



# Share the Costs — Share the Benefits

## *Agricultural Nonpoint Source Cost-share Programs*



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### **A Manual**

*Office of Policy, Planning and Evaluation*  
*Office of Water*  
**U.S. Environmental Protection Agency**

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## *Preface*

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**A**s we enter the last decade of this century, this Nation is preparing to conquer our most pervasive pollution problem — that of nonpoint sources. Twenty years have gone by since the passage of the Clean Water Act, three since section 319 became law.

And now, for the first time Congress has provided funding for States to use in managing and controlling nonpoint sources of pollution. An initial appropriation of \$40 million in grants for fiscal year 1990 will begin that process.

EPA's Nonpoint Source Control Branch has prepared State-by-State interim planning targets for distributing this money, based upon interim criteria that reflect nonpoint source needs. States with approved management programs submitted applications by January 16, and EPA's Regional Offices made grant awards by March 1.

Clearly, Congress is insisting that the money it has appropriated be used, in the words of the Conference Report, "as soon as possible." If nothing else, this sense of urgency communicated by the Congress strengthens both the State and Federal governments' approaches to managing nonpoint source pollution.

And the appropriation itself can accomplish far more than its numbers would indicate by coupling it with the cost-sharing arrangement described in this manual. In these pages, you will find how to make this multiplier effect work for your State nonpoint source management program.

Congress has given us the basic tools and the opportunity to use them. The nonpoint source management structure that we must build must be designed with wisdom for the long term, to provide a permanent national solution to nonpoint source pollution.



# Introduction and Summary

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**T**he mandate is clear: the Water Quality Act of 1987 requires States to develop programs to control nonpoint source pollution. Even though such programs will necessarily differ by State, each will, by the very nature of the problem, address two basic elements: (1) most nonpoint source pollution is generated by human activities—therefore, citizens must be persuaded to change some basic behaviors; and (2) the water quality impaired rivers and lakes must be identified and prioritized for restoration under the nonpoint source program.

Water quality programs are intended to raise the quality of waters to meet standards or goals for their use. That is the intent of the Act's section 319, under which States have assessed their waters and identified those most degraded by nonpoint source pollution. Now, programs must focus on these severe problems. This basic element of first targeting the waterbodies that could produce the greatest public benefit given available resources is inseparable from the causal factor: the fact that human behavior must change if nonpoint source pollution is to be prevented.

This handbook addresses a technique that provides an incentive for change: the agricultural nonpoint source cost-share program for controlling nonpoint sources. Although cost-sharing can work at any level of government, this handbook is directed at the State water quality program manager.

The handbook explains the elements in designing, operating, and financing an agricultural nonpoint source control cost-share program. By using this information and adapting it to the unique conditions in their own areas, State governments will find

in these pages a model for developing and implementing their own cost-share programs. For guidance in developing a targeted nonpoint source program, States also should refer to EPA's *Nonpoint Source Guidance* and *Setting Priorities: the Key to NPS Control*. Both are available from EPA, Assessment and Watershed Protection Division, WH-553, Washington, DC 20460.

This chapter begins by defining agricultural cost-share arrangements and summarizing the factors key to making such programs work. Chapter 2 provides greater detail on the characteristics of effective programs. The rest of the handbook describes five examples of existing State cost-share programs — Idaho, Iowa, Maryland, North Carolina, and Wisconsin — and explains how they work.

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## What is a Cost-share Program?

An agricultural cost-share program is a method for sharing installation costs for nonpoint source pollution controls between a governmental entity (usually a State) and a farmer or rancher. These control mechanisms are usually known as best management practices (BMPs).

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## Keys to Effective Cost-share Programs

The success of a State cost-share program for nonpoint source control depends on two basic factors: (1) efficient management of program funds and (2) a high level of farmer participation in the critical areas of the targeted watersheds. Within each targeted

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watershed only a portion of the agricultural land may need treatment: this is called the "critical area." If program funds are not managed wisely, the monies will be ineffectively spent. If not enough farmers in the critical areas participate in the program, non-point source pollution will not decrease as planned.

In turn, like a pyramid, these basic elements depend on achieving several other factors, especially the following:

1. Securing participation from enough farmers in the targeted watersheds to achieve water quality standards;
2. Setting appropriate cost-share rates;
3. Maintaining communication between farmers and staff in the field;
4. Developing cost-share agreements in a timely fashion; and
5. Ensuring the expeditious flow of cost-share funds.

## **Securing Participation in the Targeted Areas**

One participating farm per watershed probably will not improve water quality. Ideally, most farm operations in the critical area(s) of a targeted watershed should participate. So, instead of waiting for applicants to request funds, State programs should set priorities and actively solicit participation in the critical areas.

North Carolina and Wisconsin base eligibility for cost-share funds not on open application but on their own surveys of water quality conditions. This method establishes those areas most needing attention, thereby avoiding at least in the first round what often can be a political rather than a water-quality-based process.

Most States also limit participation to active farms, in some States to fairly large operations because small farms usually have little effect on water quality. Iowa, for example, will not cost-share with a farm less than 10 acres in size or under \$2,500 in agricultural sales annually.

## **Setting Appropriate Cost-Share Rates**

A major influence on program participation and a key consideration in the efficient use of State funds is

the cost-share rate: the percentage of BMP installation costs covered by the State in the cost-share program. Higher cost-share rates increase farmer participation, simply because the farmer has to pay less money out of his own pocket. However, the State may opt for lower rates to save money or stretch the dollars to cover more farmers and watersheds. Therefore, an efficient cost-share program is one that evenly balances these concerns: it attracts enough farmers to the program to achieve the desired reductions in nonpoint source pollution, but does so at the lowest possible cost to the State.

The appropriate cost-share rate may vary among States or areas within a State, and also among BMPs, depending upon program goals and local conditions. In addition, the ability to set appropriate cost-share rates depends on the amount of State money available.

State funds can go much further if they are piggybacked with USDA cost-share and land retirement programs. USDA encourages States to provide additional incentives for farmers in water quality impaired areas to participate in the Conservation Reserve Program (CRP). State money used in combination with USDA cost-share or CRP monies will reduce pollutant loads on far more acres of cropland.

Some States have been able to set lower rates for BMPs that benefit the farmer economically as well as improve water quality. For example, program managers may successfully set lower cost-share rates for installing sedimentation ponds or constructing manure storage sheds, because the direct benefits of these BMPs to the farmer make them attractive in their own right.

In contrast, for BMPs that provide few private benefits (such as installation of a field border, which takes land out of production), a higher cost-share rate may be necessary to encourage the farmer to adopt the practice.

Other factors also affect cost-share rates. For example, BMPs with high installation costs may require higher cost-shares to reduce the farmer's financial burden and encourage participation. The same may be true for less familiar BMPs, where higher cost-share rates may be necessary to overcome farmers' reluctance to employ practices they perceive as untried or risky.

The farm's proximity to a waterbody may also influence the rate, as may the longevity of the BMP. Cost-share rates may be lowered where farmers are required to control soil erosion for the USDA's Conservation Compliance Program. State regulations may also encourage greater participation, whatever the cost-share rate.

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## **Importance of Good Communication Between Field Staff and Farmers**

A cost-share program cannot be successful unless there is good communication between the State field staff and farmers. This means more than good face-to-face relations, although that certainly is important. It also means that the field staff must have the technical knowledge necessary to assist farmers with installation and be able to convey that knowledge effectively.

## **Timely Initiation and Completion of Contract**

A cost-share agreement between the farmer and State will be more successful if it is developed and completed promptly. If too much time passes, the farmer may lose interest in the program, the economic condition of the farm may change, and/or the nonpoint source problem may worsen.

Cost-share contracts should be written and signed as soon as possible after the farmer expresses interest in the program, and contracts should specify that the BMP be established within a reasonable time period after the contract is signed. The decision on the time period should take into account factors such as the time of year and the availability of contractors to install BMPs.

## **Expeditious Flow of Funds to Farmers**

Most cost-share programs require farmers to pay for the BMPs selected, after which the State reimburses the farmer for his or her share of the cost. This can pose a cash-flow problem for a farmer if the State does not reimburse him within a relatively short period of time; if payment is frequently tardy, program participation is likely to suffer.

Because State governments, many with massive bureaucracies, often fail to make cost-share payments until long after work has been completed, some officials favor transferring State funds to the local Soil and Water Conservation Districts. Once they receive State funds, these districts can quickly dispense funds to farmers as BMP installation is completed.

Another alternative is the use of a so-called "bridge" loan. A bridge loan is an interest-bearing loan taken out by a farmer to cover BMP installation costs prior to receiving cost-share payment from the State. Bridge loans to farms under contract to install BMPs could be funded through a revolving account established by the State nonpoint source management program.

Timeliness and good communication in all aspects of the arrangement are certainly the hallmarks of a successful cost-share program. These elements will become more apparent as the reader follows this handbook through the characteristics of successful programs and the descriptions of how they are applied by several States.





# *Characteristics of Successful Programs*

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**T**his chapter further details the key characteristics of successful agricultural cost-share programs. These characteristics include

- eligibility criteria,
- contract arrangements and requirements,
- cost-share rates and limitations on the use of cost-share funds,
- enforcement mechanisms,
- program funding levels, and
- participation rates.

The structure of this chapter parallels the structure of actual State program assessments.

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## **Program Description**

### **Goals**

In improving water quality to attain standards or goals, program goals fit into two categories: the control of agricultural nonpoint source pollution, or the control of soil erosion. While these goals differ, the end result generally is the same: to reduce loadings of agricultural pollutants to the State's surface waters and, in some cases, ground waters so as to improve their quality. Today, with enactment of section 319 of the Water Quality Act, State programs should consider attainment of water quality standards as their ultimate goal.

### **Administration**

Although administered locally by Soil Conservation Districts or land conservation committees, State cost-share programs are managed by either the State environmental office or State agricultural office. An example of the former is Idaho's Agricultural Water Quality Program, run by Idaho's Department of Environmental Quality; an example of the latter is Iowa's Financial Incentives Program, administered by the Department of Agriculture and Land Stewardship.

In Maryland, the Agricultural Cost-Share Program is coordinated by the State Department of Agriculture, with the Department of the Environment acting in an advisory role. In North Carolina, the Agriculture Cost-Share Program is administered by Soil and Water Conservation Commission within the Department of Natural Resources and Community Development.

Wisconsin has two major programs: the Non-point Source Water Pollution Abatement Program administered by the Department of Natural Resources, and the Soil and Water Resource Management Program administered by the Department of Agriculture, Trade and Consumer Protection.

Clearly, effective cost-share programs can be operated through a variety of program offices, including environmental and agricultural departments. While State agricultural departments generally have more experience with farm-based programs (and probably more credibility with farmers), environmental agencies offer the expertise necessary to ensure that cost-share efforts focus on improving water quality and achieving water quality standards. The lead agency should be identified in the State non-point source management program.

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While the programs can be directed at the State level by various departments, at the local level they usually are managed by Soil Conservation Districts or land conservation committees. Successful State program administrators credit the effectiveness of their programs to motivated and well-trained local staff.

## Acceptable BMPs

All of the States whose programs are described in this manual recognize contouring, diversions, grade stabilization structures, and grassed waterways as acceptable cost-share BMPs. Other BMPs, because of unique geographic conditions, are recognized by only a few States, such as Wisconsin's acceptance of shoreline protection.

In addition, program policy determines the BMPs that qualify for State cost-share funds. For example, Maryland discontinued cost-sharing for no-till planting after determining that conditions for no-till were so favorable in the State that many farmers would implement this practice even without cost-share funding. But, at the suggestion of the Maryland Department of the Environment, Maryland's Department of Agriculture is adding fencing of stream banks as an acceptable cost-share BMP, recognizing the importance of fencing in controlling pollution from livestock wastes and preventing stream bank erosion.

Exhibit 1 presents a tabulation of acceptable BMPs by cost-share programs in the five example States.

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## Program Eligibility Criteria

Eligibility for agricultural cost-share programs generally is determined at two management levels. State program authorities determine the eligibility of the district, watershed, and/or county to take part in the program, and list eligible areas in the State's 319 Nonpoint Source Assessment Report. Soil Conservation Districts determine the eligibility of farms within their jurisdiction.

Proper determination of a farm's eligibility for participation in a cost-share program is a key determinant of program success. If eligibility is defined too loosely, monies may be wasted on BMPs that lead to little gain in water quality, and funds would therefore be unavailable to implement BMPs that lead to more significant improvements. If eligibility is defined too narrowly, local districts will find it cumbersome to administer, and farmers will hesitate to participate.

## Selection of Priority Watersheds/Districts/Counties

Priority watersheds, districts, and/or counties can be selected for cost-share programs in one of two ways: the district may apply to the State program for funds or the State may survey water quality conditions to determine eligibility. In either case, similar factors are considered:

- severity of agricultural nonpoint source problems;
- percentage of "highly erosive" acres in the district;
- soil erosion estimates based on the Universal Soil Loss Equation;
- existence of nutrient sensitive waters;
- potential for significant nonpoint source reduction;
- willingness and likelihood of landowner participation;
- other sources of pollution and ease of control of these sources;
- potential gain in water quality from the program; and
- availability of cost-share funding.

Priority areas must be listed in the State's section 319 Nonpoint Source Assessment Report. For information on selecting priority watersheds, see *Selecting Priority NPS Projects: You Better Shop Around*, available from EPA, Assessment and Watershed Protection Division, WH-553, Washington, DC 20460.

