life of the contract.
- The applicant must share in the risk of producing any crop or livestock and be entitled to a share in the crop or livestock marketed from the operation.

**CSP BENCHMARK INVENTORY AND PAYMENT CALCULATIONS.** Producers interested in participating in CSP work with NRCS conservationists to complete a benchmark inventory documenting the conservation practices and activities that have been in place in their operations for the past two years. The benchmark inventory is used to determine the program tier the producer qualifies for as well as the number and kind of enhancement payments the producer is eligible to receive based on his/her benchmark or pre-existing conservation effort. The producer may, but is not required to, include a schedule for adding new or non-benchmark conservation practices and activities in the out-years of the CSP contract.

**PROGRAM TIERS.** All applicants must meet the following minimum tier eligibility and contract requirements, plus any additional requirements in the sign-up announcement:

- For Tier I, the producer must have addressed soil quality and water quality to the described minimum level of treatment for eligible land uses on part of the agricultural operation prior to acceptance. Tier I contracts are for 5 years.
- For Tier II, the producer must have addressed soil quality and water quality to the described minimum level of treatment on all eligible land uses on the entire agricultural operation prior to acceptance and agree to address one additional resource by the end of the contract period. Tier II contracts are 5 to 10 years.
- For Tier III, the producer must have addressed all applicable resource concerns to a resource management system level that meets the NRCS Field Office Technical Guide standards on all eligible land uses on the entire agricultural operation before acceptance into the program and have riparian zones adequately treated. Tier III contracts are 5 to 10 years. Soil quality practices include crop rotations, cover crops, tillage practices, prescribed grazing, and adequate wind barriers.

Water quality practices include conservation tillage, filter strips, terraces, grassed waterways, managed access to water courses, nutrient and pesticide management, prescribed grazing, and irrigation water management.

**PROGRAM PAYMENTS.** CSP contract payments include one or more of the following:

- **An annual stewardship payment** that is based on the rental rate of the land enrolled in the program and is higher for producers in participating in higher program tiers.
- **An annual existing practice payment** that is set at 25% of the stewardship payment.
- **An annual enhancement payment** for conservation practices and activities that exceed basic standards set for resource quality or practice implementation. Enhancement payments for “benchmark enhancements”—practices and activities that the producer was already carrying out when he/she signed up for the program—will decline over time. Producers can earn new enhancement payments to replace declining benchmark payments by taking on new practices and activities.
- **New practice payments**, set at a percentage of the cost of implementing a new conservation practice, are also available, but played only a minor role in the 2005 program.

**PAYMENT LIMITATIONS.** Applicants may submit only one application for each sign-up. Producers who are participants in an existing conservation stewardship contract are not eligible to submit another application. Total payments are determined by the tier of participation, conservation treatments completed, and the acres enrolled. Total program payments cannot exceed \$20,000 a year for Tier I contracts, \$35,000 a year for Tier II contracts, and \$45,000 a year for Tier III contracts.

# HOW CSP WORKED IN 2005

CSP was passed as an entitlement program; all eligible producers would be able to participate and Congress did not place a cap on how much money the program could spend in any given year. The amount CSP would spend would be determined by how many people participated and how their payments were determined. Instead of being limited by a set annual budget, entitlement funding is controlled by the eligibility criteria and payment calculations that determine how many producers participate and how much they receive. The “official” budget for CSP, then, was based on estimates made by the Congressional Budget Office (CBO). At the time Congress passed the farm bill, CBO estimated that CSP would spend \$14 million in 2003 and expand to \$649 million by fiscal year 2006. Total spending for the period 2002 to 2011 was estimated at \$2 billion. Estimates of the cost of CSP increased dramatically after passage of the 2002 farm bill as more information about the program became available to CBO and the White House Office of Management and Budget (OMB). In May 2002, OMB estimated CSP would spend \$5.9 billion between 2002 and 2011. In January 2003, CBO estimated CSP would spend \$7.8 billion between 2004 and 2013. Events soon made it clear, however, that CSP would operate at levels far below those predicted by OMB and CBO.

USDA did not implement CSP until FY 2004, one year later than provided for in the statute. Congress immediately limited funding for CSP to \$3.8 billion total over the 11 years from 2003 to 2013 as part of the Agricultural Assistance Act of 2003. Congress later eliminated the \$3.8 billion overall cap in spending but limited funding for CSP to \$41.4 million for fiscal year 2004. In October of 2004, however, Congress imposed another overall cap—\$6.0 billion for fiscal years 2005 to 2014—and later limited CSP expenditures in fiscal year 2005 to \$202 million. CSP was slated to grow to \$260 million in fiscal year

2006, but Congress imposed additional caps on total CSP funding in the Deficit Reduction Act of 2005. That Act limited CSP to \$1.95 billion in total expenditures between 2006 and 2010 (5 years) with total spending over the 10-year period (2006 to 2015) capped at \$5.6 billion. In response, USDA decided to operate CSP in a much reduced fashion in fiscal year 2006.

OMB, however, allowed NRCS to obligate CSP funds in a way that maximized the number of producers that could immediately participate in CSP but that may limit the ability to enroll new participants in the future. There are two options for funding multi-year contracts with producers who enter into those contracts in any given fiscal year. The more traditional approach is to obligate all of the expected future annual payments under the contract using the funds provided in the fiscal year in which the producer signs the contract. Such an approach guarantees the funds will be there to make annual contract payments in future years, but also substantially reduces the number of participants that can be signed up in the current fiscal year. NRCS decided instead to use all of the funding available in a particular fiscal year to pay only the annual payments due in that fiscal year and rely on Congress to make funds available in future years to honor the contracts with producers entered into in previous years. This approach substantially increased the number of producers who could participate in CSP, but also means that Congress must increase the CSP funding every year in order to allow new producers to participate in the program. In short, level funding for CSP means NRCS can offer no new sign-ups unless payments for existing contracts decline over time.

Figure 1 shows the state-by-state distribution of CSP funds actually paid in fiscal years 2004 and 2005. Payments in 2004 are for the first year of CSP contracts entered into in fiscal

year 2004—the first year CSP was in operation. Payments in 2005 include second year payments for 2004 contracts and first year payments for 2005 contracts. NRCS approved payments totaling about \$35 million in fiscal year 2004 and about \$146 million in fiscal year 2005. The contracts entered into in fiscal year 2005 create a long-term commitment of about \$790 million to make annual CSP payments in future fiscal years. NRCS estimates that the long-term commitment created by the 2004, 2005, and 2006 CSP contracts is about \$1.5 billion. That estimate does not include the cost of modifications made to 2004 and 2005 CSP contracts during the 2006 modification period.

In addition to the future commitment to provide financial assistance, the 2005 contracts also entail a substantial ongoing and future commitment to provide technical assistance. That technical assistance will be required to support the ongoing benchmark conservation effort contract holders are currently being paid to maintain and, more important, support contract modifications to add new enhancements or move up the tier ladder. The demand for technical assistance in the future grows with each new sign-up.

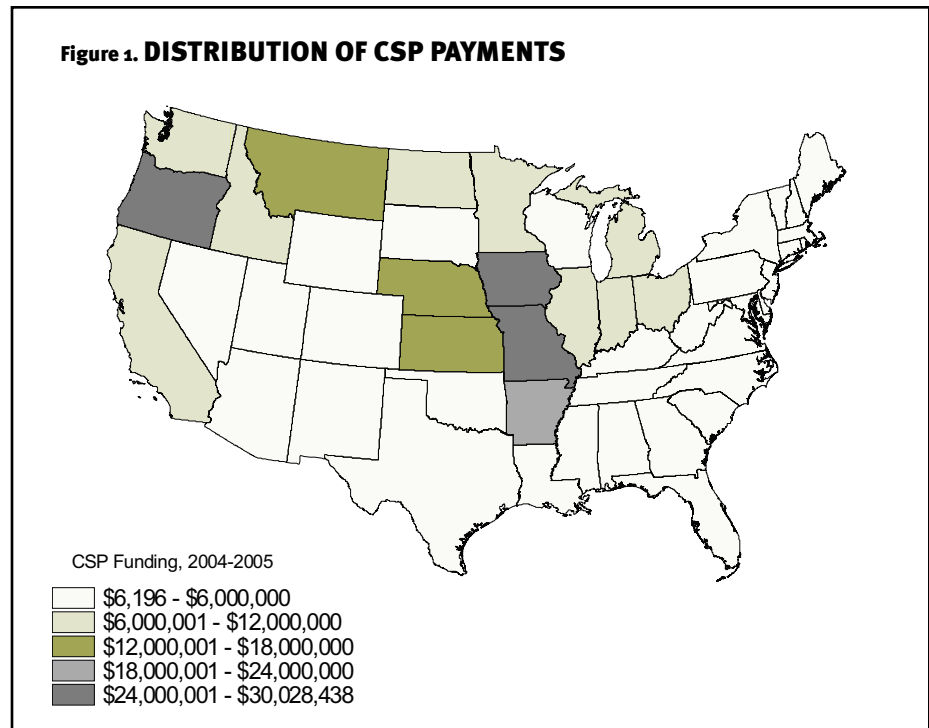
## HOW PARTICIPANTS ARE SELECTED

The funding caps imposed by Congress, coupled with the 15% limitation on technical assistance funds for implementing the program included in the 2002 statute, had profound effects on how participants are selected to participate in CSP. NRCS used three primary means to limit participation to stay within funding and technical assistance caps: (1) rotating sign-ups among selected watersheds, (2) imposing stricter conservation standards for entry into the program, and (3) using enrollment categories to establish priorities for selecting participants.

## WATERSHED ROTATION

The CSP statute envisioned a nationwide program open to all eligible producers. In practice, however, NRCS controlled participation—and thereby spending—and managed the workload associated with implementing CSP under the 15% cap on technical assistance by restricting participation to producers in selected watersheds. NRCS indicated that the watershed rotation is intended to keep CSP spending within limits imposed by Congress and to reduce administrative burdens on applicants, reduce technical assistance costs required to sign-up producers and implement their plans over time, and provide an easier way to adapt to a constantly changing funding picture for CSP.

Each year, sign-ups are held in a new and different set of watersheds. Watersheds open for sign-up the previous year are not open for sign up in succeeding years. NRCS planned—given sufficient funding—to offer sign-ups in all U.S. watersheds after 8 years. Their plan would have resulted in adding 265 new watersheds to the program each year through 2012. Funding caps, however, have seriously scaled back those plans (figure 2). In 2004, 2,188 contracts covering about 1.9 million acres in 18



Source: NRCS 2005 ProTracts database.

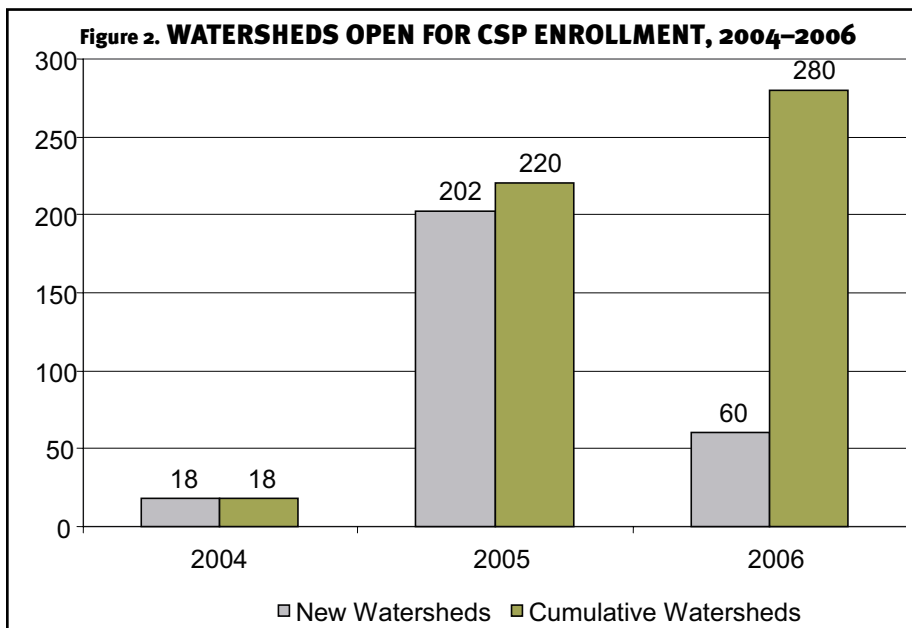
watersheds and 22 states were enrolled; in 2005, 12,787 contracts covering about 9 million acres in 220 watersheds in 50 states and Puerto Rico were enrolled. In August 2005, USDA announced a preliminary list of 110 watersheds in which CSP sign-ups would take place based on the President's budget request for CSP. In February 2006, however, that number of watersheds was reduced to 60 in response to the caps imposed by the

Deficit Reduction Act of 2005. In effect, funding caps have reduced the annual number of new watersheds to an average of 93 watersheds per year, or one-third of the projected rate.