## Selection of Eligible Farms and BMPs

Once program officials have determined local funding eligibility, Soil Conservation District or soil conservation committee personnel establish priorities for projects within their jurisdictions. Factors similar to those used in determining regional eligibility also are used to select farms. Usually, the majority of agricultural loadings originate from only a portion of the farms in a watershed.

Cost-share funds may be granted to farmers engaged in almost any type of agricultural activity, including management of pastureland, hayland, cropland, and grazing land, as well as poultry operations and animal feedlots.

# Exhibit 1

## Acceptable BMPs by State

BEST MANAGEMENT PRACTICE*	States**				
	ID	IA	MD	NC	WS
Critical area planting	X	X	X	X	X
Terrace	X	X	X	X	X
Grade stabilization structure	X	X	X	X	X
Grassed waterway or outlet	X	X	X	X	X
Diversion	X	X	X	X	X
Tillage BMPs	X	X		X	X
Contouring	X	X	X		X
Waste management	X		X	X	X
Contour strip cropping		X	X	X	X
Livestock exclusion (fencing)	X	X		X	X
Fertilizer management	X			X	X
Trough or tank	X		X	X	
Filter strip	X		X	X	
Water and sediment control basin		X	X	X	
Crop rotations	X			X	X
Pesticide management	X			X	X
Field windbreak/WB renovation	X	X	X		
Spring development			X	X	
Stock trails and walkways	X			X	
Pasture and hayland planting	X	X			
Rock-lined waterway or outlet			X	X	
Mulching	X				X
Field border			X	X	
Barneyard runoff management					X
Crop residue management	X				
Dike	X				
Underground outlet		X			
Divided slope farming	X				
Grass strips		X			
Irrigation management	X				
Heavy use area protection				X	
Land smoothing	X				
Cover and green manure crop	X				
Sod-based rotation				X	
Crop/pastureland conversion				X	
Cross slope farming	X				
Buried pipe runoff control	X				
Shoreline protection					X
Water control/pond			X		
Chiseling and subsoiling	X				
Minibasin	X				

\*In some cases BMP categories may overlap, but terminology utilized by a State differs enough to warrant separation.

\*\*ID — Idaho

IA — Iowa

MD — Maryland

NC — North Carolina

WS — Wisconsin

However, in some States, certain farms are not eligible for cost-share funds. For example, because extremely small farms generally are expected to have little impact on water quality, farms less than 10 acres in size or with less than \$2,500 in annual

agricultural product sales are not eligible for Iowa's Financial Incentives Program. In some cases, however, small livestock operations can be serious pollutant sources, especially where several are concentrated in a watershed.

Most States studied also limit participation to farms that qualify as "active," usually defined in terms of the most recent year of agricultural activity.

Some States, such as Maryland, prohibit farms from receiving cost-share funds under other Federal or State programs while using funds under the nonpoint source program. In some cases, the local district representative may suggest to farmers that they participate in other cost-share programs, because of variations in eligibility requirements or the ease of receiving cost-share funding.

District personnel may define criteria for participation within the general guidelines set by State program authorities. This is especially true in North Carolina, where the State encourages districts to tailor funding strategies to their individual circumstances and water quality problems. Some North Carolina districts use a first-come, first-served criterion, which does not address the need to encourage participation by farms in the critical areas of targeted watersheds. Other districts, however, focus on certain areas or the alleviation of particular nonpoint source problems.

Soil Conservation Districts in Iowa also generally employ a first-come, first-served approach, but give funding priority to family-operated farms, farms exhibiting high soil erosion rates, and those nearest bodies of water.

In Idaho, all farmers within approved cost-share districts are eligible for funding, but the Soil Conservation District may focus its initial efforts on gaining the participation of the largest farmers.

Wisconsin's nonpoint source program employs an eligibility assessment system. This system uses a computer model to develop relative nonpoint source potential scores for farms, factoring in all known nonpoint source pollution elements (e.g., slope of land and planting methodology). Farms are placed into three eligibility categories: eligible essential (i.e., can be required to participate in the program, with or without cost-share funding); eligible (i.e., can receive cost-share funding); and not eligible. The system is implemented at the Land Conservation Committee level.

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## **Contract Arrangements/ Requirements**

State nonpoint source cost-share program descriptions should include information on contract arrangements and requirements. Issues addressed include who signs the contract, whether an application submitted by a tenant farmer must also be signed by the landowner, how much time may

elapse between contract signing and installation of BMPs, the types of costs covered, typical BMP maintenance periods, the length of time between installation of a BMP and reimbursement by the State to the farmer for expenses, and the status of the contract when land ownership changes hands.

## **Who Signs the Cost-share Agreement**

Generally, the farmer is expected to sign a cost-share agreement. In most cases, if the cost-shared BMPs are to be implemented on a farm operated by a tenant farmer, both the tenant farmer and the landowner must sign the contract. In most programs, the local district or board also signs the contract. Under Maryland's program, the Soil Conservation District, the Department of Agriculture, and the Board of Public Works must sign the contract. Too many signatures, however, can create unnecessary delays.

## **Selection of BMPs**

The farmer generally works with the local district or committee representative to determine the best BMP or BMPs to control a farm's particular nonpoint source loading. Farmer involvement in choosing BMPs is crucial to recruiting farmers to the program. The farmer's knowledge of his own operation also enables the Soil Conservation District to recommend BMPs that will be cost-effective to implement and maintain.

## **Restrictions on Time Frame of Implementation**

Most programs try to minimize long delays between contract signing and implementation to avoid the risks of changing financial situations, worsening pollution, and the farmer deciding not to participate in the program. However, actual time limits vary widely among the States.

For example, in Idaho, all contracts include customized schedules for each major phase of BMP implementation. Similarly, North Carolina contracts specify implementation schedules, generally of three years' duration.

Maryland farmers must implement BMPs funded under Maryland's Agricultural Cost-Share Program within one year of contract signing. Iowa gives farmers 18 months after application approval to install BMPs. In Wisconsin, all contracts must be signed within three years following selection of a watershed as a "priority." Once a contract is signed, the farmer has five years to complete BMP implementation.

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## **BMP Maintenance Periods**

Required maintenance periods can vary, depending on the needs of the State and the BMPs being used. Maintenance periods for non-permanent or cultural BMPs such as rotation cropping may be as short as one year. For permanent or structural BMPs, contractual maintenance periods may be as long as 20 years. Filter or buffer strips, which are becoming increasingly popular under the Conservation Reserve Program, may require maintenance every two to four years.

## **Reimbursement of Farmer for Expenses**

One important factor in attracting—or discouraging—farmers to cost-share programs is the length of time it takes to receive cost-share funds from the State once the project has been completed. Wisconsin reimburses farmers at the end of the year for all work on BMPs during the year unless BMPs are completed during the year, in which case the farmer is paid in full. Maryland's cost-share program has no set payment schedule, but attempts to get checks to farmers within one month of BMP completion and justification of expenses.

## **Changes in Farm Ownership**

States handle changes in farm ownership differently. In some States, the new landowner must agree to maintain the BMP(s), or the original landowner must refund the cost-share funds. For example, under Wisconsin's agricultural cost-share programs, if land ownership changes during the life of the contract, cost-share funds must be repaid unless at least one of two conditions is met: written assurance by the new landowner that the BMPs will be properly maintained, or a demonstration that the change in land use or management will not degrade water quality.

Maryland requires landowners to notify the State of changes in land ownership, and the new owner must sign a supplemental contract. If the purchaser does not sign, the original landowner must return all cost-share funds to the State.

## **Contract Renewal**

Many programs do not contain provisions for renewal at the end of the initial contract, although program officials hope that farmers will continue to maintain BMPs beyond the contracted period. But

many BMPs will require funding for renewal (e.g., sedimentation ponds must be dredged). As these programs mature and contracts expire, program managers hope to develop mechanisms to help farmers extend BMP life.

## **Cost Sharing**

Effective cost sharing depends on a number of factors, including cost-share rates, funding limits, whether operation and maintenance costs can be covered by cost-share funds, limits on expenses for BMPs or their components, and who oversees and assesses the appropriateness of expenditures.

Exhibit 2 summarizes cost-share rates for the five example States, showing that rates generally range from 50 to 70 percent, with the highest rate 87.5 percent.

### *Determination of Cost-share Rates*

A variety of factors influence a State's determination of the appropriate cost-share rate. In a number of States (including Maryland and Wisconsin), rates are adjusted to reflect whether the individual farmer benefits from the installation of a BMP.

For example, under Maryland's program, farmers who install sedimentation ponds receive only 65 percent rather than 85 percent cost-share, since the pond is expected to benefit the farmer (its potential use for irrigation water) beyond reducing nonpoint source pollution.

Wisconsin's policy explicitly sets BMP cost-share rates to reflect the balance between private and public benefits and the magnitude of the BMPs' capital cost. For BMPs with high public but low private benefit and a high capital cost (such as a manure storage facility), Wisconsin assigns a 70 percent cost-share rate, compared to 50 percent for other BMPs. Strip-cropping is an example of a very effective but low cost BMP that Wisconsin cost-shares at the 50 percent rate.

Idaho's Agricultural Water Quality Program has raised the cost-share rate for certain new and less well-known BMPs to encourage farmers to install them. This same strategy might interest States who want to increase the use of certain BMPs known to reduce nonpoint source loadings and improve water quality.

At least one State discourages farming of conservation land by lowering the cost-share rate for farmers who plow land that has stood fallow for an extended period of time. Under Iowa's Financial Incentives Program, land that has not been plowed or planted in row crops for 15 years or more is con-



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sidered "land under conservation cover." If such land is plowed or planted in row crops, any BMPs on it are limited to a 25 percent cost-share rate, as opposed to the usual 50 percent rate.

In Wisconsin, Land Conservation Committees may use their own funds to increase cost-share rates. In such cases the State will match increases up to 10 percent. Thus, for example, a county may increase the cost-share rate for a BMP from 70 to 90 percent by providing a 10 percent increase in cost shares and by receiving 10 percent matching funds from the State. In this way, counties can increase the incentives for farmers to install BMPs, and also can encourage the use of BMPs believed to be particularly effective in addressing local nonpoint source problems.

In addition, cost-share rates can be set higher to increase farmer participation in critical areas, to encourage the use of BMPs with greater longevity, or to counteract other factors that impede participation.

### Limits on Use of Cost-share Funds

Cost-share funds are generally limited to installation of BMPs, with a few exceptions. For example, Wisconsin allows cost-sharing for BMP maintenance, but only in cases where a natural event (e.g., storms, flood, or fire) damaged the BMP.

North Carolina's program specifically prohibits using cost-share funds to purchase equipment (because these items can be used in the overall farm operation), and further excludes the purchase of certain items (such as lime and seed) from the cost-shared amount.

### Limits on Funding Available to Farms

There are many ways to ensure that funds are equitably distributed. Many States limit the total dollar amount of funding available to any one farm. For example, an Idaho landowner cannot receive more than \$50,000 from a district. In Maryland, farmers are limited to \$10,000 per project and \$25,000 per farm. In Wisconsin, any proposed cost share over \$50,000 must be submitted to the Department of Natural Resources or the Department of Agriculture, Trade and Consumer Protection for review.

Such limits encourage the distribution of cost-share funds to a larger number of farmers. Care must be taken, however, to avoid spreading the money so thinly that level of participation will be compromised and water quality will not improve.

### Cost Containment Procedures

With money for cost-share and other worthy programs invariably scarce, States need to find ways to stretch available dollars. The best way is to contain the BMP costs, and States who already have successful programs have found a variety of ways to do this.

In Maryland, flat rates (e.g., a fixed dollar amount per foot of waterway constructed) for many components of BMPs are set by the Soil Conservation Districts. In North Carolina, the 75 percent cost-share rate is paid out on a predetermined average cost of BMP implementation. This average cost varies among BMPs and regions of the State.

Some States, including Iowa, set flat rates for certain BMPs, and specify in the contracts whether reimbursement will be based on actual costs or flat rates. If an actual cost method is used, the contract will specify the maximum allowable cost-share amount.

In Wisconsin, counties can choose one of three cost containment procedures: average cost, range of costs, or landowner bidding for the lowest cost contract services.

### Reimbursement for Farmer Labor

Most State programs compensate farmers for their own labor in installing BMPs. The hourly rate is either fixed or reflects the alternative cost of contract labor. Farmers are generally not compensated for using their own equipment.

### Authority Charged With Oversight

Among the five example States, local Soil Conservation Districts or Land Conservation Committee personnel perform cost-oversight duties in four. In the fifth State, Maryland, both the local Soil Conservation Districts and the State Department of Agriculture oversee the accounting of costs.

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## **Enforcement Mechanisms**

Proper installation and maintenance of BMPs are vital to the success of any agricultural cost-share program. Strict formal guidelines are needed to deal with contract violations.

## Basis for Enforcement

Generally, the farmer (and, for most tenant farmers, the landowner) must sign a contract that defines the technical specifications and proper maintenance of all installed BMPs. In addition, these agreements generally specify how long the BMP must be maintained. All programs use some form of on-site inspection by district personnel, either on a spot-check or annual basis.

### Definition of Violations

Violations generally are defined as deviations from proper maintenance standards set forth in the Soil Conservation Service's Technical Guide or similar State rules. Violations are also identified based on the professional experience and judgment of the Soil Conservation District representative.

At the time an agreement is signed, district representatives work with the farmer to define proper BMP maintenance procedures.

### Enforcement Procedures

Formal enforcement procedures are needed when a contract violation is identified. The farmer/landowner must be notified of the condition that led to the contract violation and given a specific time frame in which to correct the problem. The notification should also reference the penalty (as defined by the contract) for failing to remedy the violation. One such penalty might be refunding cost-share funds to the State.