NRCS uses watershed prioritization to determine specific areas eligible for accepting CSP applications in each sign-up. NRCS nationally prioritizes watersheds based on a process that considers information about natural resources, environmental quality, and agricultural activity and that incorporates recommendations from state conservationists. Selected watersheds are announced in each sign-up notice.

## MINIMUM TIER REQUIREMENTS

The CSP statute set requirements for the level of conservation treatment a producer must make to participate in CSP and qualify for payments under one of the program's three tiers. In addition, the statute required USDA to determine and approve the "minimum requirement for each tier of conservation contracts." NRCS has stated that it established higher minimum requirements than those specified as minimum in the CSP statute in order to keep expenditures under the funding caps imposed by Congress and to



Note: The 18 watersheds open for enrollment in 2004 were reopened for enrollment in 2005.

**Table 1. MINIMUM STANDARDS IN STATUTE AND IN PRACTICE, 2005 CSP**

TIER	STATUTE	2005 PROGRAM
Tier I	Address <i>one</i> resource concern <i>on the portion</i> of the farm or ranch enrolled in the program to meet the appropriate nondegradation standard for that resource concern.	Address <i>two</i> resource concerns (soil and water quality) <i>on the portion</i> of the farm or ranch enrolled in the program to meet the criteria established to indicate whether treatment is sufficient to meet the nondegradation standard for that resource concern.
Tier II	Address <i>one</i> resource concern <i>on the entire farm or ranch</i> to meet the appropriate nondegradation standard for that resource concern.	Address <i>two</i> resource concerns (soil and water quality) <i>on the entire farm or ranch</i> to meet the criteria established to indicate whether treatment is sufficient to meet the nondegradation standard for that resource concern. Address <i>an additional resource concern</i> to meet the nondegradation criteria before the end of the ten-year CSP contract.
Tier III	Address <i>all resource concerns on the entire farm or ranch</i> to meet nondegradation standards for those resource concerns.	Address <i>all resource concerns on the entire farm or ranch</i> to meet the criteria established to indicate whether treatment is sufficient to meet the nondegradation standard for that resource concern. Assure that <i>riparian corridors</i> on the farm or ranch are <i>buffered</i> to restore, protect, or enhance riparian resources.

ramp up the environmental performance of the program. See table 1.

In 2005, the soil quality eligibility criteria were considered met on cropland if the Soil Conditioning Index (SCI) had a positive score and the water quality eligibility criteria were considered met if conservation activities met quality criteria for reducing the risk of delivering sediment, nutrients, pesticides, and salinity to surface water and nutrients pesticides, and salinity to ground water. Pasture and rangeland were considered to meet the soil and water quality eligibility criteria if a grazing management plan was being followed that provided for a forage-animal balance, proper livestock distribution, timing of use, and managing livestock access to water courses. In the 2006 CSP sign-up, NRCS introduced the CSP Water Quality Eligibility Tool to evaluate the extent to which a potential CSP participant was meeting water quality eligibility criteria. Participants were required to meet minimum thresholds determined by the tool to meet the minimum water quality eligibility criteria. See sidebar.

### ENROLLMENT CATEGORIES

In addition to raising the minimum tier standards, NRCS created a classification system that added additional minimum

requirements for farmers to meet in order to be eligible for payments. The classification system, called “enrollment categories,” created distinct classes of potential participants defined by which resource concerns are addressed and the level of treatment those resource concerns are receiving. NRCS uses enrollment categories to select participants from among otherwise eligible and interested producers within a CSP watershed if funding is limited.

In the 2005 sign-up, NRCS established five enrollment categories within each major land use (cropland, pasture, and range) covered by CSP. The enrollment categories were ranked from A to E based on an index of resource condition and the stewardship practices and activities in place for at least two years prior to the CSP sign up. Enrollment category A indicated the highest level of resource quality and treatment and category E the lowest level of resource quality and treatment among enrollment categories.

NRCS funded enrollment categories in alphabetical order—A through E—and without regard to tier until available funding was exhausted. In other words, all Tier III, Tier II, and Tier I contracts meeting the requirements of enrollment category A were funded first, followed by all Tier III, Tier II, and Tier I contracts

meeting the requirements of enrollment category B. In the event an enrollment category could not be fully funded because of funding shortfalls, NRCS established subcategories in each enrollment category. If needed, NRCS would move down the list of enrollment subcategories—in numerical order—until funding for that enrollment category was exhausted. In 2005, for example, funding was exhausted after Tier III, II, and I contracts meeting the requirements of enrollment category C and subcategory 1 were funded.

### HOW PARTICIPANTS ARE PAID

The CSP payment structure is complex and differs dramatically from all other USDA conservation programs (see sidebar for an example of CSP payments). Participants can receive four types of payments: (1) stewardship, (2) enhancement, (3) existing practice, and (4) new practice. More important, most CSP payments are made for practices and activities already in place when the producer signs up for the program—a major departure from all other conservation programs. Understanding the way CSP payments are made is critical to understanding the current

## SOIL CONDITIONING INDEX AND THE WATER QUALITY TOOL

The Soil Conditioning Index (SCI) tool was developed by the NRCS to indicate the effect of different cropping systems and tillage practices on the condition of the soil. SCI uses an estimate of decline, increase, or no change in soil organic matter to indicate whether soil condition is degrading, improving, or staying the same. The important factors considered in the Soil Conditioning Index (SCI) include the following:

1. The amount of organic material returned to the soil.
2. The effects of the tillage and planting system on organic matter decomposition.
3. The effect of predicted erosion associated with the management system.

Applicants are given a score that reflects how much organic matter is being lost or added to the soil. A score of 0 indicates that there is no predicted net gain or loss of organic matter, while a score above 0, such as 0.2, indicates a net gain. A score below 0 indicates a predicted net decline in soil organic matter.

The SCI is not a comprehensive indication of soil quality. It does not, for example, provide an indication of salinity, soil

compaction, runoff, or surface structure, all of which can be important indicators of soil quality. The SCI also only indicates a trend in soil condition. It does not indicate whether the existing soil condition is adequate to sustain agricultural production or environmental quality.

The Water Quality Index was developed by the NRCS for the specific purpose of determining whether CSP applicants meet water quality eligibility requirements. Applicants must answer a series of questions about their farm, including the following:

- Cropping system in use
- Fertilizer and manure use
- Integrated pest management and pesticide use
- Buffers and field borders in use
- Soil erosion control
- Salinity

The answers are used to score the applicant's water quality with regard to nitrogen, phosphorus, pesticides, sediment, and salinity. If the applicant has a high enough score in each category, then the farm meets the water quality eligibility requirement.

one-time new practice payment once the new practice is in place. (Tier II participants must plan to address an additional resource concern before their contract expires.) The producer's annual stewardship and existing practice payments may go up if the additional effort is enough for the producer to graduate to a higher tier. The producer's annual enhancement payments may also go up if the new practices or activities meet the requirements of an enhancement.

CSP participants will need to request a contract modification during an annual contract modification period in order to graduate to a higher tier and/or qualify for additional payments. Producers whose CSP contracts include a schedule for adding new conservation practices and activities eligible for enhancement payments will not have to ask for a contract modification to implement those practices and receive additional payments. All other producers will have to request a contract modification to become eligible for additional enhancement payments. All producers must request a contract modification to advance to a higher tier.

The extent to which contract modifications can occur will be determined in large part by the amount of CSP funding available each year. NRCS will determine how much of each year's CSP funding will go to reward new participants in CSP for their benchmark (pre-existing) level of conservation effort or to reward current participants willing to go beyond their benchmark level of conservation.

## STEWARDSHIP PAYMENTS

Stewardship payments vary by land use—cropland, irrigated cropland, pasture, range, and grazing land—and by program tier. The formula for calculating stewardship payments in CSP starts with prevailing 2001 rental rates by land use in the area, using the Agriculture Foreign Investment Disclosure Act Land Value Survey, the National Agriculture Statistics

and potential environmental performance of the program.

The process of determining the kinds and amounts of payments a producer is eligible to receive begins with a "benchmark inventory." The benchmark inventory documents the conservation practices and activities that are already in place and ongoing on the producer's operation. NRCS uses the benchmark inventory to determine whether the producer's benchmark, or pre-existing, level of conservation effort qualifies him or her to participate in Tier I, II, or III of the program (see table 1 for criteria). A producer that qualifies to participate in one of the three tiers automatically receives a stewardship payment and an existing practice payment, described in more detail below.

In addition, the inventory is used to determine whether the producer's benchmark (pre-existing) level of effort qualifies him or her to receive enhancement payments in addition to the tier-based stewardship and existing practice payments. All of the payments a producer receives in the first year of his or her contract are for his or her benchmark level of effort. Payments for benchmark enhancements will decline over time as required by the variable rate policy described below.

Producers may, but are not required to, make plans to increase their level of conservation effort over the life of the CSP contract—including planning enough new activities to graduate to a higher program tier. Such additional conservation practices and activities may or may not be eligible for a

## MARYLAND CENTER FOR AGROECOLOGY CSP CASE STUDY FARM

**THE OPERATION.** The farming operation is a family partnership in existence for 11 years. The operation is 650 acres and all land is rented from a total of 20 landlords—646 acres are enrolled in CSP. The farm produces corn, wheat, and soybeans and includes a 20 to 35 head beef operation.

**CSP PLAN AND CONTRACT.** The farm qualified for Tier III, enrollment category A. The farm qualified for Tier III because the entire farm met all applicable resource concerns, had a wildlife index score of more than 0.5, protected riparian areas and had no readily observable erosion or point contamination at sign-up.

**CSP PAYMENTS.** The farm qualified for annual stewardship, existing practice, and enhancement payments based on the “benchmark inventory”—an assessment of the conservation practices and activities already in place and implemented on the operation at the time the farm was signed up for CSP.

### First Year Payment Breakdown

Benchmark stewardship payment – \$3,058  
Existing practice payment – \$764  
Benchmark enhancement payment – \$28,126

### Practices and Activities Qualifying for Benchmark (Pre-Existing) Enhancement Payments

#### *Energy Management*

Recycle motor oil – \$200 per year  
STIR value less than 15 – \$582 per year  
Use perennial legumes for nitrogen – \$7 per year  
Use annual legumes for nitrogen – \$65 per year

#### *Wildlife Habitat Management*

Habitat index score between 0.7 and 0.8 – \$5,176 per year

#### *Nutrient Management*

Split N applications – \$1,294 per year  
Incorporate manure – \$30 per year

#### *Pest Management*

Weather based pest forecasting – \$647 per year

#### *Soil Management*

SCI score of 0.4 – \$851 per year  
SCI score of 0.6 – \$2,954 per year  
SCI score of 0.8 – \$364 per year  
STIR value less than 15 – \$1,294 per year

#### *Air Management*

Carbon sequestration, continuous no-till – \$6,470 per year  
Incorporate animal manure – \$30 per year

**PAYMENT OVER TIME.** Total payments for this farm are expected to decline each year from \$31,947 in 2005 to \$3,822 in 2011. The decline in payment is caused by the “variable rate enhancement” policy in CSP—payments for benchmark enhancements (activities in place when the farm signed up for CSP) begin at 150% of regular enhancement rate in the first year, then decline to 90%, 70%, 50%, 30%, and 10% of the regular rate in succeeding years.

**PLANNED EXPENDITURES.** Planned CSP expenditures will provide increased income to this farm of about \$113,223 over ten years by providing payments for their benchmark level of conservation effort.

Source: Maryland Center for Agro-Ecology. December 2005. *Assessing and Developing the Opportunities for Green Payments Programs for Maryland’s Farmers*. MCAE Pub-2005-05.

Service land rental data, and Conservation Reserve Program (CRP) rental rates.

Where typical rental rates for a given land use vary widely within a state or between adjacent states, NRCS adjusts the county-level rates to ensure local and regional consistency and equity. In the 2002 statute, stewardship payment rates were set at a percentage of the local land rental rate: 5% for Tier I, 10% for Tier II, and 15% for Tier III. Pastured cropland receives the same stewardship payment as cropland. In the program as implemented, stewardship payments have been further reduced by an additional percentage to reduce the cost of CSP contracts. In 2005, Tier I contracts received 25%, Tier II contracts 50%, and Tier III contracts 75% of the stewardship payment rate established by the statute.

NRCS computed the 2005 stewardship payment as the product of the number of acres in each land use covered by a CSP contract times the corresponding stewardship payment rate for the applicable acreage, times the tier-specific reduction factor. For example, the Tier I stewardship payment for cropland with a rental rate of \$50 per acre is \$2.50 per acre ( $\$50 \times 0.05$ ) as provided for in the CSP statute. In 2005, that stewardship payment was reduced to \$0.63 per acre ( $\$2.50 \times 0.25$ ) by applying the additional tier reduction factor.

Average, minimum, and maximum stewardship payment rates per acre for the 2005 program are shown in table 2. Payments averaged \$1.54 per acre over all land uses and Tiers and ranged from \$0.52 to \$2.08 per acre from Tier I to Tier III contracts—a four-fold increase between Tier I and III. Because stewardship payments are based on rental rates, those land uses that command higher land rents, such as irrigated cropland, receive larger per acre stewardship payments than land uses, such as rangeland, that command much lower rental rates. Table 2 shows how important land use is in determining the size of stewardship payments. The largest stewardship payment was \$35.78 per acre for Tier III irrigated cropland,

**Table 2. PER ACRE STEWARDSHIP PAYMENT RATES FOR CSP IN 2005**

LAND USE	TIER I	TIER II	TIER III	TOTAL
Average (minimum–maximum)				
Range*	\$0.07 (\$0.03–\$0.55)	\$0.25 (\$0.10–\$1.40)	\$0.57 (\$0.23–\$6.86)	\$0.35 (\$0.03–\$6.86)
Pasture*	\$0.06 (\$0.09–\$1.98)	\$0.19 (\$0.10–\$5.45)	\$0.45 (\$0.23–\$17.78)	\$0.22 (\$0.09–\$17.78)
Grazing land*	\$0.11 (\$0.10–\$0.35)	\$0.28 (\$0.30–\$1.50)	\$0.69 (\$0.23–\$3.15)	\$0.40 (\$0.10–\$3.15)
Cropland	\$0.60 (\$0.16–\$5.10)	\$2.18 (\$0.55–\$7.50)	\$2.90 (\$1.46–\$26.78)	\$1.79 (\$0.16–\$26.78)
Irrigated cropland	\$0.94 (\$0.14–\$4.85)	\$3.54 (\$2.35–\$11.35)	\$3.07 (\$4.73–\$35.78)	\$2.67 (\$0.14–\$35.78)
Total	\$0.52 (\$0.03–\$5.10)	\$2.07 (\$0.10–\$11.35)	\$2.08 (\$0.23–\$35.78)	\$1.54 (\$0.03–\$35.78)
*States varied in their use and definitions of the terms range, pasture, and grazing land based on what worked best or what was common practice in their states. Table A.1 in the appendix provides more information on states use of these terms in 2005.				

Source: NRCS 2005 ProTracts database.

while the smallest was \$0.03 per acre for Tier I range—over a thousand-fold difference.

Using land rental rates as the basis for stewardship payments is simple and widely understood by participants. Land rental rates, however, have almost no relation to the amount or importance of the environmental benefits produced on that land and only limited relationship to the cost or burden of the conservation effort needed to qualify for a particular tier.

## ENHANCEMENT PAYMENTS

The CSP statute provides five bases for enhancement payments: (1) implementing or maintaining practices that exceed minimum tier requirements, (2) addressing local conservation priorities, (3) participating in on-farm research, demonstration, or pilot projects, (4) participating in a watershed or regional plan, and (5) carrying out assessment and evaluation activities. In practice, enhancement payments have been restricted to a smaller number of activities. In 2005, NRCS made enhancement payments for components that related to the first two statutory bases for enhancements: (1) additional conservation treatment above the quality

criteria for soil quality, nutrient, pest, irrigation water, grazing, air, and energy management, and (2) addressing locally identified conservation needs shown on the watershed specific enhancement lists.

Enhancement payments are “flat-rate” payments, normally multiplied by the number of acres treated by the activity eligible for an enhancement payment. Enhancement payments cannot exceed the economic value of the environmental benefit being produced or cannot exceed the cost of implementing the practice if an economic benefit cannot be determined.

In 2005, nearly \$125 million dollars were expended for benchmark enhancement payments—over 80% of all payments to CSP producers. Payments were fairly evenly distributed among tiers. Table 3 shows that Tier I contracts received 34% of enhancement payments, Tier II contracts 36%, and Tier III contracts 31%.

Most important, in 2005, all of the benchmark (pre-existing) practices and activities that qualified for enhancement payments are subject to a “variable rate” payment that will decline over time. Payments for benchmark enhancements in the 2005 CSP sign-up were paid

at 150% of the regular enhancement payment in the first year of the contract (2005). In the out years, payments will be made at a declining percentage of the regular enhancement payment rate: 90% for 2006, 70% for 2007, 50% for 2008, 30% for 2009, 10% for 2010, and 0 after 2010. (The percentages were different in the 2006 sign-up: 120%, 100%, 80%, 60%, 30%, 10%, and 0). If a CSP participant undertakes new conservation activities that qualify as enhancements and that are above and beyond their benchmark level of effort, they will be paid at 100% of the regular enhancement payment each year after the activity is implemented and until the end of the contract period (assuming funding is available). According to the federal register notice announcing the 2005 CSP sign-up, the variable rate enhancement payments are intended to free up funding to pay for additional enhancements in the out years and to encourage participants to make continuous improvements to their operation.

Figure 3 illustrates the impact variable rate enhancements will have on producers’ payments and the difficult choices USDA will face in the future if CSP funding remains limited. Limited

Table 3. DISTRIBUTION OF ENHANCEMENT PAYMENTS, 2005				
	TIER I	TIER II	TIER III	TOTAL
Number of contracts	6,557	3,689	2,541	12,787
Total expenditures	\$41,953,941	\$44,610,045	\$38,206,569	\$124,770,554
Total number of enhancements	30,051	17,188	12,748	59,987
Enhancements per contract	4.6	4.7	5.0	4.7

Source: NRCS 2005 ProTracts database.

budgets will force USDA to choose between signing up new participants or funding contract modifications to allow current participants to add new practices and receive new payments. Modifications made to 2004 CSP contracts for example, resulted in a 69% increase in total contract payments as producers increased acreage enrolled, moved up the tier ladder, and/or added new enhancement activities to their contracts. This is good news; it indicates the willingness of producers to increase their level of conservation effort on their farms and ranches. But it also demonstrates the challenge ahead to meet both the demand for contract modifications and to enroll new producers in the program.

The balance between helping current program participants or enrolling new program participants will have major effects on the way the program is perceived by participants, producers, and the larger agricultural and conservation community. More important, the choice

will have major implications for the environmental performance of the program. USDA will be forced to choose between rewarding new participants for their current benchmark level of effort or rewarding current participants for going beyond their benchmark level of conservation effort. In short, if CSP funding continues to be limited, USDA will have to choose between rewarding the status quo or improving the status quo level of conservation effort on U.S. farms and ranches.

### EXISTING PRACTICE PAYMENTS

The CSP statute envisioned “maintenance” payments to offset the cost of maintaining pre-existing or new conservation practices. As implemented, CSP participants can receive an existing practice payment for maintaining an existing conservation practice included in their conservation security program plan. The maintenance payments envisioned in the statute have, in effect,

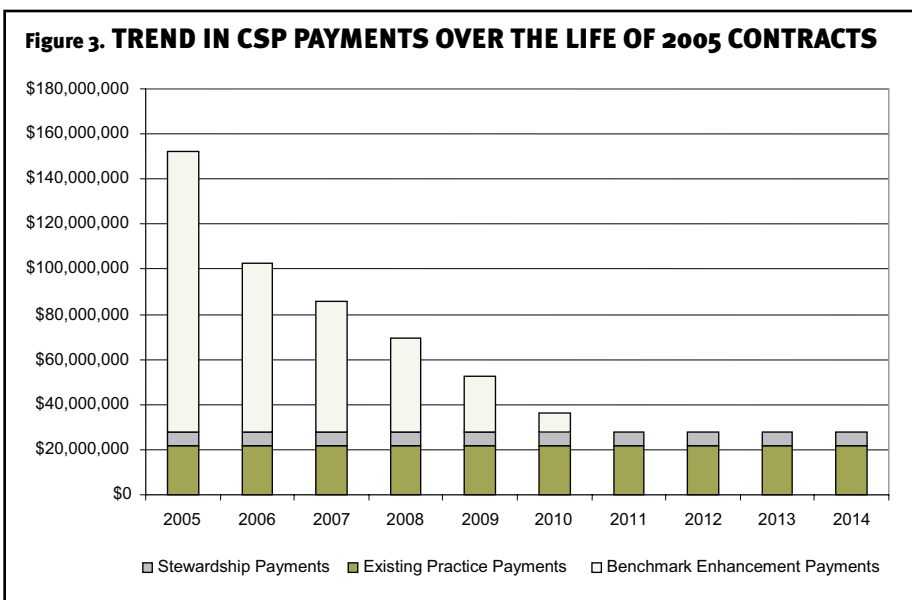
been implemented as existing practice payments.

The 2005 interim final rule indicates that payment rates for existing practices can be established as a percentage of the 2001 county cost of maintaining a practice, a percentage of the stewardship payment, or other alternative methods. In the 2005 sign-up, existing practice payments were made at a flat rate of 25% of the stewardship payment. In practice, then, the maintenance payments envisioned in the CSP statute have become a bonus on a participant’s stewardship payment.

In 2005, \$5.8 million in existing practice payments were paid to participants—3.6% of all CSP payments made in 2005 for 2005 contracts and 6.3% of payments planned for 2005 CSP contracts over the ten-year period 2005 to 2014. More than half were for practices on cropland and nearly 40% were for practices on irrigated cropland. About half of all existing practice payments in 2005 went to producers in Tier III, about 39% to producers in Tier II, and about 11% to producers in Tier I.

### NEW PRACTICE PAYMENTS

The CSP statute provides for new practice payments—cost-share assistance up to 75% for installing new conservation practices—in addition to the other payments already described. In practice, new practice payments have been severely constrained to control the cost of CSP. During the 2005 CSP sign-up, the cost-share rate was set at not more than 65% for limited resource and beginning farmers, and at not more than 50% for all other participants. In addition, new practice payments were limited to \$10,000 over the life of the CSP contract.



Source: Extrapolated from NRCS 2005 ProTracts database.

<b>Table 4. DISTRIBUTION OF NEW PRACTICE PAYMENTS, 2005</b>				
	<b>TIER I</b>	<b>TIER II</b>	<b>TIER III</b>	<b>TOTAL</b>
Number of contracts	41	143	127	311
Total Expenditures	\$23,300	\$74,425	\$22,167	\$119,892
Total number of payments	95	439	395	929
New practices per contract	2.3	3.1	3.1	3.0
Range of practices per contract	0 to 6	0 to 9	0 to 7	0 to 9

Source: NRCS 2005 ProTracts database.

Table 3 illustrates the distribution of new practice payments in 2005. In 2005, new practice payment funding was only \$2.3 million (0.3%) of total funding over the ten-year length of CSP contracts and \$120,000 (0.1%) of new practice payments actually paid in 2005.

### DISTRIBUTION OF CSP CONTRACTS

CSP contracts are subject to statutory limits on the total amount that can be paid in each year (\$20,000 for Tier I, \$35,000 for Tier II, and \$45,000 for Tier III). The mean one-year contract payments in 2005 were \$6,438, \$14,700, and \$19,585 for Tier I, II, and III contracts respectively. Only a small fraction (5 contracts, 0.1%) of Tier I contracts met this limit, while 69 (1.9%) of Tier II contracts were at the limit. Tier III had the largest number of limited contracts (140, 5.5%). The additional regulatory caps on total stewardship and enhancement payments in the 2005 program make it difficult for a producer to approach statutory tier caps. Removing those 2005 caps could result in statutory tier caps coming into play more frequently.

Most CSP contracts are concentrated in the lower annual payment categories while most of the total funding goes to the much smaller number of contracts in the higher annual payment categories. Tier I contracts receiving \$10,000 or more a year account for 28% of all contracts but account for almost 60% of all payments to Tier I contracts. Tier II contracts receiving \$20,000 or more a year accounted for 36% of all contracts but account for 67% of all Tier II payments. In Tier III, the 32% of all contracts receiving \$30,000 or more

a year in payments account for about 63% of all Tier III payments.

The average 2005 CSP contract covers 873 treated acres. Less than 10% of CSP contracts covered less than 50 total acres treated; over half of CSP contracts treated less than 500 acres, and 98% of CSP contracts covered less than 5,000 acres treated (table 4). Of 2005 CSP contracts, 80% were between 100 and 5,000 acres and accounted for 91% of 2005 expenditures.

A “limited resource” farmer is an individual with gross farm sales not more than \$100,000, and a total household income at or below poverty level for a family of four, or less than 50% of county median household income, in each of the previous two years. Limited resource farmers made up 0.6% of CSP participants, ranging from 3.2% for small treated acreages to none above 5,000

treated acres. Limited resource farms are estimated to comprise between 7.5% and 13.8% of farms, depending on the region of the United States in which such farms are found (<http://www.ssi.nrcs.usda.gov/CustomData/dataLRF.html>).

Overall, 1% of CSP participants were beginning farmers, defined as an individual or entity who has not operated a farm or ranch, or who has operated a farm or ranch for less than 10 years, and who materially and substantially participates in the operation. The individual or the immediate family must provide substantial day-to-day labor and management of the farm or ranch, consistent with the practices in the county or state where the farm is located. Beginning farmers are estimated to comprise between 22% and 31% of farms, again depending on the region of the United States in which such farmers are found (<http://www.ssi.nrcs.usda.gov/CustomData/dataLRF.html>).