Farmers generally correct violations soon after notification. Should this not occur, however, before demanding that the farmer give back the cost-share money district personnel should go out to the farm to offer technical assistance.

## Program Funding Level

It is difficult to meaningfully compare funding levels for agricultural nonpoint source programs across States, largely because of differences in program maturity, the total acreage of farm land, agricultural activity, and the nature and extent of the nonpoint source problems. Thus, funding information is presented in Table 1 for illustrative, not comparative, purposes. Table 1 also excludes Federal cost-share efforts, which are outside the scope of this Manual.

Officials from three of five programs assessed reported a shortage of cost-share funds (i.e., program budget constraints were forcing eligible farmers to wait for cost shares).

**Table 1**

State Level	Years in Existence	Annual Funding (1988) (\$ millions)
Idaho	8	0.8*
Iowa	17	6.5
Maryland	5	3.4**
North Carolina	4	6.5
Wisconsin (Nonpoint Source)	10	6.7
Wisconsin (Soil Program)	7	0.5

\* Estimate based on total awards to farmers of \$6.1 million over 8 years

\*\* Estimate based on total awards to farmers of \$17 million over 5 years

Maryland's program was the only nonpoint source cost-share program assessed in which the State legislature allocates a fixed proportion of the funds to specific geographic regions. In this case, 75 percent of the funds are earmarked for cost shares in priority watersheds. Program officials can transfer funds among priority watersheds, and between priority and non-priority watersheds, if farms in these areas are found to be eligible for the program and initial allocations are not sufficient.

## Participation

As illustrated by Table 2, States measure cost-share program participation in various ways—by numbers of projects, acres, contracts, and farmers.

**Table 2**

Program	Participation	Base Used
Idaho	43,500	Acres under contract
Iowa	70,000	Farmers receiving funds
Maryland	2,887	Projects completed
North Carolina	4,643	Agreements signed
	350,000	Acres under contract
Wisconsin (Nonpoint Source)	1,763	Contracts signed
Wisconsin (Soil Programs)	290	Contracts signed

To succeed in protecting water quality, a cost-share program must be actively promoted by the local committee. All types of advertising may be used: newsletters, direct mail, workshops, radio and television. The most effective promotion, however, is by personal contact. Many soil conservation districts directly solicit farms with severe nonpoint source problems—or those whose participation they

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believe necessary to achieve the local water quality goals.

Routine visits to farmers by district personnel provide a good opportunity to diagnose nonpoint source problems and suggest BMPs to alleviate them. Some States estimate that at least half of the cost-share applications result from these informal visits with farmers, most of whom have developed a close relationship with their district personnel.

But there is always a "bad actor," the landowner who for one reason or another will not participate. Conservation district chairmen in some North Carolina counties have succeeded in stopping local banks from granting loans to polluting farmers who refused to participate in the cost-share program. In other districts, neighborhood delegations have tried to persuade recalcitrant farmers to participate. These uncooperative landowners, minority though they may be, have convinced many officials that regulatory authority is needed.

To those farmers who choose to participate, however, the voluntary approach is a valued component of the cost-sharing program. Other reasons also draw farmers to the program: the desire to improve a farming operation (and its bottom line) as well as the conservation ethic. But as the farmer realizes the benefits of reducing nonpoint sources of pollution—and the community and society at large perceive the resulting improvements in water quality—wise land use that protects water quality may no longer be termed "voluntary": it will be the norm.

Cost sharing's ultimate justification, then, may be its educational role. By demonstrating the long-term cost-effectiveness of BMPs—and the better water quality that results—cost sharing can spread these practices to non-participants. Eventually, BMPs and all wise land use practices will become self-perpetuating, integrated into this Nation's struggle to protect the quality of its waters.



# *Idaho Agricultural Water Quality Program*

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**I**n 1979, Idaho developed and adopted an agricultural pollution abatement plan with funds provided under section 208 of the 1972 National Water Pollution Control Act. The plan called for a voluntary program that would encourage farmers and ranchers to apply best management practices to reduce non-point sources of water pollution from Idaho's agricultural lands. To fulfill this aspect of the plan, the State initiated a 15-year Agricultural Water Quality Program in 1980.

Using funds from the State's Water Pollution Control Account, the program directs Idaho's Division of Environmental Quality (DEQ) and the Idaho Soil Conservation Commission (SCC) to make grants to local Soil Conservation Districts, enabling them to plan and implement pollution control projects along streams adversely affected by agricultural activities. Exhibit 2 illustrates this use of Water Pollution Control Account funds. Under Idaho's Agricultural Water Quality Program, local Soil Conservation Districts submit applications to DEQ and SCC for grant monies. Grants are available for two types of projects: planning and implementation.

Planning projects last from one to two years. During this time, districts identify causes of nonpoint source pollution, select BMPs to correct the problems, estimate treatment costs, and conduct intensive informational and educational programs for farmers and the general public in the project areas. All of these activities increase public understanding and awareness of the importance of improving water quality and promote necessary public support for subsequent project implementation.

Implementation grants enable Soil Conservation Districts to conduct voluntary nonpoint source control projects along priority stream segments. This is done through programs that share with farmers the costs of installing BMPs. Through contracts with the districts, farmers within a project area may receive up to 75 percent of BMP capital/installation costs, to a maximum of \$50,000 per farm.

The State requires districts receiving implementation grants to write contracts with farmers for 50 percent of the "critical acreage" in a project area within three years of receiving the grants from DEQ, and 75 percent within five years. Critical acres are lands from which erosion contributes to water quality problems. Districts may spend up to 15 percent of the total implementation grant on project administration, educational activities, and extra technical assistance from the U.S. Department of Agriculture's Soil Conservation Service.

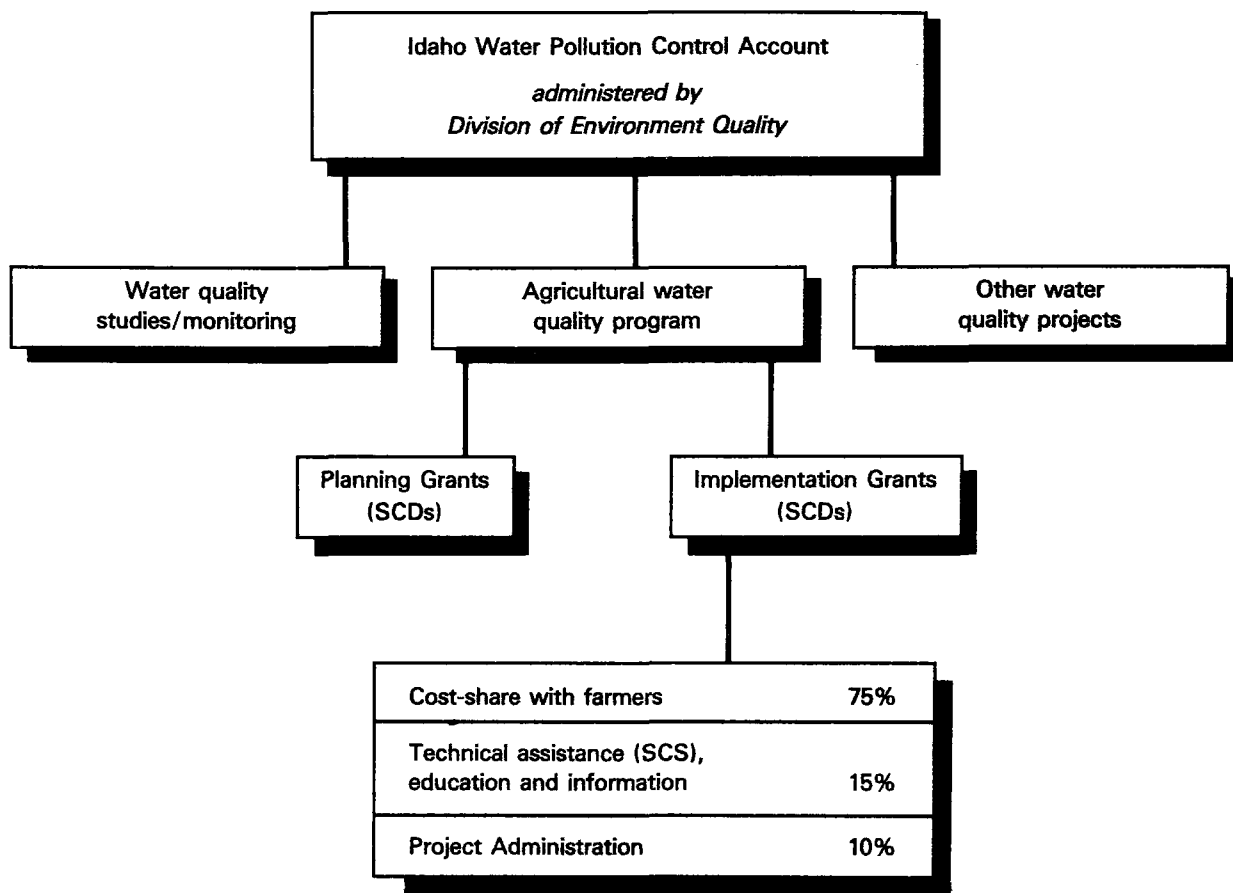
As of September 1989, DEQ had funded 21 planning projects and 25 implementation projects. All of the implementation projects are still active. A flow chart of project procedures is included as Exhibit 3.

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## **Eligibility**

To be considered for funding, a proposed project area's stream segments or other water bodies must be on Idaho's agricultural priority list, which is contained in the Agricultural Pollution Abatement Plan. DEQ updates this list every three to five years as more knowledge is gained about land use practices and their effects on water quality. Exhibit 4 presents DEQ's criteria for ranking stream segments.

## Idaho Agricultural Water Quality Program Funding Flow



Soil Conservation Districts then define proposed project areas to include those agricultural lands contributing to water quality problems of first priority streams.

Upon receiving implementation grant applications from the districts, DEQ considers many factors in deciding which proposals to fund. These include an evaluation of the critical acres in the project area in terms of water quality, major contributors of pollution, and land ownership patterns; the expected improvement in water quality for fisheries, drinking water supplies, and other uses; the degree to which farmers have been prepared for participation; and the local Soil Conservation District's ability to carry out the proposed program. DEQ also reviews the level of funding requested by the district and may, in consultation with district members, revise it.

Once an implementation project is approved, all farmers within the project area may participate. However, in the interest of allocating its funds most effectively, the district may target certain landowners for participation, particularly those with the largest properties. If participation exceeds the State's 75-

percent-of-critical-acreage requirement, and the district needs more funds to assist additional interested farmers in the project area, DEQ can increase the grant to the district.

BMPs for irrigated and non-irrigated cropland, as well as pasture land, hayland, and grazing land are eligible for funding under the program. The choices of BMPs for individual farms are based on assessments of the soils, topography, climate, and crops grown within a project area. A list of BMPs used in Idaho is presented as Exhibit 5.

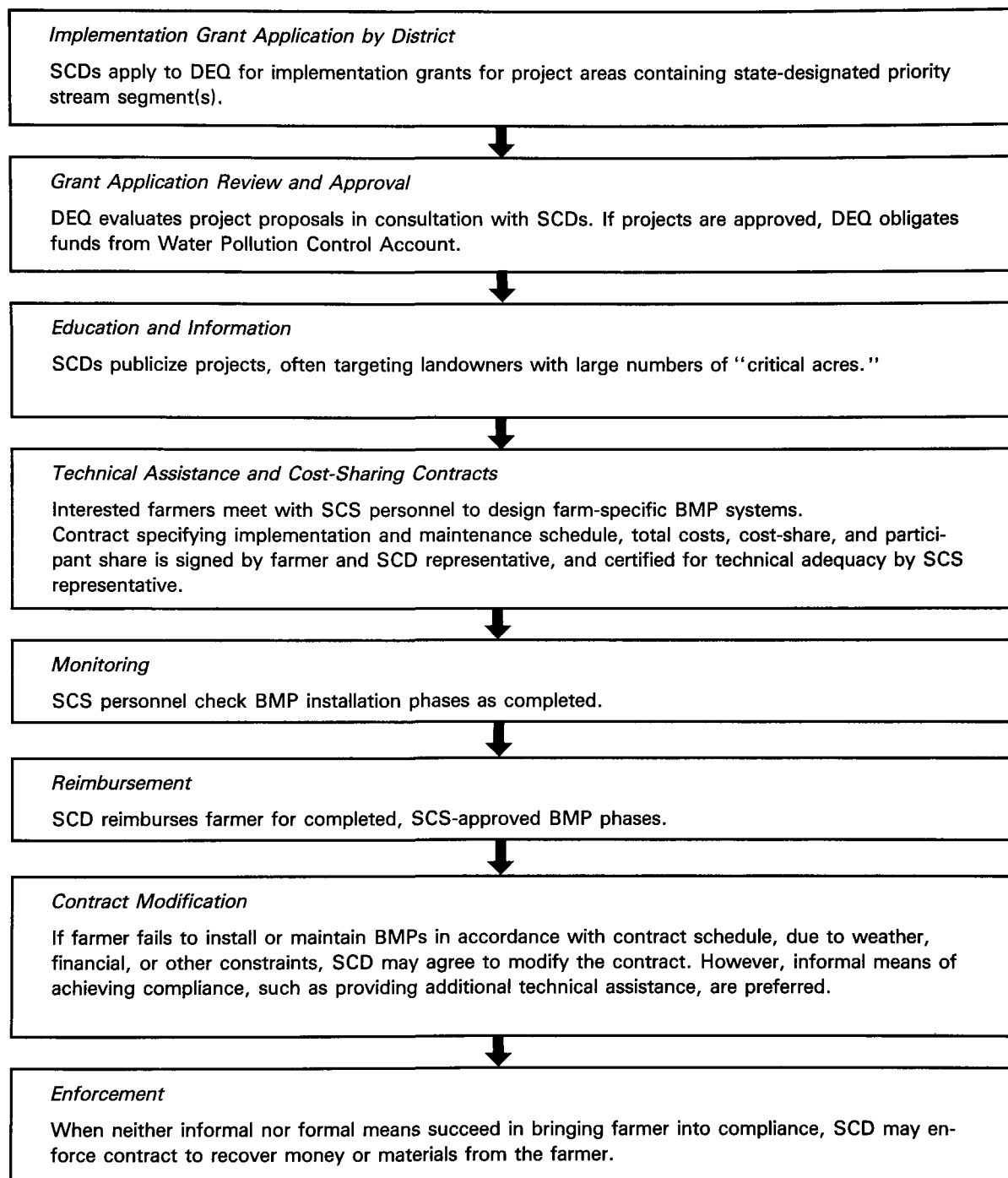
### Contract Arrangements/ Requirements

When a farmer expresses interest in participating in the cost-share program, a meeting with Soil Conservation Service technical personnel is arranged to discuss appropriate BMP alternatives for the land. The farmer's preferences, such as the choice between structural or non-structural BMPs, are taken



### Exhibit 3

#### **Idaho Agricultural Water Quality Program Implementation Project Procedures**



into consideration. The district provides the farmer with information on the estimated costs associated with the relevant BMPs, including the base installation costs to which the cost-share reimbursement rate will apply, and expected maintenance costs. The farmer is responsible for maintenance during the evaluated life of each practice, or for the full term

of the contract when the evaluated life is not specified.