<b>Table 5. RELATIONSHIP BETWEEN CSP ACRES TREATED, CONTRACTS, AND EXPENDITURES</b>			
<b>ACRES TREATED</b>	<b>CONTRACTS</b>	<b>EXPENDITURES</b>	<b>ACRES TREATED</b>
LT 5	0.4%	0.0%	0.0%
5-10	0.8%	0.0%	0.0%
10-50	7.3%	0.9%	0.3%
50-100	9.8%	2.0%	0.8%
100-250	20.4%	7.2%	3.9%
250-500	18.1%	11.7%	7.5%
500-1,000	19.5%	23.3%	16.2%
1,000-5,000	21.9%	49.2%	49.4%
5,000-10,000	1.3%	3.6%	9.9%
10,000-25,000	0.4%	1.8%	7.5%
25,000-100,000	0.1%	0.2%	3.6%
100,000-200,000	0.0%	0.0%	0.9%

Source: NRCS 2005 ProTracts database.

# WHAT CSP PAID FOR IN 2005

Assessing the on-the-ground environmental benefits of CSP or any other conservation program is difficult. Questions about actual environmental benefits simply cannot be answered by the data available to us. The data do shed considerable light on the resource concerns addressed by CSP participants and the benchmark (pre-existing) conservation practices and systems they were rewarded for maintaining.

## PAYMENTS BY TIER

CSP as implemented in 2005 did not favor or prioritize participation in higher tiers. Tier I payments accounted for 30% of total payments, Tier II 37%, and Tier III 34%. The breakdown by number of contracts indicates a strong bias toward participation in lower tiers. In 2005, 51% of contracts were in Tier I, 29% in Tier II, and only 20% in Tier III.

Looking at the distribution of CSP contracts among tiers by total contract cost over the life of CSP contracts is different—Tier I 20%, Tier II 43%, and Tier III 37% (see figure 4)—but these data must be interpreted cautiously. Projections of future CSP expenditures are driven by the declining stream of enhancement payments for benchmark practices. Future contract modifications could substantially alter the distribution of payments among tiers if, as hoped, CSP participants increase their conservation effort to qualify for new enhancement payments and/or to graduate to higher program tiers.

In the 2006 CSP sign-up, NRCS took steps to give more priority to participation in higher tiers. Proposals to enroll at a Tier I level were not included in enrollment category A—the highest priority for enrollment in CSP. In addition, the minimum soil and water quality standards and required additional stewardship activities meant more conservation effort was needed to place a lower tier CSP contract in to a higher enrollment category. As a result, the percentage distribution of 2006 contracts

was 0.4% in Tier I, 54.5% in Tier II, and 45.1% in Tier III.

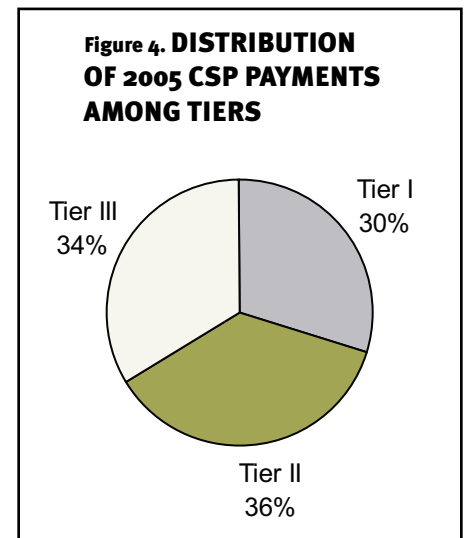
## LAND USES ADDRESSED

Cropland and irrigated cropland are the dominant land uses addressed by CSP whether one examines number of contracts, acres receiving stewardship payments, or the distribution of stewardship payments themselves. In 2005, 87% of CSP contracts, 71% of CSP acres, and 93% of stewardship payments went to cropland or irrigated cropland. Figure 5 shows the distribution of the types of acres receiving stewardship payments. The cropland domination is disproportionate to the share of cropland in CSP watersheds. Cropland made up 71% of the acres receiving stewardship payments in 2005 CSP contracts but cropland made up 54% of the land area in eligible watersheds. Of the land in eligible watersheds, 46% was grassland, but grassland makes up only 30% of the land receiving stewardship payments. Forest land is only eligible for CSP if the land is “an incidental part of an agricultural operation.” Forest land, then, is largely excluded from participation in CSP.

## RESOURCE CONCERNS ADDRESSED

Although we did not attempt to analyze the extent to which CSP is tailored at the watershed-level to meet watershed specific goals, the national focus of the program is clear. CSP in 2005 was a program that rewarded producers who were already making substantial contributions to soil and water resource management when they applied for the program and were also emphasizing energy management on their operations in 2005.

As described earlier, the benchmark (pre-existing) conservation practices and activities at the time a producer applies for CSP must be sufficient to meet the quality criteria for soil quality and water quality before that producer is eligible to participate. This basic emphasis on soil and water quality is reinforced



Source: NRCS 2005 ProTracts database.

in enhancement payments. Figure 6 shows that benchmark soil management enhancements alone account for 27% of all benchmark enhancements in 2005. Drainage, nutrient, pesticide, and salinity management—all closely related to water quality—account for over 31% of all benchmark enhancements in 2005. Energy management alone accounts for 23% of all enhancements. Taken together, benchmark enhancements addressing soil management, water resource management, and energy account for 86% of all enhancements in 2005 CSP contracts.

Although energy management accounted for 23% of all benchmark (pre-existing) enhancements, it accounted for only 4.4% of benchmark enhancement funding (table 5). Soil management accounted for 36.4%, pest management for 21.8%, and nutrient management for 17.9% of the total amount of benchmark enhancement payments made in fiscal year 2005. These three enhancement types, then, account for 76% of all benchmark enhancement payments made in 2005. Wildlife habitat management, the next most important enhancement type in terms of funding, accounts for 7.6% of total benchmark enhancement payments in 2002. The other six enhancement types each account for less than 5% of total benchmark funding. Soil, pest,

nutrient, and wildlife habitat management enhancements together account for almost 84% of the total benchmark enhancement payments made in 2005.

The NRCS ProTracts database includes quite detailed information about the resource concerns enhancement payments are rewarding producers for addressing. Tables A.2 and A.3 in the appendix summarize that detailed information.

### CONSERVATION PRACTICES AND SYSTEMS FUNDED

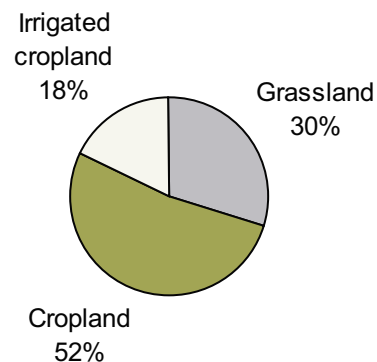
As noted earlier, benchmark enhancement payments account for 82% of all CSP payments in 2005. The activities and practices producers were undertaking in 2005 that qualified for benchmark enhancements, then, are a good indicator of the activities and practices CSP is rewarding. The NRCS ProTracts database describes in some detail the benchmark (pre-existing) practices and activities CSP is rewarding producers for implementing. Table A.3 in the appendix provides that information. Below are brief summaries

of the activities rewarded by each enhancement type in 2005.

**Soil Quality Management**—All of the \$45.4 million in expenditures for the benchmark soil quality management enhancement (ESM) in 2005 was for the improvements current conservation practices are estimated to make in indices of soil quality: 94% for Soil Conditioning Index (SCI) improvements and 6% for improvements to the Soil Tillage Intensity Rating (STIR) index. More than half of the SCI enhancements went to farms with SCI at 0.6 or less, and 75% to farms with SCIs of 0.9 or less.

**Energy Management**—Expenditures on benchmark energy enhancements paid in 2005 totaled \$5.3 million. More than half (61%) of energy enhancement payments were made for benchmark practices and activities that affected Soil Tillage Intensity Rating (STIR) scores. On-farm use of renewable fuels, such as bio-diesel or ethanol, accounts for another 13% of expenditures. Recycling oil in farm machinery use accounted for another 13%. Use of perennial and annual

**Figure 5. DISTRIBUTION OF ACRES RECEIVING STEWARDSHIP PAYMENTS**



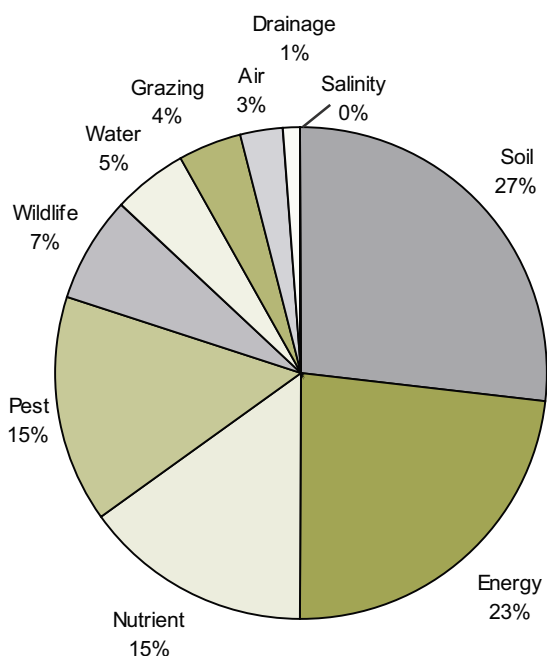
Source: NRCS 2005 ProTracts database.

legumes in rotations to reduce fertilizer use accounted for 9%. Other measures relating to fertilizer and energy use were 2% or less of expenditures.

**Nutrient Management**—\$22.9 million was paid in 2005 for benchmark nutrient management enhancements. The largest single practice rewarded is split N applications (28.7%), and the largest group of rewarded practices deal with improved application management (36.3%). Precision agricultural techniques accounted for 18.2% of total benchmark nutrient management enhancements. Systems or levels of management consisting of a suite of changes made up 11.6% of expenditures, while changes to soil disturbance were another 11%. Various kinds of soil and tissue nutrient testing added another 10.3%. Manure and livestock management and buffers of different kinds each accounted for 5.5% of expenditures on benchmark nutrient management enhancements in 2005.

**Pesticide Management**—About \$30 million was spent on benchmark pesticide management enhancements under CSP in 2005. About 40% was spent on scouting, rotations to break pest cycles, and spot treatment of pests singly as practices, and another 10%–11% was spent on combinations of these. Some form of integrated pest management (IPM) garnered 6.8% of expenditures. Enhancements based on reducing pesticide risk measured using the WIN-PST index accounted for about 8.5%.

**Figure 6. NUMBER OF ENHANCEMENTS BY TYPE, CSP 2005**



Source: NRCS 2005 ProTracts database.

**Table 6. DISTRIBUTION OF 2005 CSP ENHANCEMENT PAYMENTS BY TIER**

2005 EXPENDITURES				
Enhancement	Tier I	Tier II	Tier III	Total
Air resource management	\$1,321,601	\$1,199,637	\$2,088,528	\$4,609,766
Drainage management	\$238,925	\$722,973	\$21,682	\$983,580
Energy Management	\$2,410,443	\$1,825,173	\$1,277,632	\$5,513,248
Grazing management	\$1,155,517	\$1,009,911	\$1,947,767	\$4,113,195
Wildlife habitat management	\$2,818,691	\$3,747,907	\$2,878,204	\$9,444,802
Nutrient management	\$6,920,169	\$9,381,428	\$6,044,008	\$22,345,605
Pest management	\$7,736,419	\$10,386,986	\$9,045,742	\$27,169,146
Salinity management	\$0	\$0	\$2,067	\$2,067
Soil management	\$17,705,838	\$14,203,595	\$13,494,101	\$45,403,534
Water management	\$1,646,339	\$2,132,434	\$1,406,839	\$5,185,612
<b>Total expenditures</b>	<b>\$41,953,941</b>	<b>\$44,610,045</b>	<b>\$38,206,569</b>	<b>\$124,770,554</b>
PERCENT OF TOTAL EXPENDITURES FOR EACH TIER				
Enhancement	Tier I	Tier II	Tier III	Percent total
Air resource management	3.2%	2.7%	5.5%	3.7%
Drainage management	0.6%	1.6%	0.1%	0.8%
Energy management	5.7%	4.1%	3.3%	4.4%
Grazing management	2.8%	2.3%	5.1%	3.3%
Wildlife habitat management	6.7%	8.4%	7.5%	7.6%
Nutrient management	16.5%	21.0%	15.8%	17.9%
Pest management	18.4%	23.3%	23.7%	21.8%
Salinity management	0.0%	0.0%	0.0%	0.0%
Soil management	42.2%	31.8%	35.3%	36.4%
Water management	3.9%	4.8%	3.7%	4.2%
<b>Total percent</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

Source: NRCS 2005 ProTracts database.

**Wildlife Habitat Management—**

Of \$9.7 million in expenditures for benchmark wildlife habitat enhancement under CSP in 2005, 20% were made based on scores received using one or another version of a habitat index, and another 33% were for leaving residues or stubble over winter, managing irrigation water, or creating or managing buffers such as riparian buffers, filter strips, or field borders.

**Water Management—**Benchmark water management enhancements accounted for \$5.4 million in 2005 expenditures. Nearly all the enhancements are based on the Irrigation Enhancement Index, which measures the irrigation efficiency, running from 60% to over 85%. The most common level was 65-69%, followed by 70-74%.

**Grazing Management—**

Benchmark grazing management enhancements totaled \$4.1 million. The most commonly rewarded practices were brush management (14.2% of expenditures), delayed haying and grazing until after bird nesting season (13%) and riparian area exclusion (12.7%).

**Air Resource Management—**\$4.4 million was spent on benchmark air resource management enhancements in 2005. The most commonly rewarded practice was use of reduced tillage to reduce blowing dust (43% of expenditures), followed by alternatives to burning crop residues and stumps (19.5%) and no-till for carbon sequestration (9.5%).

**Drainage Management—**\$932,000 was spent on benchmark drainage

management enhancements. All of the payments reward producers based on drainage management intensity levels, measured by an index specific to drainage management needs in each area. More than half of the expenditures on this enhancement went to farms that were achieving level 3 of the index.

**Salinity Management—**Only \$2,900 in benchmark salinity management enhancements was expended in 2005 on only 2 contracts.

# CSP IN THE FUTURE

CSP was designed to serve two purposes: (1) to provide a source of income to producers and (2) to improve environmental quality and natural resource condition in agricultural landscapes. These two purposes are complementary, but they are also different. The CSP statute attempted to address these two purposes simultaneously by creating a payment structure that provided income support by rewarding



(paying) producers for the conservation activities they are already undertaking on a sliding scale based on the kind and amount of environmental benefits produced. Environmental quality would improve as producers made additional investments in conservation to qualify for higher levels of payments. CSP also incorporated cost-share payments—the traditional approach to spurring conservation investments—to facilitate a portion of producer’s investment in greater conservation effort.

From the outset, perceptions of the primary function of CSP differed among both supporters and opponents of the program. Some saw, and still see, CSP primarily as an alternative to crop subsidies. CSP, in their view, should be a new form of income support based on the kind and amount of environmental benefits produced rather than on the kind and amount of crops produced. Others saw, and still see, CSP primarily as a new and better form of conservation incentive based on paying for the kind and amount of environmental benefits produced rather than sharing a portion of the cost of implementing a particular conservation practice or system.

CSP could and should be an important component of the nation’s conservation effort in working landscapes—the landscapes used to produce food, fiber, and energy, but that also can produce important environmental benefits. But CSP must change to realize its potential. As currently funded and implemented, CSP is largely missing that opportunity.

## REWARD MORE THAN THE STATUS QUO

CSP, as described earlier, differs from all other USDA conservation programs in that it rewards producers for the conservation effort they are already making on their farms and ranches. Taxpayers are mostly paying for environmental benefits they were already receiving.

Rewarding the pre-existing, status quo level of performance essentially gives producers a return on their past and ongoing investments in conservation. That return on conservation investment is a form of income support and a key feature that distinguishes CSP from traditional conservation cost-share programs. Rewarding the status quo level of conservation effort, however, is a slow and uncertain way to address the critical, and in some cases worsening, environmental challenges confronting agriculture, particularly when funding for conservation in general and CSP in particular is limited. The status quo level of conservation in place on working land today is clearly not meeting those environmental challenges. Today, for example

- State water quality agencies report that agriculture is the largest source of impairment in rivers and streams, affecting nearly half of stream and river miles with water quality problems.
- State water quality agencies report that agriculture is the source of more than 40% of impairments in lakes, including nutrients, siltation, and pesticides.
- Studies by scientists at the U.S. Geological Survey found that fertilizer used in agriculture and manure from livestock was estimated to account for 22% and 14% of total nitrogen and for 17% and 26% of total phosphorus that entered major river basins in the United States.
- USDA’s National Resources Inventory reports that soil erosion remains above tolerable levels on 102 million acres of cropland.
- Of the 663 species listed as threatened or endangered under the Endangered Species Act, 412 are listed, at least in part, due to agricultural development, grazing, and use of agricultural chemicals.

- Invasive weeds have quadrupled their range from 1985 to 1995—currently 100 million acres of land are moderately to heavily infested with invasive grasses.

Aggressive and well-focused efforts to change the status quo are urgently needed to meet these and other compelling environmental challenges.

Modifications made to 2004 CSP contracts did result in a 69% increase in total contract payments as producers increased acreage enrolled, moved up the tier ladder, and added new enhancement activities to their contracts. This is good news: it indicates the willingness of producers to increase their level of conservation effort on their farms and ranches. It may also increase the proportion of CSP funding rewarding additional conservation effort above and beyond benchmark (pre-existing) conservation practices and activities. But the increase in cost also demonstrates the challenge ahead: to provide adequate funding to meet both the demand for contract modifications and to enroll new producers in the program. Unless funding for CSP is significantly increased, USDA will be forced to choose between rewarding current participants for adding new conservation practices or rewarding new participants for their status quo level of conservation effort.

Rewarding the status quo—providing farmers and ranchers a return on their past and ongoing investment in conservation—is a much better way to support income than the current amalgam of crop and income subsidies in place today. It is also a laudable way to reward the good actors in conservation rather than directing taxpayer funding to producers who have not made much of an investment in conservation. But this approach will be costly. The budget for the farm bill in 2007 is likely to be tight. The competing demands for that budget authority are growing—particularly for initiatives on renewable fuels and specialty crops. A major increase in funding for CSP, then, will likely require

a fundamental shift in agricultural policy toward paying farmers and ranchers for producing environmental goods and services rather than for producing specific agricultural commodities. The troubled budget history of CSP to date suggests there is limited political support for such a transition. Until such a shift is made, however, rewarding the status quo with limited conservation program dollars is an inefficient and likely ineffective way to meet the significant environmental challenges confronting agriculture.

Ways must be found—and implemented—to increase the emphasis on spurring new investment in conservation and environmental management in CSP. There are many ways this objective could be achieved. Enhancement payments, for example, could be reserved only for new effort above and beyond the benchmark (pre-existing) level of effort rewarded through stewardship payments. Stewardship payments, then, would reward “good actors” for their current level of stewardship while enhancement payments would reward participants for doing more. Alternatively, contract in periods in CSP could be shortened to five years and producers be required to do more in order to renew their contracts (and receive higher payments) for another five years. Or, producers could be required to plan for and commit to new conservation practices and activities as part of their CSP contract with their CSP payment growing as those new practices and activities come on-line.

The CSP framework provides multiple opportunities to increase its effectiveness to improve the status quo level of conservation on U.S. agricultural land. The best specific option to choose depends on many factors, not least of which is the funding level Congress provides for CSP in future. It is imperative that a future CSP devote much more of its resources to spurring new effort to meet agriculture’s mounting environmental challenges.

## EMPHASIZING QUALITY OVER QUANTITY

CSP, in statute and in implementation, rewards addressing a broad range of resource concerns. That makes the program more flexible and recognizes the multiple benefits flowing from working land. It also introduces the danger that quantity—the number of resource concerns addressed—outweighs quality—the comprehensiveness with which an individual resource concern is addressed.

Focusing on quantity of resource concerns addressed often leads to a focus on natural resource concerns that are not of the greatest importance for that local community. This may also short change the principal way in which a particular farming system can contribute to conservation and environmental quality. Intensive row-crop systems, for example, can make important contributions to environmental quality through soil, nutrient, pest and water management. However, the contributions such systems can make to terrestrial wildlife habitat may be limited and soil, water, and air quality may be the most pressing challenges those producers face in their community.

In other words, doing a little for a lot of resource concerns may result in the same reward as doing a lot for a few resource concerns even if those few are of the greatest importance to conserve resources and improve environmental quality in a particular area. The pay-off to taxpayers and the environment, however, is much larger if producers are rewarded for the latter behavior. Rewarding quality improvements in key areas of concern can also demonstrate and encourage use of innovative conservation measures.

In its current form, CSP provides substantial rewards to producers for increasing the quantity of conservation—treating more of their operation, treating more resource concerns, and adding more activities that qualify for enhancement payments.

Three opportunities stand out to improve the conservation and environmental performance of CSP by emphasizing quality as well as quantity of conservation effort: (1) scaling stewardship and enhancement payments to the intensity with which priority resource concerns are addressed, (2) focusing enhancements on only the most critical resource concerns in a particular location, and (3) strengthening the rigor of the quality criteria and indices used to assess the environmental performance of participants.

### EMPHASIZE MANAGEMENT INTENSITY

Management intensity is a measure of how completely a producer is addressing a specific resource concern. For example, if leaching of nitrogen is the resource of concern, a producer could simply decide to apply nitrogen at the general rate recommended by his/her local extension agent—a low intensity treatment of that resource concern. Alternatively, the producer could decide to adopt state-of-the-art nitrogen management involving post-planting application of fertilizer, sophisticated assessments of the nutrient status of the soil or crop plant in real time—a high intensity treatment of that resource concern. Similar ranges of intensity can be applied to irrigation water management, grazing management, pest management, diverse rotations and cropping systems, and other knowledge-based conservation practices and systems.

The intensity with which a resource concern is addressed is often a more direct indication of the environmental benefits produced than simply the number of resource concerns addressed or the total acres treated.

The Maryland Center for Agro-Ecology review of the CSP program raised the lack of focus in enhancement payments as a serious concern. The center recommended basing enhancement payments on “management intensity,” that is, on the increased environmental benefits produced by higher levels of conservation effort

within broadly defined practices such as nutrient management. Enhancement payments—currently flat-rate per acre payments—would be scaled to the level of conservation effort. The center also developed a prototype management intensity framework for Maryland (see sidebar).

Tying enhancement payments to management intensity could and should simplify the current long list of individual enhancements producers may qualify for. Currently a producer is offered a menu of potential enhancements to choose from. In 2005, for example, there were 52 individual enhancements all of which had some effect on nutrient management and each of which has its unique requirements and payment levels. Such an approach can lead to a fragmented and diffuse rather than an integrated and focused conservation effort on the farm. A better approach would group enhancement measures into complementary activities and scale the enhancement payment to the degree to which the full system is implemented. Such an approach should also weight payments to encourage producers to select enhancements that truly push the envelope of the environmental performance of the particular type of farming. For example, instead of the current complex set of individual enhancements, a single nutrient management enhancement payment could be scaled to the intensity and comprehensiveness of treatment and tailored to the farming system and geographic features of the local watershed. Such an approach would simplify and streamline the program, reduce administrative burdens, and improve the environmental performance of the program.

The concept of management intensity could and should also be incorporated into stewardship payments. Currently, a producer can increase his/her stewardship payment by: (1) addressing more resource concerns, (2) treating more acres, or (3) treating land with higher rental

payments. Stewardship payments could and should also be scaled to the level of intensity with which a priority resource concern is addressed. A producer, then, could increase his/her stewardship payment by intensifying management in addition to, or rather than by, treating more resource concerns or more acres. Movement to higher tiers could also be based on increasing the intensity and comprehensiveness with which those resource concerns are addressed.

The quantitative indices currently used in CSP could easily be incorporated into a system of graduated enhancement payments that increase with increasing level of effort and anticipated environmental benefits. Where such quantitative indices do not exist, the use of practice-based indices such as proposed by the Maryland Center for Agro-Ecology could help fill the gap. Strict guidance will be needed to ensure the concept of management intensity is implemented using consistent methods and approaches across the nation and to ensure those methods and approaches are rigorous and technically sound.

## FOCUS ON RESOURCES THAT MATTER MOST

The environmental benefits provided by CSP could be greatly increased if the program was more targeted at achieving a greater level of treatment of those resource concerns most critical to the environment in a local area or watershed. This could be done by (1) providing more flexibility to tailor the resource concerns that must be addressed to be eligible to participate in CSP more closely to the needs of the local environment and (2) by narrowing the range of enhancement practice payments available to those that effectively address the most critical resource concerns in a given watershed.

Allowing state offices to specify the three most important resources of concern, instead of using soil and water quality as the national bar for eligibility, would allow states to emphasize which resources producers need to address. In watersheds where wildlife habitat or air quality might be particularly problematic, producers would be required to address these issues first. This would ensure that CSP participants are addressing the most important environmental issues in a given area.

We also recommend tying enhancement payments closely to conservation and environmental management needs that address the most important local environmental priorities and contribute substantially to achieving regional and national environmental priorities. This could be accomplished by adjusting the payment rate on selected enhancements to reflect the greater value created by addressing the most important local, regional, and national environmental priorities.

Strict guidance will need to be developed to ensure that the methods and approaches used to target enhancements at critical, local environmental problems produce consistent results across the nation and that the targeting process is driven by rigorous and technically sound criteria.