An important program requirement is that all of a participant's acreage that falls within the project area be addressed by appropriate BMPs, not just selected portions. However, because of the \$50,000 per-farm maximum, the cost of implementing BMPs

#### Exhibit 4

### Criteria for Prioritizing Designated Stream Segments: Agricultural Pollution Abatement Plan

CATEGORY	FIRST PRIORITY	SECOND PRIORITY
Erosion	Severe - over 5 tons per acre per year.	Moderate to severe 1-5 tons per acre per year.
Water quality	1. Demonstrated poor water quality. 2. High water quality but important to protect: e.g., special resource water.	High to fair water quality.
Stream condition	Perennial stream capable of supporting beneficial uses.	Intermittent stream, habitat degraded beyond recovery, channelized segments or canals/ditches.
Beneficial uses	Supports or potential for fishable/swimmable waters.	Cannot support fishable/swimmable uses.
Pollution sources	1. Agriculture is primary pollutant. 2. Problem can be corrected by BMPs.	1. Other pollution sources are the major problem. 2. Agriculture is primary pollutant, but problem cannot be corrected.

Source: Idaho Agricultural Pollution Abatement Plan, 1983.

on all the participant's acres may exceed the district's ability to cost-share all practices on all acres. To help the farmer comply with the requirement that all acres be addressed by BMPs, the district provides information about additional sources of funding for BMP implementation that may be available from other county, State, or Federal programs. These include the Agriculture Conservation Program, administered by USDA's Agriculture Stabilization and Conservation Service (ASCS), and programs under the Watershed Protection and Flood Prevention Act (P.L. 566).

Once the farmer is confident that the implementation, maintenance, and financial requirements can be met, the district and the landowner draw up a contract that meets SCS technical specifications. It must be signed by the landowner and the chairman of the local Soil Conservation District board. A sample contract is included as Exhibit 6.

Contracts usually cover an eight- to ten-year period and specify a schedule for each major phase of BMP implementation. They can be rewritten to accommodate unforeseen weather conditions that might affect scheduled implementation of some practices.

SCS field personnel approve BMP implementation and authorize reimbursement for each practice or phase as it is completed. Once approved, the farmer often receives payment within one week. Although farmers are under no further obligation once contracts expire, program administrators believe most will continue to employ the BMPs.

## Cost Sharing

All cost sharing is based on the actual costs of BMP installation, including the value of the farmer's labor. Farmers may receive up to 75 percent of the cost of installing any one BMP to control water quality problems, but typical cost-share rates are somewhat lower. The actual percentage for each BMP is set by the local Soil Conservation District to be comparable to the rates paid by other agricultural cost-share programs operating in the area, such as the U.S. Department of Agriculture's Conservation Reserve and Long-term Agreement programs. Higher rates may be paid for newer, less familiar practices. Thus, while rates are consistent within a district, they vary slightly across the State.

## Enforcement Mechanisms

Cases of non-compliance, when they occur, are most often due to unforeseen weather conditions or financial problems at the farm. District officials try to negotiate solutions with farmers, and often rewrite contracts to accommodate farmers' needs.

If the district believes that a contract violation calls for a forfeiture, refund, payment adjustment, or termination of the contract, the district's formal course of action would be to issue a notice of violation. The farmer may then request a contract viola-

**Exhibit 5**

**List of Best Management Practices for Controlling  
Certain Water Pollutants**

SELECTED BMPs FOR CERTAIN WATER QUALITY PROBLEMS	BMP TYPE		POLLUTANTS				
	Structural	Nonstructural or Cultural	Irrigated Cropland*	Dry Cropland*	Nutrients	Pesticides	Pathogen
<b>A. Standards and specifications are developed for the following practices:</b>							
** Buried pipe runoff control system	X						
Chiseling and subsoiling		X	M	M			
Conservation cropping system		X	H	H	L	L	M
Conservation tillage system		X	H	H			
Contour farming		X	H	H			
Cover and green manure crop		X	H	H			
Critical area planting		X	H	H			
Crop residue management		X	H	H			
Cross slope farming		X		H			
** Debris basin	X						
Dike	X		H	H			
Diversion	X			H			
Divided slope farming		X		H			
Emergency tillage		X	M	M			
Fencing	X		L	L	L	L	M
Fertilizer application		X	M	M	H		
Field windbreak		X	M	M			
Grade stabilization structure	X		H	H			
Grassed waterway or outlet	X		H	H			
Irrigation canal or lateral	X		M				
Irrigation ditch and canal lining	X		H				
Irrigation field ditch	X		M				
Irrigation gated pipeline	X		H				
Irrigation land leveling	X		H				
Irrigation pipeline	X		H				
Irrigation system, drip	X		H				
Irrigation system, sprinkler	X		H				
Irrigation system, surface and subsurface	X		H				
Irrigation system, tailwater-recovery	X		H				
Irrigation water management		X	H		M	M	L
Land smoothing	X		L				
Livestock exclusion (stream corridor)		X	H	H		L	H
Livestock water development	X		H				
** Mini-basin	X						
Minimum tillage		X	H	H			
Mulching		X	M	M			
Pasture and hayland management		X	H	H		L	M
Pasture and hayland planting		X	H	H			
Proper pesticide application		X	H	H		H	
** Restricted summer fallow		X					
** Sediment structure or basin	X						
Stream channel stabilization	X		M	M			
Streambank protection	X		H	H			
Strip cropping contour		X		H			
Strip cropping field		X		H			
Structure for water control	X		H				
Stubble mulching		X		H			
** T-slot sediment structure	X						
Terrace	X		H	H			
Toxic salt reduction		X	H				
** Vegetative filter strip		X					
Waste management system	X	X	H	H	X	X	X
<b>B. Standards and specifications have not been developed for the following practices:</b>							
Biological control of pests			X				
No-till farming system			X				
Resistant crop variety use			X				
Waste utilization (organic)			X				

Legend: L = Practice Slightly Effective; M = Moderately Effective; H = Highly Effective

\*Includes related pastureland and hayland. \*\*BMP effectiveness being evaluated in demonstration projects.

NOTE: Range practices are not included in this evaluation.

Source: Idaho Agricultural Pollution Abatement Plan, 1983.

*Exhibit 6*

[illegible]

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tion review before the district. The district's determination on the basis of the review may be appealed to the Idaho Board of Health and Welfare. The board's decision, made in consultation with the Idaho Soil Conservation Commission, is final. In practice, however, such formal actions have never been pursued.

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## Funding Level

DEQ and SCC signed the first three implementation grants to Soil Conservation Districts in December 1981. As of September 1989, over \$18.7 million had been obligated to the Soil Conservation Districts for agricultural water quality projects. During these first nine years of the program, the districts in turn obligated almost \$6.2 million to farmers for BMP installations. The farmers are obligated to match these funds with approximately \$4.7 million of their own. As of September 1989, the districts actually paid out approximately \$3.5 million in cost-share money, and the farmers' expenditures totalled about \$2.8 million. Based on these figures, the average effective cost-share rate is between 42 and 46 percent. In addition to expenditures for cost sharing, Soil Conservation Districts have spent approximately \$1.1 million for technical assistance, \$0.7 million for information and education activities, and \$0.6 million for project administration. Total Soil Conservation District implementation project expenditures as of September 1989 were approximately \$5.6 million.

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## Participation

As of September 1989, the Division of Environmental Quality had made grants for 25 implementation projects in 16 Soil Conservation Districts. Each project addresses water quality problems on a different stream segment. Nearly 600,000 acres are drained by these stream segments, of which almost 240,000 have been designated critical acres. For each project to achieve the program goal of bringing 75 percent of its critical acres under contract, Soil Conservation Districts must write agreements with farmers for a total of approximately 175,000 acres.

As of September 1989, Soil Conservation Districts had signed a total of 436 contracts with farmers. An additional 189 farmers have applied to participate, but do not yet have contracts. The availability of funds is the main constraint on farmer participation. If all 625 applications could be contracted, over 165,000 acres would be enrolled in the cost-share program.

### FOR FURTHER INFORMATION CONTACT:

Susan Martin, Manager  
Surface Water Quality Section  
Division of Environmental Quality  
Idaho Department of Health and Welfare  
(208) 334-5860





# *Iowa Financial Incentive Program*

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Since 1971, the Iowa Department of Agriculture and Land Stewardship (DALSS) has been operating a statewide program to reduce soil erosion. Known as the Iowa Financial Incentive Program (FIP), this program involves DALSS oversight of each county's soil erosion control plan and provides cost-share funds and technical assistance to farmers for the implementation of agricultural best management practices. While FIP's primary purpose is to control soil erosion from Iowa's farms, the program has had a positive impact on nonpoint source pollution because of the important connection between soil erosion and water quality.

Farmers eligible for cost-share funds under FIP may receive 50 percent of the labor and material costs of BMP installation to control agricultural nonpoint source problems. Three types of BMPs are acceptable under FIP: permanent, temporary, and tillage. All are designed to reduce the movement of sediment and nutrients from agricultural lands to surface water. Some may also have an indirect positive effect on ground water quality.

- **Acceptable permanent BMPs** include critical area planting, diversions, field windbreaks, grade stabilization structures, grass strips, grassed waterways or outlets, pasture and hayland planting, terraces, underground outlets, and water and sediment control basins.
- **Acceptable temporary BMPs** include reduced tillage, contouring, and contour strip-cropping.
- **Acceptable tillage BMPs** include no-till planting, ridge-till planting, and strip-till planting. See

Exhibit 1 for a complete listing of all applicable BMPs.

FIP is administered and implemented at the local level by commissioners and staff of the Soil and Water Conservation Districts. The districts receive technical assistance from USDA's Soil Conservation Service.

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## **Eligibility**

### **Selection of Eligible Soil and Water Conservation Districts**

All 100 Soil and Water Conservation Districts in Iowa are eligible to receive cost-share funds to implement FIP. Each Soil and Water Conservation District develops a comprehensive plan for conserving soil resources and controlling and preventing soil erosion and sediment damage.

Each district plan includes actions necessary to achieve its goals. The primary goal of these comprehensive plans is to ensure that soil erosion from all agricultural land in a district is below the tolerable soil loss limit, which is the maximum amount of soil loss resulting from erosion by water or wind, expressed in terms of tons per acre per year. The Soil and Water Conservation Districts determine their own soil loss limits, with DALSS encouraging standard limits across districts.

Cost-share funds are allocated to the Soil and Water Conservation Districts for the fiscal year. DALSS determines funding for each district by using a formula based on the 1970 Conservation Needs Inventory, which considers such factors as the percentage



stating whether the BMP was implemented properly and whether costs are reasonable (see Exhibit 8).

Proof of Expense forms and Certification of Practice forms are forwarded by Soil and Water Conservation Districts to DALs, which releases funds that pay the farmer the reimbursable cost of BMP implementation.

Before participating farmers are awarded FIP cost-share funds by the Soil and Water Conservation District, they must sign maintenance and/or performance agreements (Exhibit 9) pledging to maintain BMPs for specific periods. Exhibit 10 presents an overview of Iowa's FIP procedures.