## MANAGEMENT INTENSITY FRAMEWORK FOR ENHANCEMENT PAYMENTS

The Maryland Center for Agro-Ecology recommends using graduated, enhancement payment “management intensity” factors for all practices, systems, and activities in CSP. The Center proposed the following framework for incorporating management intensity factors into Maryland’s CSP program:

### NUTRIENT MANAGEMENT

MI 1: Apply nutrients at recommended rates and timing

MI 2: Recommended rates with split application and use of PSNT, tissue test, sap test, etc., to enhance efficiency

MI 3: Variable rate application using yield monitor data and/or “on the go” chlorophyll measurements to vary rate or apply N at 15% below recommended rate

### FIELD RESIDUES (AVERAGE PERCENT OVER LIFE OF CONTRACT)

MI 1: 30% conservation tillage

MI 2: 60% conservation tillage with heavy residue

MI 3: 90% no-till

### COVER CROP

MI 1: Cover crop planted no later than two weeks after the average date of the first frost

MI 2: Cover crop planted more than one week before the average date of the first frost

MI 3: Cover crop planted two weeks before the first frost date

### COMMODITY SMALL GRAIN

Grown with no fertilizer application until after March 1

### GRASS BUFFERS

MI 1: 35 feet

MI 2: 70 feet

MI 3: 100 feet

### FOREST BUFFERS

MI 1: 35 feet

MI 2: 70 feet

MI 3: 100 feet

### ROTATIONS

MI 1: No-till with winter cover crop

MI 2: 1 year green manure or 2 years of hay

MI 3: 3 years of hay in rotation

### EROSION CONTROL

MI 1: Soil loss of “T” or less

MI 2: Soil loss of 0.5 “T” or less

MI 3: Soil loss of 0.25 “T” or less

### DRAINAGE WATER MANAGEMENT

MI 1: Water control structures

MI 2: Water control structures and 5 foot grass buffers

MI 3: Water control structures and no temporary field drainage in fields with a history of temporary drainage

### MANAGED GRAZING

MI 1: Meets NRCS standard for improved pasture

MI 2: Management intensive grazing (MIG) (minimum two-day rotations)

MI 3: MIG with water per paddock and managed trails

## IMPROVE QUALITY CRITERIA

The rigor and technical soundness of quality criteria are fundamental factors influencing the environmental performance of CSP. Quality criteria are used to determine whether treatment of a resource concern is sufficient to meet the nondegradation standard. That determination is critical because it determines whether a producer can participate in the program and determines the size of tier-based stewardship and existing practice payments he/she will receive. Quality criteria are also used to determine which conservation activities on the farm or ranch qualify for enhancement payments.

Taken together, these two factors—which treatments are sufficient to meet nondegradation and which activities qualify for enhancement payments—largely determine how much CSP will spend and what environmental benefits will be produced.

We applaud the efforts NRCS has already taken to strengthen quality criteria. A comprehensive review of quality criteria was beyond the scope of this report, but a cursory review suggests that substantial additional work is needed. Some quality criteria are largely practice-based while others are based on indices. Some indices are more rigorous and quantitative while others are largely qualitative. We recommend three areas to focus effort on improving quality criteria.

First, we applaud and encourage the use of indices, such as the Soil Conditioning Index (SCI) as the basis for quality criteria. Such indices, if properly constructed and implemented, are more closely tied to the effect of a particular level of conservation effort on resource quality than simple lists of practices or activities. In addition, such indices allow producers more flexibility to select the practices and activities needed to meet quality criteria. To its credit, the USDA has started to develop indices that better measure environmental performance, including the SCI, and a composite water quality index used for the 2006

sign-up. It also developed the concept of conservation management intensity, which these indices help to measure.

We encourage NRCS to continuously test, evaluate, and improve the SCI and other existing indices and to place a high priority on the development of additional indices that can serve as the basis for quality criteria for CSP and all other conservation programs. The resource condition-based quantitative indices developed for use in CSP and in other programs must be continually evaluated and improved to ensure they accurately and consistently indicate the change in resource condition they are designed to detect.

The role of the SCI, for example, has been questioned. The questions raised include technical concerns about the index's applicability to particular farming systems and landscapes and policy questions about the fairness or effectiveness of placing so much emphasis on soil quality in CSP. It is imperative that the technical issues surrounding the SCI and all other such indices be thoroughly evaluated and improved on an ongoing basis. CSP payments, and all other conservation program payments, should increasingly be based on quantitative indices of resource effects or conservation effort. The advantages of moving away from practice-based payments to performance-based payments are numerous and well-documented. Such indices should be developed and tested as quickly as possible. One of the most important contributions CSP could make to the portfolio of USDA conservation programs is the development, testing, and application of such indices.

Second, we recommend that greater priority and weight be given to those enhancements for which quality criteria are most rigorous and robust while other quality criteria are strengthened and developed.

Third, wildlife habitat quality criteria appear to be the weakest link currently. We recommend high priority be given to strengthening those criteria. Wildlife

habitat management enhancements were the fourth largest category of expenditures for enhancements in 2005. In addition, it appears that a determination of whether pre-existing practices and activities were sufficient to meet wildlife habitat quality criteria was the determining factor for placing many operations in Tier III.

A discussion paper completed by Environmental Defense reviewed the wildlife criteria used in the 2004 CSP sign-up. The paper concluded that “incorporating wildlife into CSP raises enormous challenges” because the activities that may benefit wildlife are extremely diverse, not all wildlife merits equal conservation attention, and the potential of any particular agricultural operation to benefit priority wildlife species will vary enormously. Their review found, not surprisingly, that wildlife criteria varied greatly between states and CSP watersheds during the 2004 CSP sign-up. All states used a “habitat assessment model” to determine whether benchmark (pre-existing) conservation activities met the quality criteria for wildlife habitat. Some states used species-specific models, some a “general farmland wildlife assessment,” and some developed multiple species-specific models.

Thrall and Male recommended using a properly developed, general farmland assessment to determine whether an operation qualifies for Tier III based on its current contribution to wildlife habitat. They recommended species-specific habitat assessments focused on at-risk species as the basis for wildlife habitat management enhancement payments and that most emphasis on wildlife habitat in CSP should come through such enhancement payments.

## INCREASE TECHNICAL ASSISTANCE

Congress must remove the present 15% cap for technical assistance and give the Secretary of Agriculture the flexibility to allocate the amount of funding for

technical assistance needed to ensure CSP is implemented effectively and efficiently. The statutory limit on technical assistance has led to decisions that have reduced the environmental performance of the program.

Producer self-assessments—the key first step toward participation—are not field-checked by USDA staff until after contracts are signed. Given that most CSP payments are for benchmark (pre-existing) practices and activities, lack of solid documentation of the existence of those practices and activities will call into question the credibility of the program. In addition, ensuring new practices and activities are implemented and maintained will require significant amounts of technical assistance long after producers first sign up for the program.

Most important, limited field technical staff and short contracting periods have seriously constrained planning for new practices and activities in the out-years of a producer's CSP contract. This is one of the primary reasons that nearly all of the long-term financial commitment created by 2005 CSP contracts are for "benchmark" practices—practices that were already in place when the producer signed up for CSP.

CSP demands a high degree of technical assistance to conduct benchmark assessments, evaluate the extent to which current efforts meet appropriate treatment standards, and assist producers to plan, and eventually implement, new conservation practices and activities. A stronger technical assistance network is essential to implementing all of the recommendations in this report. Arbitrary limits on technical assistance are unhelpful and impede progress toward creating the effective and efficient program CSP should become.

Providing funding for third-party certification of benchmark conditions and of other contract requirements as part of a producer's CSP contract could help relieve some of the burden from NRCS field office staff and their partners.

## STRENGTHEN THE PORTFOLIO

CSP has the potential to become a successful conservation incentives program. CSP, or any other reward-based conservation program alone, however, will not be sufficient to meet the environmental agenda confronting U.S. agriculture. The other conservation programs in the portfolio must also grow in funding and effectiveness to create the balanced conservation portfolio needed to meet the environmental challenge U.S. producers' face. Serious reforms must be made to other programs in the conservation title to ensure the most cost-effective practices and systems are encouraged, that a critical mass of participation is achieved to produce real improvements in environmental quality, that critical habitat and landscape features are restored, and to support cooperative, locally led conservation projects on a large scale across the United States. Such reforms are beyond the scope of this assessment, but are being developed and will be shared in other reports.

# APPENDIX

**Table A.1. STATE USE OF GRAZING LAND, PASTURE, AND RANGE LAND USE CLASSIFICATIONS IN 2005 CSP**

STATE	GRAZING LAND	PASTURE	RANGE	STATE	GRAZING LAND	PASTURE	RANGE
Alabama		x		Nebraska	x	x	x
Alaska			x	Nevada		x	x
Arizona	x	x	x	New Hampshire		x	
Arkansas		x		New Jersey		x	
California		x	x	New Mexico		x	x
Colorado	x	x	x	New York			
Connecticut		x		North Carolina		x	
Delaware		x		North Dakota		x	x
Florida		x		Ohio		x	
Georgia		x		Oklahoma		x	x
Hawaii			x	Oregon		x	x
Idaho	x	x	x	Pennsylvania		x	
Illinois		x		Rhode Island		x	
Indiana		x		South Carolina	x	x	
Iowa	x	x		South Dakota	x	x	x
Kansas	x	x	x	Tennessee		x	
Kentucky	x	x		Texas	x	x	x
Louisiana		x		Utah		x	x
Maine		x		Vermont		x	
Maryland		x		Virginia		x	
Massachusetts		x		Washington	x	x	x
Michigan		x		West Virginia		x	
Minnesota		x		Wisconsin		x	
Mississippi		x		Wyoming		x	x
Missouri	x	x		Caribbean		x	
Montana		x	x				

Source: NRCS 2005 ProTracts database.

**Table A.2. RESOURCE CONCERNS ADDRESSED THROUGH ENHANCEMENT PAYMENTS, 2005**

RESOURCE CONCERN	RESOURCE CONCERN DESCRIPTION	ESTIMATED EXPENDITURES
Air Quality (AQ1)	Airborne Chemical Drift	\$481,059.27
Air Quality (AQ2)	Airborne Odors	\$93,750.05
Air Quality (AQ3)	Particulates Pollution, Smoke or Other Pollutants (Fungi, Molds, Pollen)	\$93,256.12
Air Quality (AQ4)	Particulates Pollution, Excessive Wind Erosion	\$808,017.71
Air Quality (AQ5)	Other	\$1,301,974.40
Forest Health (PF1)	Deforestation	\$1,946.00
Forest Health (PF2)	Pest Infestation	\$2,444.00
Forest Health (PF3)	Other	\$24,785.00
Grazing Lands Health (PG1)	Excessive Erosion	\$266,236.25
Grazing Lands Health (PG2)	Invasion of Noxious Weeds	\$503,933.72
Grazing Lands Health (PG3)	Invasion of Woody Vegetation	\$59,616.06
Grazing Lands Health (PG4)	Other	\$965,949.27
Ground Water Quality (WG1)	Nutrients	\$11,233,320.12
Ground Water Quality (WG2)	Animal Waste, Organics and Pathogens	\$291,331.84
Ground Water Quality (WG3)	Pesticides	\$4,841,045.15
Ground Water Quality (WG4)	Salts and Heavy Metals	\$8,283.00
Ground Water Quality (WG5)	Loss of Wetlands	\$5,713.00
Ground Water Quality (WG6)	Other	\$2,046,543.04
Habitat Quality (AH1)	Acid Rain	\$2,033.00
Habitat Quality (AH2)	Invasion of Nonindigenous Plant or Animal Species	\$132,009.15
Habitat Quality (AH3)	Loss or Degradation of Forest or Grass Cover	\$909,601.19
Habitat Quality (AH4)	Loss or Degradation of Riparian Habitat	\$762,348.00
Habitat Quality (AH5)	Loss or Fragmentation of Habitat/Inadequate Water Source	\$877,899.78
Habitat Quality (AH6)	Sedimentation or Eutrophication of Water Body	\$136,174.00
Habitat Quality (AH7)	Water Temperature Extremes	\$153,796.00
Habitat Quality (AH8)	Other	\$4,026,099.81
Land Quantity (SL1)	Conservation of Agricultural Lands to Non-Agricultural Use	\$2,418.00
Land Quantity (SL2)	Other	\$40,093.59
Plant Population Health (PP1)	Loss of Plant Diversity, Declining Species	\$270,932.54
Plant Population Health (PP2)	Loss or Degradation of Riparian Vegetation	\$12,901.00
Plant Population Health (PP3)	Plants not Adapted to Site	\$18,706.03
Plant Population Health (PP4)	Streambank and Shoreline Erosion and Degradation	\$59,197.00
Plant Population Health (PP5)	Other	\$567,151.61
Population Health (AP1)	Bioaccumulation of Toxins	\$4,653.00
Population Health (AP2)	Loss of Diversity, Declining Species, Population Imbalance	\$29,886.00
Population Health (AP3)	Other	\$128,039.00
Soil Quality (SE1)	Excessive Sheet and Rill Erosion	\$17,144,717.80

Source: NRCS 2005 ProTracts database.

**Table A.2. CONTINUED**

RESOURCE CONCERN	RESOURCE CONCERN DESCRIPTION	ESTIMATED EXPENDITURES
Soil Quality (SE2)	Excessive Other Erosion, Classic Gully, Ephemeral Gully, Channel Scour, Streambank	\$1,803,562.36
Soil Quality (SQ1)	Excessive Wind Erosion	\$3,239,318.48
Soil Quality (SQ2)	Irrigation Induced Erosion	\$759,220.18
Soil Quality (SQ3)	Soil Mass Movement	\$41,591.43
Soil Quality (SQ4)	Road Banks and Construction Site Erosion	\$7,553.00
Soil Quality (SQ5)	Increased Compaction	\$3,516,326.69
Soil Quality (SQ6)	Use Limitations, Poor Soil Tilth, Crusting, infiltration, Organic Matter	\$14,047,848.40
Soil Quality (SQ7)	Soil Contaminants from Excess Animal Waste, Pesticides, or Other Organics	\$765,281.39
Soil Quality (SQ8)	Build Up of Soil Phosphorus	\$758,250.19
Soil Quality (SQ9)	Increased Salinity	\$21,281.00
Soil Quality (SQ10)	Subsidence	\$17,875.00
Soil Quality (SQ11)	Soil Deposition	\$354,551.23
Soil Quality (SQ12)	Other	\$10,136,425.45
Surface Water Quality (WS1)	Nutrients	\$14,490,038.16
Surface Water Quality (WS2)	Animal Waste, Organics and Pathogens	\$1,012,310.98
Surface Water Quality (WS3)	Pesticides	\$12,414,843.10
Surface Water Quality (WS4)	Salts and Heavy Metals	\$11,139.00
Surface Water Quality (WS5)	Loss of Wetlands	\$70,715.00
Surface Water Quality (WS6)	Loss of Riparian Vegetation	\$39,211.00
Surface Water Quality (WS7)	Sedimentation	\$3,422,527.69
Surface Water Quality (WS8)	Streambank and Shoreline Erosion and Degradation	\$13,396.10
Surface Water Quality (WS9)	Water Temperature Extremes	\$37,481.07
Surface Water Quality (WS10)	Other	\$4,963,799.35
Water Quantity (WQ1)	Excess Subsurface Water	\$168,726.00
Water Quantity (WQ2)	Flooding/Excess Surface Water	\$140,636.00
Water Quantity (WQ3)	Insufficient Water Supply for Communities or Individuals	\$93,585.00
Water Quantity (WQ4)	Insufficient Water Supply for Fish and/or Wildlife	\$122,768.53
Water Quantity (WQ5)	Insufficient Water Supply for Irrigation	\$797,929.00
Water Quantity (WQ6)	Insufficient Water Supply for Livestock	\$40,412.95
Water Quantity (WQ7)	Loss of Wetlands	\$14,475.22
Water Quantity (WQ8)	Declining Water Tables	\$350,886.60
Water Quantity (WQ9)	Other	\$1,041,690.46
Wetlands Health (AW1)	Impaired Water Quality	\$31,192.00
Wetlands Health (AW2)	Impaired Water Quality, Agricultural Runoff	\$17,084.00
Wetlands Health (AW3)	Loss of Plant Diversity, Declining Species	\$119.00
Wetlands Health (AW4)	Loss of Wetlands, Loss of Adjacent Habitat	\$13,659.00
Wetlands Health (AW5)	Sedimentation of Basins	\$2,206.00
Wetlands Health (AW7)	Other	\$27,238.00
<b>TOTAL</b>		<b>\$123,115,014.51</b>

NOTE: Table includes payments that have been approved, but not yet paid.

Source: NRCS 2005 ProTracts database.

**Table A.3-1. PRACTICES REWARDED THROUGH ENHANCEMENT PAYMENTS, 2005****SOIL QUALITY MANAGEMENT ENHANCEMENTS**

Component, Activity, or Practice	Expenditures	Percentage
SCI 0.4	\$6,237,882	13.7%
SCI 0.5	\$5,790,923	12.7%
SCI 0.6	\$5,713,239	12.6%
SCI 0.7	\$4,816,014	10.6%
SCI 1.0	\$4,771,355	10.5%
SCI 0.3	\$4,123,098	9.1%
SCI 0.8	\$3,433,702	7.6%
SCI 0.9	\$2,562,728	5.6%
SCI 2.0	\$2,252,219	5.0%
STIR 15 or less	\$1,404,527	3.1%
SCI 0.2	\$1,190,679	2.6%
GPS for STIR 15 or less	\$433,906	1.0%
STIR 16-30	\$361,001	0.8%
SCI 1.1	\$331,956	0.7%
SCI 1.2	\$291,815	0.6%
STIR 31-60	\$240,537	0.5%
SCI 0.1	\$203,971	0.4%
SCI 1.3	\$191,359	0.4%
GPS for STIR 16-30	\$180,671	0.4%
SCI 1.5	\$170,367	0.4%
SCI 2.5	\$145,503	0.3%
SCI 1.4	\$126,932	0.3%
GPS for STIR 31-60	\$116,652	0.3%
SCI 1.6	\$114,994	0.3%
SCI 2.3	\$63,669	0.1%
SCI 1.8	\$62,616	0.1%
SCI 1.9	\$49,228	0.1%
SCI 2.4	\$23,091	0.1%
SCI 2.2	\$16,587	0.0%
SCI 1.7	\$13,568	0.0%
SCI 2.1	\$7,394	0.0%
SCI increased	\$3,371	0.0%
<b>SOIL MANAGEMENT SUBTOTAL</b>	<b>\$45,445,553</b>	<b>100.0%</b>

Source: NRCS 2005 ProTracts database.

<b>Table A.3-2. PRACTICES REWARDED THROUGH ENHANCEMENT PAYMENTS, 2005</b>		
<b>ENERGY MANAGEMENT ENHANCEMENTS</b>		
Component, Activity, or Practice	Expenditures	Percentage
STIR15	\$1,801,860	34.0%
STIR30	\$807,339	15.3%
STIR60	\$651,410	12.3%
Renewable fuel	\$699,106	13.2%
Recycle oil	\$679,522	12.8%
Use of perennial legumes	\$262,039	4.9%
Use of annual legumes	\$203,825	3.9%
Manure used for 90% of fertilizer	\$99,377	1.9%
Reduce fertilizer use	\$38,067	0.7%
Energy Audit	\$24,000	0.5%
Reduction in energy use of 20%	\$20,000	0.4%
Renewable energy generation	\$7,278	0.1%
Reduction in energy use of 5%	\$100	0.0%
<b>ENERGY MANAGEMENT SUBTOTAL</b>	<b>\$5,293,924</b>	<b>100.0%</b>

Source: NRCS 2005 ProTracts database.

<b>Table A.3-3. PRACTICES REWARDED THROUGH ENHANCEMENT PAYMENTS, 2005</b>		
<b>NUTRIENT MANAGEMENT ENHANCEMENTS</b>		
Component, Activity, or Practice	Expenditures	Percentage
<b>Nutrient Application Management</b>		
Split N applications	\$6,577,510	28.7%
Band application	\$606,837	2.7%
Eliminate Fall anhydrous	\$461,452	2.0%
Restrict Fall application	\$241,444	1.1%
Spring N application	\$119,420	0.5%
Slow release N	\$94,215	0.4%
Nitrification inhibitor	\$85,060	0.4%
Pre-Plant application	\$24,331	0.1%
Reduce Fertilizer Application	\$22,155	0.1%
Improved N timing	\$21,439	0.1%
Reduce Fallow	\$14,727	0.1%
Chaff spreaders	\$14,421	0.1%
P starter only	\$7,048	0.0%
Chemigation	\$4,052	0.0%
<b>APPLICATION MANAGEMENT SUBTOTAL</b>	<b>\$8,294,111</b>	<b>36.3%</b>
<b>Precision Agriculture Activities</b>		
Precision application	\$2,918,192	12.8%
Grid soil sampling	\$1,080,922	4.7%
Yield monitor	\$156,402	0.7%
Laser guided application	\$8,431	0.0%
<b>PRECISION AGRICULTURE SUBTOTAL</b>	<b>\$4,163,947</b>	<b>18.2%</b>
<b>Nutrient Management Systems</b>		
Levels of management	\$1,853,392	8.1%
Nutrient Management	\$798,496	3.5%
<b>MANAGEMENT SYSTEMS SUBTOTAL</b>	<b>\$2,651,888</b>	<b>11.6%</b>

Source: NRCS 2005 ProTracts database.

**Table A.3-3. PRACTICES REWARDED THROUGH ENHANCEMENT PAYMENTS, 2005**

**NUTRIENT MANAGEMENT ENHANCEMENTS (CONTINUED)**

Component, Activity, or Practice	Expenditures	Percentage
<b>Soil Disturbance Activities</b>		
No Till	\$2,518,310	11.0%
SCI 0.5	\$1,390	0.0%
STIR 15	\$96	0.0%
<b>SOIL DISTURBANCE SUBTOTAL</b>	<b>\$2,519,796</b>	<b>11.0%</b>
<b>Soil Testing Activities</b>		
Annual soil testing	\$769,365	3.4%
Tissue N testing	\$597,492	2.6%
Fertilize to recommendations	\$495,896	2.2%
Pre-plant N testing	\$320,022	1.4%
Ph soil test	\$89,029	0.4%
Monitor P stratification	\$40,048	0.2%
Deep soil test for N	\$13,935	0.1%
Micronutrient testing	\$3,500	0.0%
Irrigation water testing	\$1,658	0.0%
<b>SOIL TESTING SUBTOTAL</b>	<b>\$2,330,945</b>	<b>10.3%</b>
<b>Manure and Livestock Activities</b>		
Inject manure	\$309,401	1.4%
P-based manure	\$297,026	1.3%
Urease inhibitor	\$275,892	1.2%
Manure testing	\$226,619	1.0%
Feed management	\$124,980	0.5%
No winter spreading	\$25,219	0.1%
Manage livestock areas	\$6,919	0.0%
Manure management	\$6,641	0.0%
No Field Stacking	\$32	0.0%
<b>MANURE AND LIVESTOCK SUBTOTAL</b>	<b>\$1,272,729</b>	<b>5.5%</b>
<b>Buffer Activities</b>		
Cover crops	\$737,593	3.2%
Riparian buffers	\$388,411	1.7%
Buffer management	\$127,129	0.6%
Field borders	\$8,927	0.0%
Application setbacks	\$3,230	0.0%
Grass waterways	\$255	0.0%
Wetland buffer	\$161	0.0%
Sinkhole management	\$87	0.0%
<b>BUFFERS SUBTOTAL</b>	<b>\$1,265,793</b>	<b>5.5%</b>
<b>Difference N Sources Management</b>		
Legumes in rotation	\$244,694	1.1%
Alternate N sources	\$137,890	0.6%
<b>DIFFERENT N SOURCES SUBTOTAL</b>	<b>\$382,584</b>	<b>1.7%</b>
Organic Certification	\$2,428	0.0%
<b>NUTRIENT MANAGEMENT SUBTOTAL</b>	<b>\$22,884,221</b>	<b>100.0%</b>

Source: NRCS 2005 ProTracts database.

**Table A.3-4. PRACTICES REWARDED THROUGH ENHANCEMENT PAYMENTS, 2005**

<b>PEST MANGEMENT ENHANCEMENTS</b>		
Component, Activity, or Practice	Expenditures	Percentage
Scout	\$5,481,957	18.2%
Rotations	\$3,857,838	12.8%
Spot	\$2,716,218	9.0%
Reduce/Rot/Spot	\$2,324,029	7.7%
IPM	\$2,036,576	6.8%
L or VL WIN_PST	\$1,910,758	6.3%
Spray Control	\$1,741,945	5.8%
Other	\$1,527,706	5.1%
Invasive species	\$1,346,556	4.5%
Combo	\$1,343,757	4.5%
Scout/Spot/Reduce	\$1,243,063	4.1%
Plant materials	\$659,026	2.2%
NonChem	\$612,531	2.0%
I WIN_PST	\$607,620	2.0%
Beneficials	\$544,993	1.8%
ORG	\$394,499	1.3%
Precision	\$372,715	1.2%
Buffers	\$307,531	1.0%
Cover crops	\$305,250	1.0%
BT	\$207,340	0.7%
Weather model	\$174,881	0.6%
Reduce	\$114,303	0.4%
Spray Equipment	\$89,501	0.3%
No H or VH WIN_PST	\$64,250	0.2%
Switch Pesticides	\$54,447	0.2%
Burn	\$38,764	0.1%
Reduce/Trap	\$9,650	0.0%
SCI	\$7,628	0.0%
LessTox	\$6,073	0.0%
Rot/Spot Spray	\$3,832	0.0%
Pesticide Handling	\$3,219	0.0%
Trap	\$2,484	0.0%
Residue Mgmt	\$8	0.0%
<b>PEST MANAGEMENT SUBTOTAL</b>	<b>\$30,110,948</b>	<b>100.0%</b>

Source: NRCS 2005 ProTracts database.