## Cost Sharing

FIP provides 50 percent cost shares for installation of permanent and temporary BMPs. If agricultural land is classified as land under conservation cover (defined previously) and if such land is subsequently plowed or used for growing row crops, FIP allows a cost-share rate of only 25 percent for BMP implementation. Tillage BMPs are reimbursable at a flat rate per acre. Farmers are reimbursed for their own

### Exhibit 8

IOWA FINANCIAL INCENTIVE PROGRAM FOR SOIL EROSION CONTROL  
CERTIFICATION OF PRACTICE  
Iowa Department of Agriculture & Land Stewardship  
Division of Soil Conservation

Form IP-2 (Rev. 1/88)

Application No. \_\_\_\_\_

County Soil and Water Conservation District

Applicant \_\_\_\_\_

Landowner \_\_\_\_\_

#### PERMANENT SOIL CONSERVATION PRACTICES

- |  |                         |                            |
|--|-------------------------|----------------------------|
| <input type="checkbox"/> 50% Voluntary     | Practice                | _____                      |
| <input type="checkbox"/> 75% Mandatory     | Amount Installed        | _____ (See P. 1, SWCD No.) |
| <input type="checkbox"/> 75% Lakes         | Actual Cost             | \$ _____                   |
| <input type="checkbox"/> No-Interest Loans | Financial Incentive     | \$ _____                   |
| <input type="checkbox"/> Other _____       | Acres benefited         | _____                      |
|  | Soil Loss/Tons Per Acre | Before _____               |
|  |                         | After _____                |

#### WIND EROSION CONTROL INCENTIVE PROGRAM (WECIP)

- |  |                         |              |
|--|-------------------------|--------------|
| <input type="checkbox"/> Iowa Till (50% residue) | Amount Installed        | _____ (NONE) |
| <input type="checkbox"/> Grass Strips            | Financial Incentive     | \$ _____     |
| <input type="checkbox"/> Field Windbreaks        | Soil Loss/Tons Per Acre | Before _____ |
|  |                         | After _____  |

#### TILLAGE PRACTICES

- |  |                         |              |
|--|-------------------------|--------------|
| <input type="checkbox"/> No-Till Planting    | Amount Installed        | _____ (NONE) |
| <input type="checkbox"/> Ridge-Till Planting | Financial Incentive     | \$ _____     |
| <input type="checkbox"/> Strip-Till Planting | Soil Loss/Tons Per Acre | Before _____ |
|  |                         | After _____  |

#### TEMPORARY PRACTICES

- |  |                         |              |
|--|-------------------------|--------------|
| <input type="checkbox"/> Contouring            | Amount Installed        | _____ (NONE) |
| <input type="checkbox"/> Contour Stripcropping | Financial Incentive     | \$ _____     |
|  | Soil Loss/Tons Per Acre | Before _____ |
|  |                         | After _____  |

#### TECHNICIAN CERTIFICATION

I certify that the above-described practice has been constructed or performed in accordance with applicable standards of Division of Soil Conservation rules in Chapter 5 of Section 780, Iowa Administrative Code, and recommend that the reimbursable cost described above be approved by the soil and water conservation district as reasonable and proper.

Signature of Technician \_\_\_\_\_

Date \_\_\_\_\_

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### Exhibit 9

IOWA FINANCIAL INCENTIVE PROGRAM FOR SOIL EROSION CONTROL  
MAINTENANCE AGREEMENT

Form IP-4 (Rev. 8/86)

Iowa Department of Agriculture & Land Stewardship  
Division of Soil Conservation

Maintenance Agreement No. \_\_\_\_\_  
(same as Application No.)

County Soil Conservation District

This AGREEMENT is made and entered into this \_\_\_\_\_ day of \_\_\_\_\_, 19\_\_\_\_, by and between

County Soil Conservation District, herein called DISTRICT,

and \_\_\_\_\_, herein called RECIPIENT.

#### WITNESSETH:

DISTRICT and RECIPIENT hereby agree that this covenant is executed to satisfy the requirements of Iowa Code Section 487A.7(16) and should be interpreted in a manner that promotes the policies of Chapter 487A of the Iowa Code. Section 487A.7(16) requires this covenant as a condition for receiving DISTRICT financial incentive assistance and provides that the owner, present or future, of the property herein described is personally liable through this AGREEMENT if the soil and water conservation practice herein named is not maintained or is removed, altered or modified while this AGREEMENT is in effect.

DISTRICT hereby agrees to provide \$ \_\_\_\_\_ to RECIPIENT for partially or completely financing the herein listed permanent soil

and water conservation practice on the following described agricultural land in the County of \_\_\_\_\_

and State of Iowa to-wit:

RECIPIENT hereby agrees to maintain the erosion control capabilities of the permanent soil and water conservation practice herein named by complying with DIVISION maintenance requirements for twenty (20) years from the date of this AGREEMENT.

RECIPIENT hereby agrees that no action shall be taken by the RECIPIENT or his/her agents or successors to remove, alter or modify soil and water conservation practice herein named for twenty (20) years unless prior written authorization is obtained from the DISTRICT and incorporated into this AGREEMENT.

RECIPIENT hereby agrees that if any unauthorized removal, alteration or modification of soil and water conservation practice herein named occurs that the RECIPIENT will maintain, repair or reconstruct the practice at his/her own expense.

RECIPIENT hereby agrees to notify any prospective purchaser of the property herein described of the landowner's obligations created by this AGREEMENT and Section 487A.7(16) of the Iowa Code before legal or equitable title to any portion of this property is transferred.

#### COVERAGE OF THIS AGREEMENT:

DISTRICT and RECIPIENT agree that the soil and water conservation practice detailed in the following description and on the attached sketch (hereby made part of this AGREEMENT) were partially or completely installed with DISTRICT funds and are covered by this AGREEMENT.

Signature of SCD Chairperson \_\_\_\_\_

Date \_\_\_\_\_

Signature of RECIPIENT \_\_\_\_\_

Date \_\_\_\_\_

#### CONTRACT SALE

The parties acknowledge that the above-described real property is the subject of a real property contract sale wherein the RECIPIENT is the

contract buyer and \_\_\_\_\_ is the contract seller.

The DISTRICT and the contract seller hereby agree that in the event of contract default, forfeiture or any action resulting in the contract seller's acquiring the real property, the contract seller shall be responsible for compliance with all provisions of this agreement and shall be liable to the same extent as the RECIPIENT would be if no such action had occurred. The contract seller acknowledges the duty imposed upon landowners pursuant to Section 487A.42, The Code, the requirements of Section 487A.7(16) of The Code, as amended by the 1980 Session of the 86th General Assembly, and that by virtue of the improvements installed upon the land with the aid of the funds provided by this agreement, the contract seller will have received a benefit and an improvement to said property, and also received assistance in complying with the above statutory duties.

Signature of SCD Chairperson \_\_\_\_\_

Date \_\_\_\_\_

Signature of Contract Seller \_\_\_\_\_

Date \_\_\_\_\_

Distribution: SCD case file (white), Contract Seller (green), Recipient (canary), DSC (pink), SCD maintenance agreement file (goldenrod)

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labor based on the average contractor's labor charge for the district.

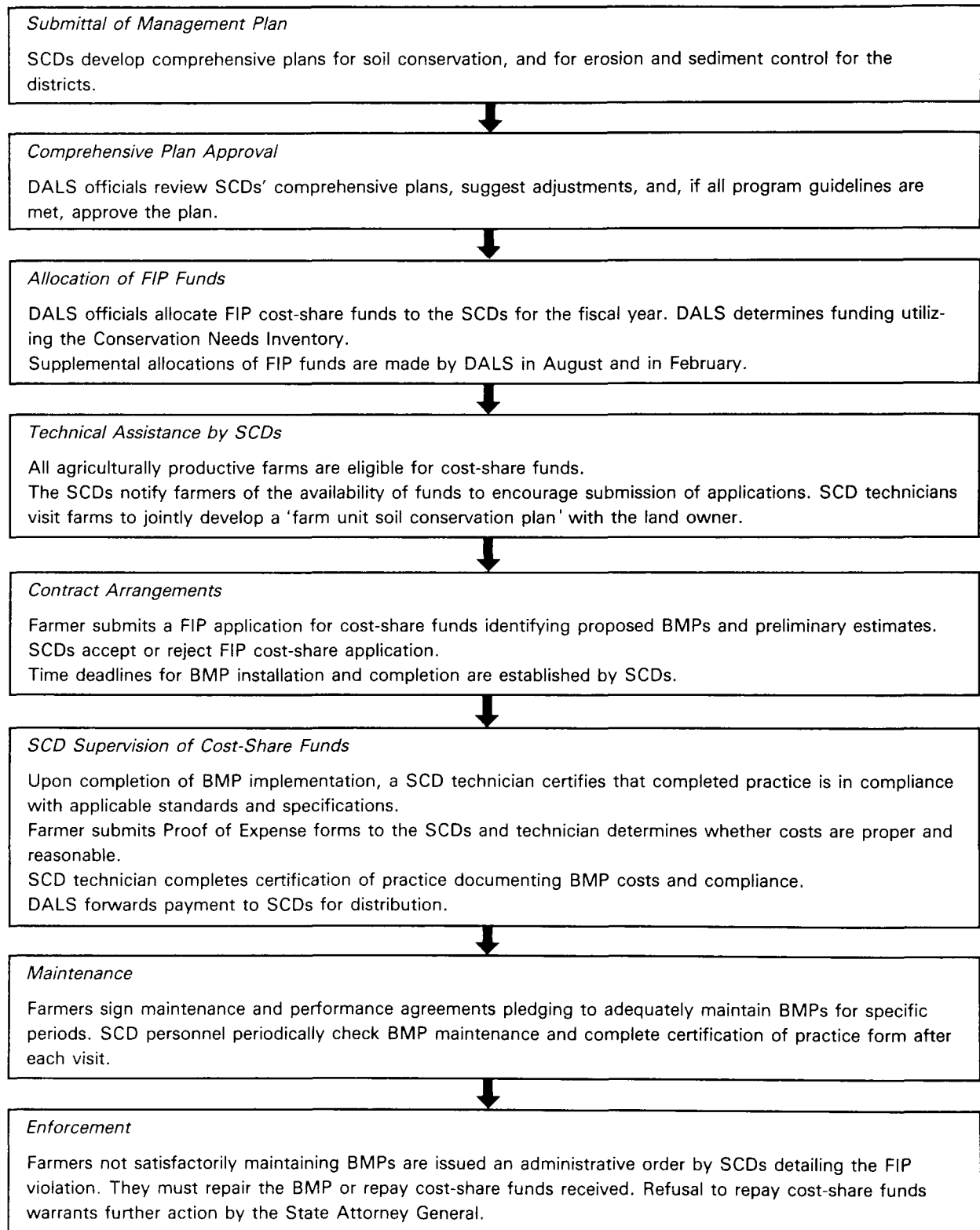
DALS grants Soil and Water Conservation Districts flexibility in determining BMP cost-share funding limits. Some Soil and Water Conservation Districts do not adopt project funding limits; they rely on technicians to ensure that total costs are reasonable and proper. Other districts establish funding limits at the average cost of BMP installation during the previous year, adjusting for predicted price increases.

## Enforcement Mechanisms

A farmer who enters into a FIP agreement with DALs and a Soil and Water Conservation District must install BMPs in accordance with technical specifications, and properly maintain them for the stipulated maintenance period. BMP operation and maintenance costs are not eligible for FIP cost-share funds.

Soil and Water Conservation District technicians check the conditions of temporary BMPs each year to assure satisfactory maintenance. The

### Program Procedures: FIP Program



Source: FIP Policy Documents.

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determination of satisfactory maintenance of a BMP is based on successful performance of its original function. Maintenance inspections for permanent BMPs are performed as often as Soil and Water Conservation District personnel believe necessary. After each farm inspection, district technicians complete a "Certification of Practice" form.

If a technician determines that a BMP is not being satisfactorily maintained, the Soil and Water Conservation District will send the landowner an administrative order requiring appropriate maintenance, repair or reconstruction of the practice. The farmer must notify the Soil and Water Conservation District in writing within 60 days that the situation will be corrected and must begin that task within 120 days of notification and complete it within one year.

---

## **Funding Level**

State appropriations for soil erosion control incentive programs exceeded \$8.6 million for FY85 and \$8.8 million in FY86. Because of statewide budget cutbacks, soil erosion control received only \$6.5 million in each of fiscal years 1987 and 1988. For fiscal years 1989 and 1990, the General Assembly increased the appropriation to about \$6.7 million. Ninety percent of these appropriations are used as

State funding for FIP; the remainder is used for non-point source control programs at publicly controlled lakes and for mandatory cost-share programs.

All of the funds allocated to FIP are used directly by Soil and Water Conservation Districts to provide voluntary cost-share funds to farmers. FIP funds are not used for administrative costs incurred by the Soil and Water Conservation Districts; SCS and an Operations Fund of the Iowa DALS cover administration.

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## **Participation**

Since 1973, FIP has provided State cost-share funds to approximately 5,000 farmers per year—to date, approximately 70,000 farmers have used this assistance. Despite the number of participants, several districts have large waiting lists of farmers who wish to join FIP but cannot be included because of funding limitations.

### **FOR FURTHER INFORMATION CONTACT:**

William McGill  
Resource Conservationist  
Division of Soil and Water Conservation  
Department of Agriculture & Land Stewardship  
(515) 281-6148





# *Maryland Agricultural Cost-share Program*

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**T**he Maryland Agricultural Cost-Share Program (MACS), which was created in 1983, provides financial assistance to farmers who install agricultural best management practices to solve water quality problems. Cropland, orchards, animal feedlots, grazing land, and poultry operations all qualify under MACS.

Under MACS, farmers receive up to 87.5 percent of the cost of installing BMPs to control water quality problems. Acceptable BMPs include critical area plantings, strip-cropping, filter strips, grassed waterways, waste storage structures, terracing, diversion ditches, runoff control ponds, spring development (i.e., development of alternative sources of water to reduce erosion of stream banks by domestic animals), contour farming, and grade stabilization structures. For a full list of all control categories and applicable BMPs, see Exhibit 11.