**Table A.3-5. PRACTICES REWARDED THROUGH ENHANCEMENT PAYMENTS, 2005****WILDLIFE HABITAT MANAGEMENT ENHANCEMENTS**

Component, Activity, or Practice	Expenditures	Percentage
Habitat index	\$1,938,977	20.0%
Manage residues	\$1,180,186	12.2%
Manage irrigation water	\$1,121,486	11.6%
Buffers	\$1,061,792	10.9%
Delay harvest	\$808,332	8.3%
Manage shallow open water	\$785,032	8.1%
Upland wildlife habitat	\$562,953	5.8%
Manage fields for wildlife	\$341,865	3.5%
No-till for wildlife	\$314,958	3.2%
Food Plots	\$251,974	2.6%
Leave unharvested crop	\$229,385	2.4%
Manage grazing for protected areas	\$200,418	2.1%
Manage harvest pattern	\$173,995	1.8%
Manage for native plants	\$95,299	1.0%
Provide water source	\$81,825	0.8%
Manage wildlife water	\$43,056	0.4%
Manage for Quail	\$42,639	0.4%
Prescribed burning	\$42,259	0.4%
Control invasive species	\$38,590	0.4%
Nest boxes	\$30,291	0.3%
Brush management	\$29,763	0.3%
Manage buffers	\$27,886	0.3%
Thin deer	\$25,848	0.3%
Defer grazing for wildlife	\$25,063	0.3%
Manage streams	\$24,975	0.3%
Wildlife inventories	\$23,500	0.2%
Corridors	\$22,452	0.2%
Use flushing bars	\$21,129	0.2%
Legumes for wildlife	\$20,092	0.2%
Cover Plots	\$16,590	0.2%
Exclude aquatic species	\$16,051	0.2%
Leave wetlands unharvested	\$15,647	0.2%
Exclude livestock from water areas	\$11,743	0.1%
Water escape ramps	\$10,400	0.1%
Rotational disking	\$9,081	0.1%
Harvest timing	\$8,500	0.1%
Use spot pesticide treatment	\$7,089	0.1%
Restore declining habitat	\$6,855	0.1%
Modify fencing	\$6,650	0.1%
Manage invasives in riparian areas	\$6,638	0.1%
Add to Buffer	\$6,634	0.1%
Brush piles	\$4,800	0.0%
Forest management	\$3,780	0.0%
Manage amphibian habitat	\$3,720	0.0%

Source: NRCS 2005 ProTracts database.

<b>Table A.3-5. PRACTICES REWARDED THROUGH ENHANCEMENT PAYMENTS, 2005</b>		
<b>WILDLIFE HABITAT MANAGEMENT ENHANCEMENTS (CONTINUED)</b>		
Component, Activity, or Practice	Expenditures	Percentage
Modify crop rotation	\$2,500	0.0%
Other	\$1,000	0.0%
Provide shallow open water	\$898	0.0%
Snow management	\$797	0.0%
Downed trees in buffers	\$549	0.0%
Manage restored wetlands	\$60	0.0%
<b>WILDLIFE HABITAT MANAGEMENT SUBTOTAL</b>	<b>\$9,706,002</b>	<b>100.0%</b>

Source: NRCS 2005 ProTracts database.

<b>Table A.3-6. PRACTICES REWARDED THROUGH ENHANCEMENT PAYMENTS, 2005</b>		
<b>WATER MANAGEMENT ENHANCEMENTS</b>		
Component, Activity, or Practice	Expenditures	Percentage
Irrigation enhancement index Level 2 - 65-69%	\$1,673,425	31.0%
Irrigation enhancement index Level 3 - 70-74%	\$1,429,096	26.5%
Irrigation enhancement index Level 1 - 60-64%	\$838,800	15.5%
Irrigation enhancement index Level 4 - 75-79%	\$821,045	15.2%
Irrigation enhancement index Level 5 - 80-84%	\$487,891	9.0%
Irrigation enhancement index Level 6 - 85% of more	\$146,556	2.7%
Drainage Water Management Index 20-29%	\$1,032	0.0%
Drainage Water Management Index 30-39%	\$956	0.0%
Drainage Water Management Index 40-49%	\$135	0.0%
Use of annual legumes to reduce energy need for N	\$35	0.0%
<b>WATER MANAGEMENT SUBTOTAL</b>	<b>\$5,398,971</b>	<b>100.0%</b>

Source: NRCS 2005 ProTracts database.

<b>Table A.3-7. PRACTICES REWARDED THROUGH ENHANCEMENT PAYMENTS, 2005</b>		
<b>GRAZING MANAGEMENT ENHANCEMENTS</b>		
Component, Activity, or Practice	Expenditures	Percentage
Brush management	\$576,056	14.2%
Delay mowing until after nesting season	\$530,363	13.0%
Exclude from riparian areas	\$515,336	12.7%
Exclude from woodlands	\$364,512	9.0%
Forage stockpiling	\$218,409	5.4%
Grazing deferment	\$203,381	5.0%
Grazing land fertilization	\$170,893	4.2%
Grazing management training	\$164,121	4.0%
Grazing plan	\$129,822	3.2%
Hay testing for quality	\$126,466	3.1%
High intensity grazing 8+ paddocks or pastures	\$108,863	2.7%
Incorporate legumes in forage mix	\$106,744	2.6%

Source: NRCS 2005 ProTracts database.

**Table A.3-7. PRACTICES REWARDED THROUGH ENHANCEMENT PAYMENTS, 2005****GRAZING MANAGEMENT ENHANCEMENTS (CONTINUED)**

Component, Activity, or Practice	Expenditures	Percentage
Incorporate perennial forage species	\$105,298	2.6%
Increase the number of grazing management units	\$104,169	2.6%
Interseed warm season grasses with cool season grasses or legumes	\$74,334	1.8%
Invasive species management	\$56,406	1.4%
Limit access to improve water quality	\$46,506	1.1%
Limit crop and residue grazing on dryland	\$44,973	1.1%
Limit supplemental feeds	\$40,121	1.0%
Maintain grazing system records	\$35,920	0.9%
Manage animal trails and walkways	\$35,262	0.9%
Manage feeding areas	\$33,161	0.8%
Manage forage production	\$31,392	0.8%
Manage livestock loafing areas	\$27,510	0.7%
Manage livestock wintering areas	\$26,424	0.6%
Manage overgrazing through watering facilities and salt blocks	\$25,913	0.6%
Manage watering sites to avoid water quality issues	\$20,890	0.5%
Mechanical aeration	\$18,516	0.5%
Moderate intensity grazing 4-7 paddocks or pastures	\$18,404	0.5%
Monitor sites for decision making	\$16,795	0.4%
Multiple management measures	\$12,083	0.3%
Organic pasture management	\$10,671	0.3%
Other rotational grazing	\$10,399	0.3%
Pasture index 35-39	\$10,000	0.2%
Pasture index 40-44	\$9,943	0.2%
Pasture index 45-50	\$7,515	0.2%
Precondition calves	\$6,200	0.2%
Prescribed burning	\$5,100	0.1%
Protect stream crossings	\$4,854	0.1%
Protect watering areas with heavy use pads or other strengthening	\$3,369	0.1%
Provide and manage water supply	\$2,545	0.1%
Rotate grazing for wildlife concerns	\$2,367	0.1%
Rotate salt, mineral and supplemental feeding areas	\$1,790	0.0%
Use annual forages	\$1,508	0.0%
Use CRM	\$1,500	0.0%
Use IPM	\$540	0.0%
Use livestock shelters	\$300	0.0%
Use native grass species	\$170	0.0%
Use NUTBAL or similar grazing management model	\$139	0.0%
Manage wintering areas	\$133	0.0%
<b>GRAZING MANAGEMENT SUBTOTAL</b>	<b>\$4,068,086</b>	<b>100.0%</b>

Source: NRCS 2005 ProTracts database.

<b>Table A.3-8. PRACTICES REWARDED THROUGH ENHANCEMENT PAYMENTS, 2005</b>		
<b>AIR RESOURCE MANAGEMENT ENHANCEMENTS</b>		
Component, Activity, or Practice	Expenditures	Percentage
Reduced tillage to reduce blowing dust	\$1,911,826	43.0%
Use alternatives to burning crop residues	\$864,548	19.5%
No-till for carbon sequestration	\$423,385	9.5%
Reduced tillage to reduce field trips and hydrocarbon emissions	\$324,170	7.3%
Windbreaks to manage odor, dust, and spray drift	\$298,541	6.7%
Inject manure to reduce odors and emissions	\$229,515	5.2%
Use fans or wind machines to reduce heater burning	\$164,169	3.7%
Reduced tillage to reduce P runoff	\$77,291	1.7%
Use better spray technology to reduce spray drift	\$73,220	1.6%
Reduce use of machinery to control PM 10/2.5	\$34,253	0.8%
Improve fertilizer application to reduce emissions	\$21,374	0.5%
Adopt cleaner engines to reduce emissions	\$9,785	0.2%
Odor plan for manure facilities	\$7,200	0.2%
Store fuels, chemicals to reduce hydrocarbons	\$3,500	0.1%
Chemigation to reduce PM-10	\$1,372	0.0%
Feed management to reduce odors.	\$700	0.0%
Dust control through watering/graveling	\$83	0.0%
<b>AIR RESOURCE MANAGEMENT SUBTOTAL</b>	<b>\$4,444,932</b>	<b>100.0%</b>

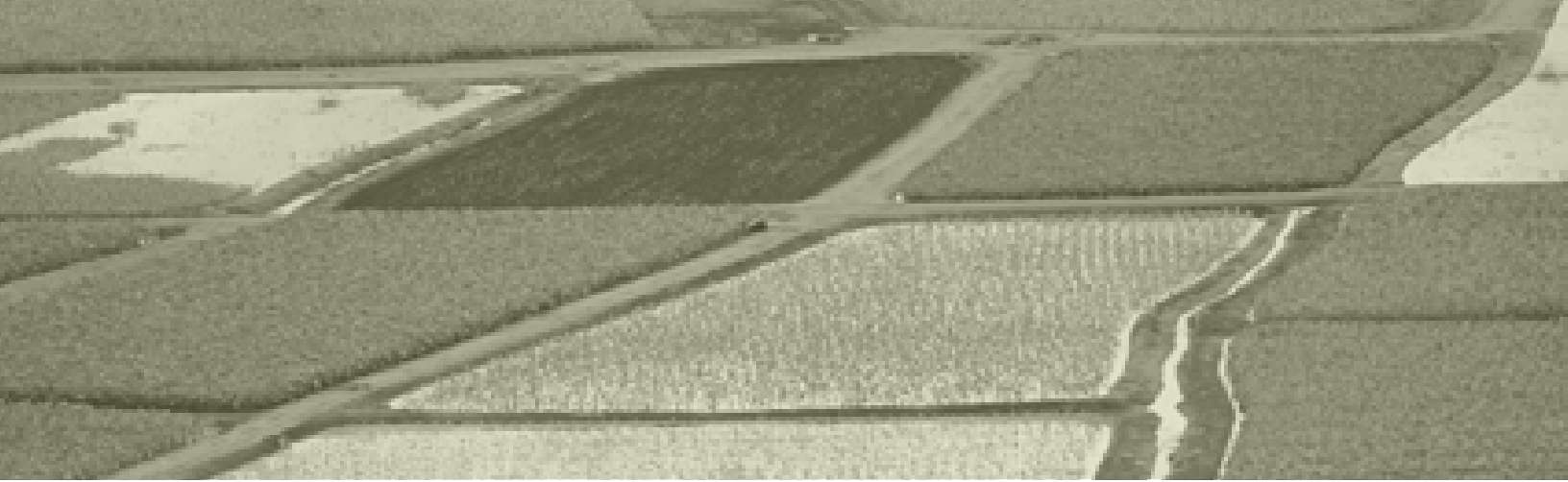
Source: NRCS 2005 ProTracts database.

<b>Table A.3-9. PRACTICES REWARDED THROUGH ENHANCEMENT PAYMENTS, 2005</b>		
<b>DRAINAGE MANAGEMENT ENHANCEMENTS</b>		
Component, Activity, or Practice	Expenditures	Percentage
Drainage Management Index level 3 40-49	\$512,678	55.0%
Drainage Management Index level 1 20-29	\$156,170	16.7%
Drainage Management Index level 2 30-39	\$140,888	15.1%
Drainage Management Index level 4 50-59	\$101,745	10.9%
Drainage Management Index level 5 60 or more	\$21,141	2.3%
<b>DRAINAGE MANAGEMENT SUBTOTAL</b>	<b>\$932,622</b>	<b>100.0%</b>

Source: NRCS 2005 ProTracts database.

<b>Table A.3-10. PRACTICES REWARDED THROUGH ENHANCEMENT PAYMENTS, 2005</b>		
<b>SALINITY MANGEMENT ENHANCEMENTS</b>		
Component, Activity, or Practice	Expenditures	Percentage
Significantly improve salinity management by annually implementing all recommendations that result from Electrical Conductivity (EC) soil and water testing	\$240	8.3%
Koz Electrical Conductivity (EC) soil and water testing	\$2,650	91.7%
<b>SALINITY MANGEMENT SUBTOTAL</b>	<b>\$2,890</b>	<b>100.0%</b>

Source: NRCS 2005 ProTracts database.



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