The MACS program involves staff from the Soil Conservation Districts and Maryland's Department of Agriculture and Department of the Environment. Soil Conservation Districts are responsible for providing technical assistance to MACS applicants, developing BMP plans, and designing the steps needed to implement them. Soil Conservation District offices are staffed by a combination of Department of Agriculture, local, county, and Federal Soil Conservation Service employees.

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## **Eligibility**

Funding for installation of BMPs under MACS is based on two essential considerations: existence of a critical water pollution condition on a farm resulting from agricultural activities, and location of a farm in relation to a "priority watershed." Priority watersheds are watersheds recognized as areas where potential conditions hazardous to water resources are more prevalent than elsewhere in the State (Exhibit 12). The MACS program office allocates a greater proportion of funds to these watersheds, but monies are also available for cases where only the first of the two conditions is met.

The Soil Conservation District determines if a critical condition that warrants cost sharing exists on a farm and, if necessary, will propose a BMP(s) to correct the condition using SCS technical standards. Soil Conservation Districts assist in completion of grant applications for submittal to the Department of Agriculture. Eligibility of each BMP for State cost shares is determined by the MACS program, based on information contained in the grant application form.

Farmers who participate in both MACS and the Federal cost-share program, the Agriculture Conservation Program administered by the Agricultural Stabilization and Conservation Service, may receive additional cost-share grants for up to 87.5 percent of total project cost. However, projects funded under the Rural Clean Water Program and Clean Lakes Program may not be eligible for additional funds under MACS.

**Maryland Agricultural Water Quality Cost-Share Program  
List of Cost-Shared Best Management Practices**

CONTROL CATEGORY	BMPs	MACS-ACP REFERENCE NUMBER	SCS PRACTICE NUMBER	ACP COST-SHARE RATE(%)*	MACS COST-SHARE RATE(%)	MAINTENANCE	
						LIFE	FREQ.(%)**
Cropland protection	Contour farming	SL-13	330	75	87.5	5	<1
	Contour orchard	SL-13	331	75	87.5	5	<1
	Diversion	SL-5	362	75	87.5	10	4
	Strip-cropping system:	SL-3					
	Contour		585	75	87.5	5	1
	Field		586	75	87.5	5	<1
	Wind		589	75	87.5	5	<1
	Terrace system	SL-4	600	75	87.5	10	1
Permanent vegetative cover	Critical area planting	SL-11	342	75	87.5	10	5
	Field border	SL-11	386	60	87.5	10	<1
	Filter strip	SL-11	393	60	87.5	10	<1
	Field windbreak	SL-7	392	75	87.5	10	<1
	Windbreak renovation	SL-7	650	75	87.5	10	<1
Grazing land protection	Spring development	SL-6	574	75	87.5	10	4
	Trough or tank	SL-6	614	75	87.5	10	4

## Contract Arrangements/ Requirements

Under MACS, the farmer submits an application to the local Soil Conservation District (a copy of the application form is attached as Exhibit 13). The Soil

Conservation District then provides technical assistance to farmers to evaluate critical conditions (i.e., a high probability that pollutants such as nutrients, sediment, animal waste, or agricultural chemicals will move into State waters) and to recommend and plan a project to correct these conditions. A single project may involve installing more than one BMP.

**Maryland Agricultural Water Quality Cost-Share Program**  
**List of Cost-Shared Best Management Practices**  
**(Continued)**

CONTROL CATEGORY	BMPs	MACS-ACP REFERENCE NUMBER	SCS PRACTICE NUMBER	ACP COST-SHARE RATE(%)*	MACS COST-SHARE RATE(%)	MAINTENANCE	
						LIFE	FREQ.(%)**
Water protection	Grade stabilization structure	WP-1	410	75	87.5	10	15
	Grassed waterway/outlet	WP-3	412	75	87.5	5	27
	Lined waterway/outlet	WP-1	468	75	87.5	10	2
	Sediment basin	WP-1	350	75	87.5	10	1
Water control	Pond	WC-1	378	50	65	15	11
Animal waste control facility	Waste storage pond	WP-4	425	75	87.5	15	1
	Waste storage structure	WP-4	313	75	87.5	15	12
	Waste treatment lagoon	WP-4	359	75	87.5	15	<1

\*The Agricultural Cost-Share Program (ACP) is the federal cost-share program run through local ASCS offices. Farmers may receive cost-shares under both the ACP and MACS, but total funding cannot exceed the MACS cost-share rate for a given BMP.

\*\*Frequency = the approximate percentage of all BMPs that are represented by each BMP. Based on information in the MACS Program Summary, June 30, 1988.

Source: Maryland Department of Agriculture, MACS program office.

Once the technical plan and project cost estimate are complete, an application is forwarded to the MACS Program Office at the Department of Agriculture, which then determines if the project is eligible for State cost share under MACS. A notice of approval or disapproval is sent to the applicant by the Department of Agriculture.

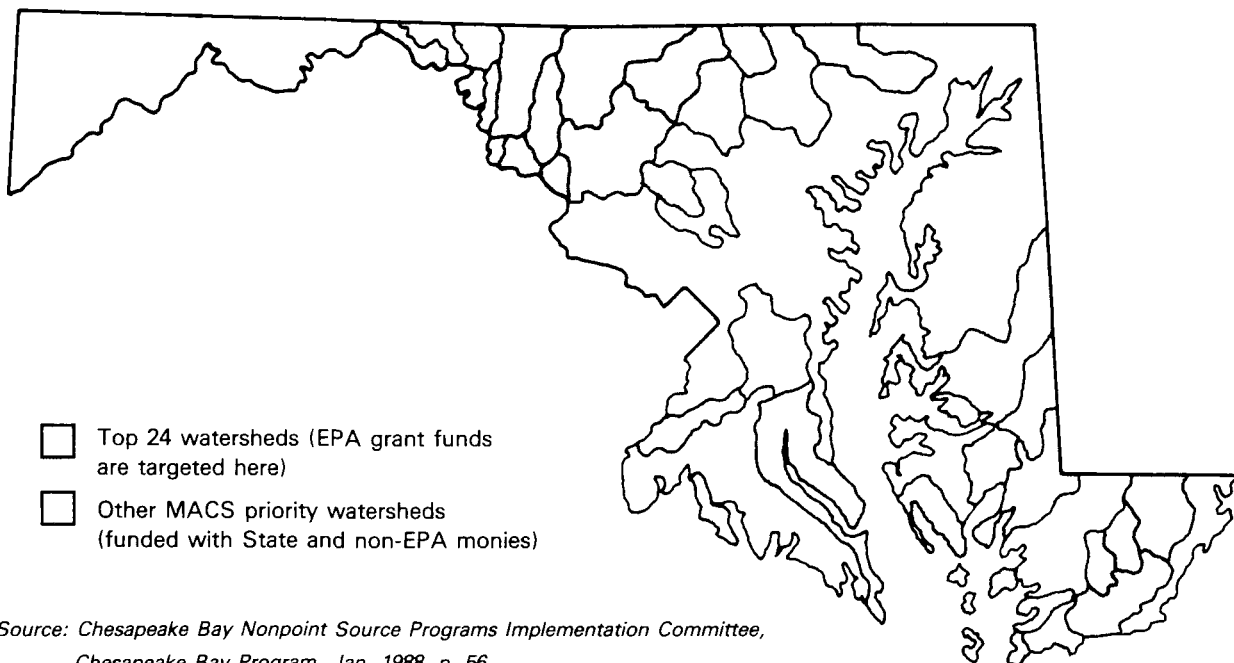
If the application is approved, an agreement is signed by the applicant, the Soil Conservation District, and the Department of Agriculture. When proceeds of a State bond sale are used for cost shares, the Department of Agriculture obtains State

Board of Public Works approval before executing the agreement. If the applicant is a tenant farmer, the landlord must also sign the agreement.

The applicant has one year to complete installation of the practice. Extensions of up to six months may be granted for justifiable reasons such as inclement weather. If the applicant fails to begin the practice within one year, the funds that have been reserved revert to the program.

Upon completion of the project, the Soil Conservation District must certify whether program standards were met (MACS program standards are based

## MACS Program Priority Areas



Source: Chesapeake Bay Nonpoint Source Programs Implementation Committee, Chesapeake Bay Program. Jan. 1988. p. 56.

Exhibit 13

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4. **PERMANENT** **W**

**MARYLAND AGRICULTURAL WATER QUALITY COST SHARE PROGRAM**  
**WATER QUALITY PROJECT FORM**

[illegible]

SECTION III — TECHNICAL DETERMINATION										AGREEMENT NUMBER	
Total Tons of Soil Being Delivered to Waters of the State T/YR				31 Watershed Segment Number <div style="display: flex; justify-content: space-around; width: 100%;"> <div style="border: 1px solid black; width: 20px; height: 20px;"></div> <div style="border: 1px solid black; width: 20px; height: 20px;"></div> <div style="border: 1px solid black; width: 20px; height: 20px;"></div> <div style="border: 1px solid black; width: 20px; height: 20px;"></div> <div style="border: 1px solid black; width: 20px; height: 20px;"></div> <div style="border: 1px solid black; width: 20px; height: 20px;"></div> <div style="border: 1px solid black; width: 20px; height: 20px;"></div> <div style="border: 1px solid black; width: 20px; height: 20px;"></div> </div>			32 Geographic Area		33 Distance to Waters of the State <div style="display: flex; justify-content: space-between; width: 100%;"> <span>_____</span> <span>_____</span> </div>		
28 Acres		29 Before		30 After		31 Difference		36 Was this project benefit land devoted to an agricultural activity? Yes <input type="checkbox"/> No <input type="checkbox"/> If no, explain below: _____			
								37 Was this project reduce pollutants from being delivered to the waters of the state? Yes <input type="checkbox"/> No <input type="checkbox"/> If no, explain below: _____			
						T/YR		38 Acres Benefited			
32 Circle Types of Erosion Sheet/Rill _____ Gully _____ Wind _____		39 Predominant Land Use Capability Classes				40 Animal Units Served					
						41 Animal Wastes Generated Daily <div style="display: flex; justify-content: space-between; width: 100%;"> <span>_____</span> <span>_____</span> </div>					
42 Description of Water Quality Problem (agency name): _____						43 Cost Effectiveness			44 Operation & Management Plan Yes <input type="checkbox"/> No <input type="checkbox"/>		
45 Project Location (State Coordinates): _____		46 _____									
E N		<b>SCD CERTIFICATION</b> The _____ Soil Conservation District has reviewed this referral and finds it does not find it adequate and appropriate for this program. If not explain under general comments.									
47 Authorized Signature (Designated Technician)				Date		48 Authorized Signature (Chairman or Designer)				Date	
<b>SECTION IV — DETERMINATION OF ELIGIBILITY</b> The Maryland Department of Agriculture has determined that this application is eligible for state cost sharing for the estimated amount shown at right. If not explain below: _____ <div style="display: flex; justify-content: space-between; width: 100%;"> <div style="border: 1px solid black; padding: 5px;">ESTIMATE OF COST SHARES \$ _____</div> <div style="border: 1px solid black; padding: 5px;">Date _____</div> </div>											
<b>SECTION V — AGREEMENT APPROVAL</b> The Maryland Department of Agriculture certifies that the agreement for this project is in order, is signed by all parties and is approved pending approval by the Board of Public Works <div style="display: flex; justify-content: space-between; width: 100%;"> <div style="border: 1px solid black; padding: 5px;">Signature (MDA Representative) _____</div> <div style="border: 1px solid black; padding: 5px;">Fund Source _____</div> <div style="border: 1px solid black; padding: 5px;">Approval Amount \$ _____</div> </div>											
The Board of Public Works Approved <input type="checkbox"/> Disapproved <input type="checkbox"/> This Agreement						This Agreement is Approved <input type="checkbox"/> Disapproved <input type="checkbox"/> for Federal Funds					
Agenda Item Number _____						Date _____					
Date _____						Date _____					
General Comments											

**MARYLAND AGRICULTURAL WATER QUALITY COST SHARE PROGRAM**  
TO BE COMPLETED WITH THE ASSISTANCE OF THE SOIL CONSERVATION DISTRICT

[illegible]

MDA-S

on SCS technical standards). It is at this point that the applicant submits a claim to the State for payment (see Exhibit 14). All expenses must be justified and fall within the flat rates set by the State. If expenses exceed the initial Soil Conservation District estimates, a separate request for funds to cover the difference must be submitted (Maryland estimates that 5 to 6 percent of practices experience cost overruns). Payment is issued through the Department of the Environment. Program administrators report that many payments are made within a month of receipt of the applicant's expense claim, if costs fall within the original estimate.

The agreement between the applicant, the Soil Conservation District, and the Department of Agriculture also stipulates the period over which the applicant must maintain the practice. Project maintenance lives are set by the Department of Agriculture, and are noted on Exhibit 1 for all of the accepted BMPs.

Exhibit 15 presents an overview of the MACS cost-share program procedures.

## Cost Sharing

MACS provides up to 87.5 percent of BMP installation costs (with the exception of sedimentation ponds), with limits of \$10,000 per project and \$25,000 per farm. If two or more farms pool funds, up to \$20,000 per project can be provided. Pooling is allowed for projects that are intended to solve a pollution problem shared by two or more farms. As shown in Exhibit 11, all practices, except the creation of a sedimentation pond, are eligible for an 87.5 percent cost share. This practice, because of the other benefits it may provide the farmer (e.g., storage of irrigation water, fish production), is eligible for a 65 percent cost share. Under cost-shared BMPs, maintenance costs are borne by the farmer.

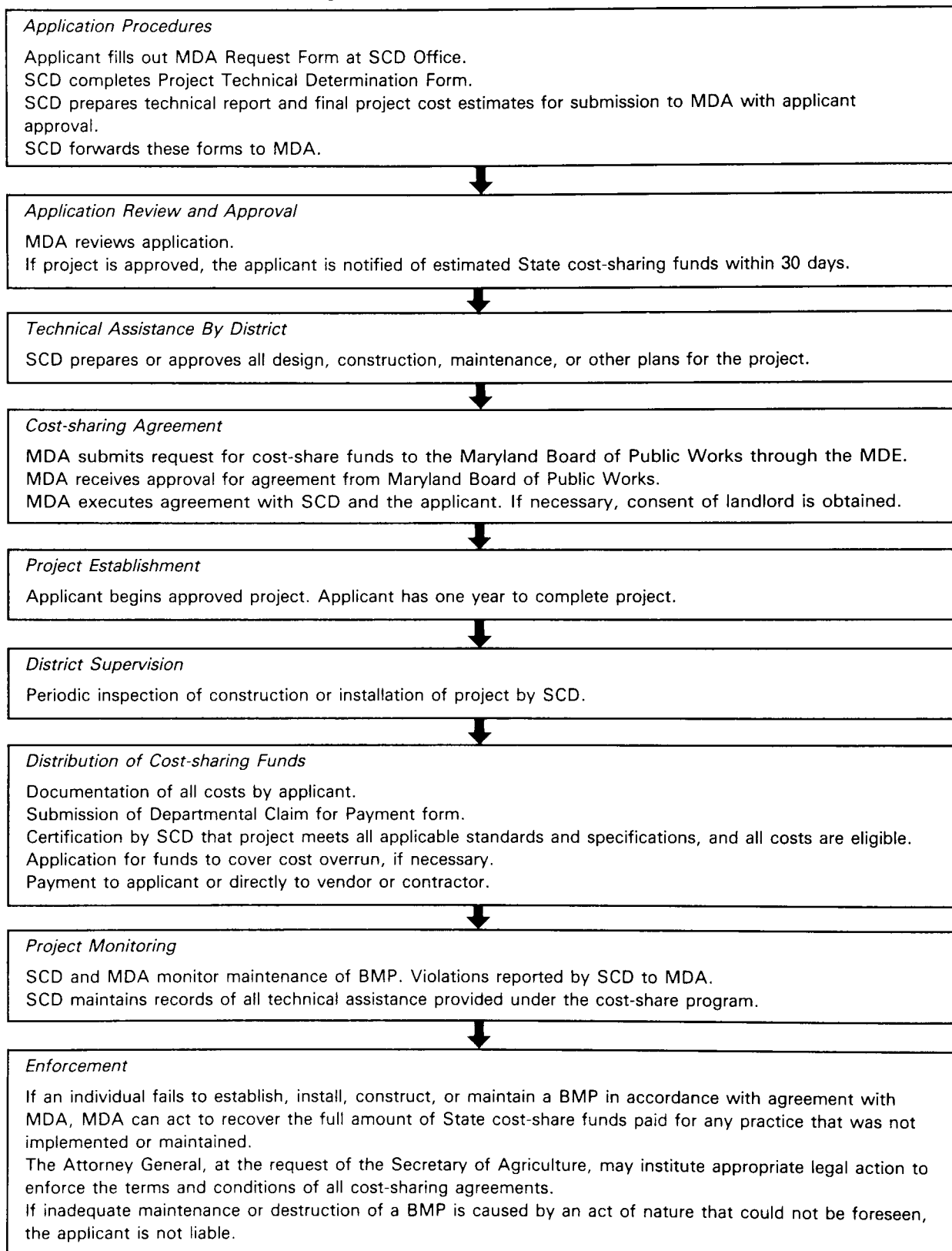
Flat rates are set for components of all BMPs in each Soil Conservation District. For example, in Caroline County, \$1.50 is the rate for constructing a diversion; \$1,000/acre is allowed for clearing and site preparation of a low density area. The MACS program has been working toward establishing statewide rates for certain com-

ponents. Farmers also may be compensated for their own labor during BMP installation. Thus, farmers may apply their own labor to meet their portion of the cost-share requirement.

## Enforcement Mechanisms

A farmer who enters into a MACS agreement must install the cost-shared BMP in accordance with technical specifications, properly maintain the BMP for its expected life span, and provide the required matching funds for installation of the project. The farmer does not receive funds until work is complete and all work and invoices have been reviewed by the Soil Conservation District. If a farmer fails to properly install or maintain a BMP in accordance with the Department of Agriculture agreement, the farmer may be liable for the full amount of State funds

### Program Procedures: MACS Program



Source: Chapter 5: Cost Sharing — Water Pollution Control Program.  
Title 15 of Maryland Department of Agriculture Regulations.

## Exhibit 16

### MARYLAND AGRICULTURAL WATER QUALITY COST SHARE PROGRAM ON-FARM STATUS REVIEW RECORD

Applicant's Name and Address		Agreement Number	
		Farm Number	
Name of Person Contacted on Farm	Watershed Number	County	Fiscal Year

#### PRACTICE MAINTENANCE STATUS REVIEW

Year Practice Completed	Practice Number	Extent Performed (Units)	Satisfactory Yes	No

Remarks: (Describe any discrepancies - use reverse side if necessary)

Reviewer's Name, Position & Signature

Date

MDA-5-04 (revised 12-18-86)

received. The Soil Conservation District and Department of Agriculture maintain the right to inspect the maintenance of all BMPs. Regular status reviews are performed by Soil Conservation District staff on 10 percent of the installed practices annually. The randomly selected list used for this inspection is generated by the Department of Agriculture and forwarded to the district. A project may not be reviewed more than once every three years. During this inspection, the On-Farm Status Review Record is completed (see Exhibit 16).

In cases where a violation of the agreement is found, the Soil Conservation District notifies the applicant and follows up later to ensure that the problem has been remedied. The Department of Agriculture has the power to contact the Maryland Attorney General in cases where violations are not corrected within six months of the inspection date. To date, few violations have been reported to the Department of Agriculture by the Soil Conservation Districts.

## Funding Level

Maryland's agricultural cost-share program has been in operation for five years, and was recently expanded and extended. Over the first five years, \$27 million in funds have been authorized by the Maryland legislature. Another \$3 million has been made available through Federal sources.

Seventy-five percent of available cost-share funds are reserved for installation of BMPs within Maryland's nine priority watersheds, with the balance distributed for treatment of critical conditions outside priority watersheds. Funds are allocated among priority watersheds based on acreage of cropland, intensity of animal production, and the general magnitude of agricultural nonpoint source problems.

Funds can move between priority watersheds and from priority watersheds to other areas. This is a result of differences between an expected number of applicants and the number that actually apply and receive funds in any given watershed. However, no application for installation of a BMP to remedy a critical condition has ever been rejected for lack of funds.

## Participation

To date, 7,405 applications have been received by the MACS program office. Of these, 5,266 have remained on file (i.e., 2,139 applications have been ruled ineligible by the program or withdrawn or canceled by the applicant). State funds have been awarded by the Board of Public Works for 4,484 applications (totaling \$19,654,600 million). Of these, 3,594 projects have been completed (\$14,256,259 million).

The program is promoted through a number of formal and informal mechanisms, including active promotion by Soil Conservation District employees. The Soil Conservation Districts rely on newsletters, individual mailings, and radio farm shows to formally advertise MACS. District employees also visit farms regularly as part of their normal job duties.

### FOR FURTHER INFORMATION CONTACT:

MACS Program Administrator  
Maryland Department of Agriculture  
(301) 841-5864



# *North Carolina Agriculture Cost-share Program*

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**N**orth Carolina's Agriculture Cost-Share Program (ACSP) is administered by the North Carolina Soil and Water Conservation Commission, which distributes funds to local Soil and Water Conservation Districts for increased technical assistance and for sharing with farmers the costs of implementing and maintaining best management practices. The current program was created by the North Carolina General Assembly in 1987, but existed on a smaller scale since 1984.

Farmers participating in the ACSP receive 75 percent of the cost of implementing a system of approved BMPs. As of June 1988, over 4,600 agreements had been signed with farmers to implement erosion control, animal waste management, and sediment control BMPs. State expenditures for cost sharing and technical assistance are currently about \$6.5 million annually.

At the State level, water quality objectives are the primary determinants for which districts receive funding from the program; at the district level, technical assistance and cost-share funds are concentrated where they can reap the greatest water quality benefits.

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## **Eligibility**

The Soil and Water Conservation Commission in 1989 made all of the State's 100 Soil and Water Conservation Districts eligible for cost-share funds under

the ACSP. Eligibility is based on the priority given the watershed(s) in which the district is located. Watersheds with nutrient sensitive water receive top priority, followed by coastal and estuarine, mountain, and piedmont waters.

Within priority watersheds, the criteria for allocating funds are based on the identified level of agriculturally-related nonpoint source pollution problems and the district's BMP installation goals and available technical services. Those districts believed to be best able to address water quality problems with the aid of State money are targeted for funding. All 100 districts are expected to be participating by 1990.

Farmer eligibility depends on the focus of the cost-share program within the district. Although the ultimate goal of all participating districts is to reduce agricultural nonpoint source pollution to improve water quality, districts may employ different strategies to reach that goal. The Soil and Water Conservation Commission encourages these variations because it believes that districts can best address water quality problems when they can tailor programs to their individual circumstances.

Farmers interested in participating submit applications to the district board (a sample appears as Exhibit 17). District staff often provide technical information to help farmers complete their applications.

An application must note where the farm is located, into which waterways the land drains, and the water quality problems for which assistance is needed. In addition, each application includes a brief checklist of the ways in which the proposed treatment will improve water quality.



## Exhibit 17

### APPLICATION FOR ASSISTANCE NORTH CAROLINA AGRICULTURE COST SHARE PROGRAM

#### APPLICANT

Name John A. Farmer  
Address 000 Any Street  
Anywhere, NC Zip 00000

Date September 10, 1988

County Any

Application Number

XX-89-XX-XX

Type of Agreement Requested

Annual \_\_\_\_\_ Long Term X

#### LANDOWNER (if other than the Applicant)

Name Jane B. Owner  
Address Rte. 4, Box 293  
Anywhere, NC Zip 00000

- Describe location and type of agricultural operation.  
SR 55555 northwest intersection SR 6666 & 55555. 250 acre farm with beef cattle and grain and hay production.
- Describe problems for which assistance is needed.  
Erosive soils need conservation cropping systems and structural practices to prevent off-site damages. Animal waste management system is in planning.
- Check how treatment will improve water quality.  
☒ decrease erosion/sediment delivery  
☐ increase time water held on farm  
☒ store animal waste  
☒ properly land apply animal waste  
☐ keep livestock out of stream
- Name stream or canal land flows into. Crystal Creek

I hereby apply for cost sharing assistance under the North Carolina Agriculture Cost Share Program. This application does not guarantee cost share approval or obligate the applicant to enter into a cost share agreement.

APPLICANT John A. Farmer

Date 9-10-88

APPLICATION: Approved ☒ Denied \_\_\_\_\_

DISTRICT CHAIRMAN L.M. Chair

Date 9-17-88

Conservation Service design standards, and to follow a specific schedule. Farmers agree to maintain each BMP for its minimum life expectancy. A list of BMPs eligible for cost sharing under the ACSP and their life expectancies are presented in Exhibit 18.

In addition, farmers agree to allow sampling and inspections of installed BMPs. For cropland affected by the cost-share program, farmers must agree to follow fertilizer application recommendations as closely as possible, and to submit soil test samples for analysis at least once every two years. To receive cost-share assistance for animal waste management systems, farmers agree to have the waste material analyzed annually to determine its nutrient content. If the waste is applied to the land, farmers must adhere as closely as possible to recommended fertilizer application rates, and must submit a soil sample of the area of waste application annually. In addition, a chemical analysis must be conducted on soil samples taken from the fields where the waste is to be applied as fertilizer. Finally, farmers must agree to allow district representatives reasonable access to the farmland to inspect the BMP maintenance.

An example of an ACSP contract is presented in Exhibit 19. A sample Plan of Operation, which details the BMP implementation schedule by field, year, and estimated units and costs, is included as Exhibit 20 at the end of this chapter.

Once agreements with the district are signed, farmers often hire contractors to perform BMP installations, which can take from a few months to three years to complete. District staffers check to see that BMPs have been implemented as specified, request reimbursement checks from the Soil and Water Conservation Commission, and deliver the checks to the farmers (Exhibit 21 at the end of this chapter). Farmers usually receive the checks within five business days of the inspection.

The district board then reviews the application and, if it is approved, assigns it a priority among other approved applications to be addressed as funds become available. In some cases, the district board may try to persuade certain landowners to join the program if their cooperation would be especially helpful in attaining water quality goals or in encouraging other farmers to participate.

## Contract Arrangements/ Requirements

The farmer and the district technical staff draw up a contract in which the farmer agrees to implement each cost-shared BMP selected according to Soil

**Exhibit 18****Best Management Practices Eligible for Cost-Sharing Under the Agriculture Cost-Share Program**

PRACTICES	MINIMUM LIFE EXPECTANCY (YEARS)
Conservation tillage system	1
Critical area planting	10
Cropland conversion (trees, grasses, or permanent wildlife plantings)	10
Diversion	10
Field border	10
Filter strip	10
Grassed waterway	10
Heavy use area protection	10
Livestock exclusion	10
Pastureland conversion	10
Rock-lined waterways or outlets	10
Sediment control structure	10
Sod-based rotation	4 or 5
Spring development	10
Stock trails and walkways	10
Stripcropping	5
Terrace	10
Trough or tank	10
Waste management system	10
Waste storage pond	10
Waste storage structure	10
Waste treatment lagoon	10
Land application of waste	1
Grade stabilization structure	10
Water control structure	10

*Note: Conservation tillage systems and land application of animal wastes are contracted for a maximum of three years per farm. Farmers are expected to implement these BMPs on their own initiative after this time.*

*Source: North Carolina Nonpoint Source Management Program (Draft), North Carolina Department of Natural Resources and Community Development, Division of Environmental Management, Water Quality Section, August 1988.*

Farmers may request revisions of their contracts by submitting copies of the current agreement with the desired changes noted. Because of unpredictable weather conditions and the rapidly changing state of agriculture in North Carolina, contract revision is common. Revisions to the cost-share provisions of the contract reflect the changes in BMP requirements. District supervisors must then

**Exhibit 19****NORTH CAROLINA  
AGRICULTURAL COST SHARE PROGRAM****COST SHARE AGREEMENT**

This agreement is entered into on this 25th day of September, 1988, by and between the Any Soil and Water Conservation District and

John A. Farmer (applicant) of 000 Any Street, Anywhere, NC 00000  
Jane B. Owner (landowner) of Rte. 4, Box 293, Anywhere, NC 00000  
 \_\_\_\_\_ ( ) of \_\_\_\_\_

This agreement covers the period of practice installation from September 25, 1988 to September 25, 1991 and the practice maintenance period which expires on June 30, 19<sup>2001</sup>.

**THE APPLICANT(S) SHALL AGREE TO:**

(1) Implement the best management practice(s) to the best of his/her ability in compliance with the rules governing this cost share program and according to the attached plan of operation.

(2) Maintain and continue the cost-shared best management practices on the attached plan of operation for the minimum life set forth by the Soil and Water Conservation Commission. If the applicant(s) fail to properly maintain or continue the cost-shared practices, the applicant(s) shall be required to repair or reimplement the practice within a reasonable amount of time (not to exceed one calendar year) or be required to repay to the State of North Carolina a pro-rated amount of the cost-share payment as set forth in the rules governing this program.

(3) Submit a soil test sample for analysis and follow the fertilizer application recommendations as close as reasonably and practically possible. Soil testing will be conducted a minimum of every two years on all cropland affected by this cost share program.

(4) As a condition for receiving cost share assistance for waste management systems, have the waste material analyzed once every year to determine its nutrient content and if the waste is land applied, to annually submit a soil test sample for analysis of the area of waste application; and to apply the waste as close as reasonably and practically possible to recommended fertilizer rates. If the applicant(s) fail to have the waste and soil analyzed within a reasonable amount of time as specified by the District, the applicant(s) will be required to repay to the State of North Carolina a pro-rated amount of the cost-share payment as set forth in the rules governing this program.

(5) Permit reasonable access by District representatives to provide technical assistance and to inspect the practices for proper maintenance and continuation.

**THE DISTRICT SHALL AGREE TO:**

(1) Provide technical assistance for the planning, design, implementation, maintenance and certification for all best management practices contained in the attached plan of operation.

(2) Following District certification of proper best management practice implementation, provide to the designated applicant(s) through the North Carolina Division of Soil and Water Conservation 75% of the average cost for each approved best management practice contained in the attached plan of operation.

**SIGNED:**

John A. Farmer (Applicant) Date 9-25-88  
Jane B. Owner (Owner) Date 9-25-88  
 \_\_\_\_\_ ( ) Date \_\_\_\_\_

**DISTRICT CHAIRMAN**

D.M. Chair DATE 9-25-88

reapprove the agreement. Program officials estimate that roughly 80 percent of agreements are revised before they are completed, and that reapproval consumes a significant amount of the district staffs' time.

Program procedures are outlined in Exhibit 22.

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## Cost Sharing

Most eligible BMPs are cost shared at the rate of 75 percent of the predetermined average cost of implementation, excluding operation and maintenance costs. These average costs, which are adjusted for different regions of the State, are reviewed annually by the Soil and Water Conservation Commission for accuracy and representativeness. Since actual costs at the farm vary, the effective cost-share rate to the farmer may be higher or lower than 75 percent. The limit on total cost-share payments is \$15,000 per year per farmer.

North Carolina's program does not cost-share the purchase of equipment, because equipment can be used for purposes other than installation of water quality-related BMPs. However, the principal cost of implementing some BMPs is the purchase of special equipment, such as that required for conservation tillage and some animal waste management practices. Once the equipment has been purchased, the average unit costs of the practices are relatively low. Therefore, to encourage implementation of these BMPs, farmers are offered flat rate per-unit incentive payments that are somewhat higher than actual unit costs.

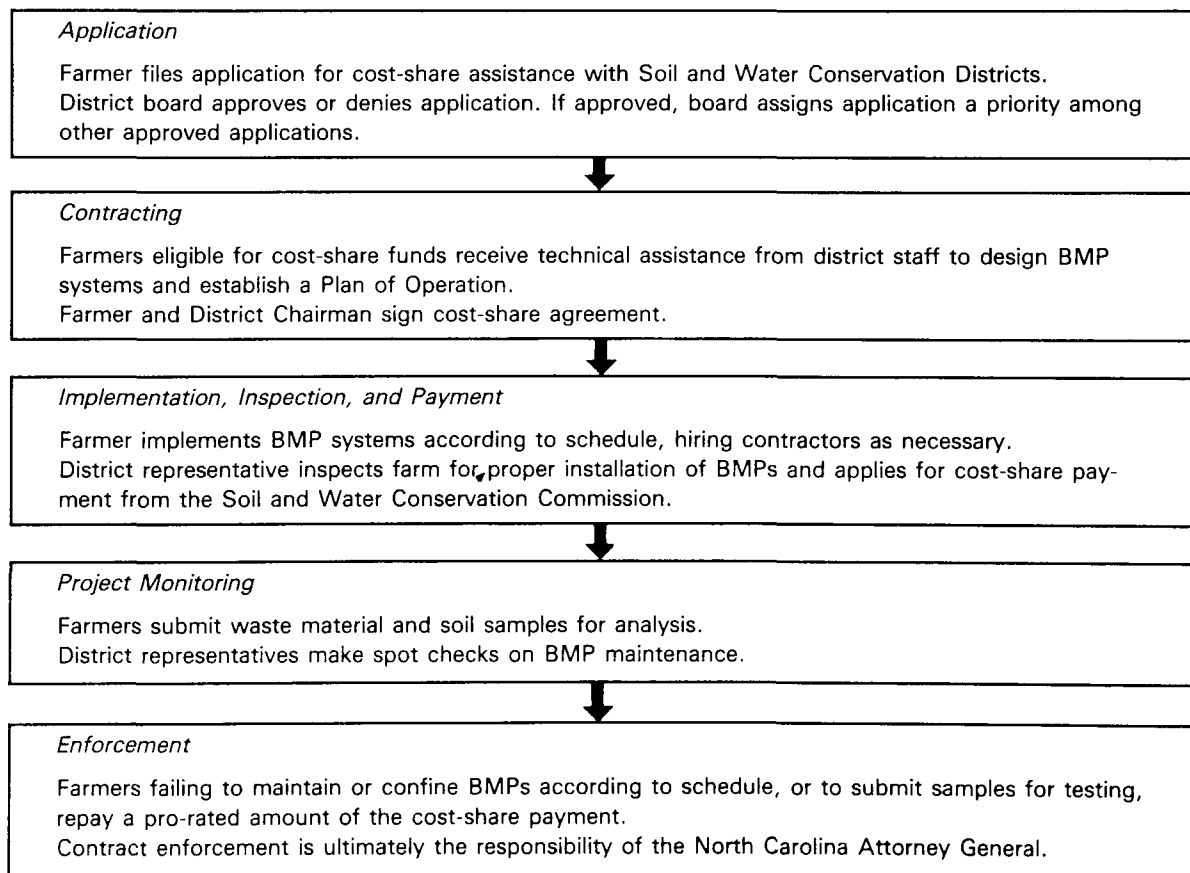
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## Enforcement Mechanisms

During the year, district supervisors spot-check participating farms to ensure that BMPs have been installed and maintained according to specifications. In cases of improper BMP maintenance, the district tries to help the landowner comply with the terms of

### Exhibit 22

#### North Carolina Agricultural Cost-Share Program Procedures



the contract by increasing technical assistance. Farmers are given one growing season to either re-establish the practices or repay the State of North Carolina a pro-rated amount of the cost-share payment. This provision is specified in all contracts. According to program officials, repayment of cost-share monies has happened no more than three times in the four years the program has been in effect.

## Funding Level

The 56 districts currently funded by the program have budgeted nearly \$5.8 million for cost share with farmers; the current budget for technical assistance cost sharing between the State and the districts is \$825,000. This does not include additional support for administration or for staff provided by either the State or local governments.

Annual allocations from the State budget to the Soil and Water Conservation Districts are decided by the Soil and Water Conservation Commission upon review of the districts' annual strategy plans. These plans state district needs for reducing agricultural nonpoint sources of pollution, and estimate the costs of installing BMPs to solve these problems.

As stated earlier, all 100 districts in the State are expected to be eligible for program benefits by 1990. The ACSP budget for that year is expected to be about \$10 million. In 1997, the Soil and Water Conservation Commission will reassess the program and make adjustments in total funding. The North Carolina Agricultural Task Force expects the \$10 million annual appropriation to continue through 1997, at which time the program would be reduced to reflect the decreased need for cost sharing to achieve water quality objectives. A reappraisal at that time may indicate a need to protect the improved water quality.

## Participation

From August 1984 to June 1988, the ACSP was responsible for the signing of 4,643 agreements between farmers and Soil and Water Conservation Districts. It is estimated that over 350,000 acres are enrolled in the program. Exhibit 23 lists the acreage in various BMPs installed in the State.

Participation is limited by a number of factors, however, including the availability of funding and technical assistance. In addition, district staffers find that projects can be delayed because local highway and mall construction projects use some of the

same contractors and equipment to install certain BMPs. Because of these and other constraints, applications for cost-share funds are approximately twice the number that can be accommodated.

### FOR FURTHER INFORMATION CONTACT:

James R. Cummings  
Resource Program Coordinator  
Division of Soil and Water Conservation  
North Carolina Department of Natural Resources  
and Community Development  
(919) 733-2302

### Exhibit 23

#### Best Management Practices August 1984 - June 1988\*

Agreements	4,643
Total acres	351,172

Acres erosion control	140,049
Annual tons of soil saved	1,116,748

#### EROSION CONTROL BMPs

Sod-based rotation (acres)	11,911
Cropland conversion (acres)	166,291
Conservation tillage (acres)	83,545
Critical area planting (acres)	567
Stripcropping (acres)	9,052
Terraces/diversions (ft.)	743,996

#### ANIMAL WASTE MANAGEMENT

Systems	249
Gallons storage capacity	191,056,569
Tons of dry storage capacity	39,488
Nitrogen (lbs.) storage capacity	5,090,786
Phosphorus (lbs.) storage capacity	3,283,927
Liquid waste application (gallons)	399,984,724

Poultry litter applied (tons)	165,186
Acres to which applied	84,864
Nitrogen (lbs.) applied	15,503,284
Phosphorus (lbs.) applied	13,820,666

#### SEDIMENT CONTROL BMPs

Grassed waterways (acres)	1,565
Field borders (acres)	1,645
Water control structures (no.) (sediment and nutrients)	1,337
Stream protection systems (no.)	347

\*56 counties

Source: North Carolina Nonpoint Source Management Program (Draft), North Carolina Department of Natural Resources and Community Development, Division of Environmental Management, Water Quality Section, August 1988.

Exhibit 20

NORTH CAROLINA  
AGRICULTURAL COST SHARE PROGRAM

PLAN OF OPERATION

NAME: John A. Farmer ADDRESS: 000 Any Street Anywhere, N.C. 00000			COUNTY Any	AGREEMENT NUMBER XX-89-XX-XX		TOTAL ACRES EFFECTED 110		ANIMAL TYPE AND NUMBER 50 Cows		
ITEM NO.	FIELD NO.	PLANNED TREATMENT	ESTIMATED AMOUNT (UNITS)	AVERAGE COST \$	COST SHARE %	TIME SCHEDULE AND ESTIMATED COST SHARE BY PROGRAM YEAR (FOR NON-COST SHARE ITEMS SHOW UNITS)			SOIL LOSS	
						19 88	19 89	1990	PRE	POST
1	1	Waste Mgmt. System								
		Grading & Excav.	1304 cu yd	1.67/ cu yd	75%	1633.00			N/A	N/A
		Vegetation (1a)	.5 ac	226.00 ac	75%	85.00				
		Lime Dolomitic	2000 lbs							
		Fertilizer 10-10-10	500 lbs							
		Seedbed prep.								
		Small Grain	30 lbs							
		Seed (Tall fescue)	30 lbs							
		Small Grain Mulch	.5 ac	300.00 ac	75%	113.00				
2	2,3,6	Waste Mgmt. Land apply lagoon wastes in environ. safe manner	300000 gal	4/1000gal	FR		600.00	600.00	N/A	N/A

Technical Representative But B. Jell Date 10-13-88

NAME: John A. Farmer ADDRESS: 000 Any Street Anywhere, N.C. 00000			COUNTY Any	AGREEMENT NUMBER XX-89-XX-XX		TOTAL ACRES EFFECTED 110		ANIMAL TYPE AND NUMBER 50 Cows		
ITEM NO.	FIELD NO.	PLANNED TREATMENT	ESTIMATED AMOUNT (UNITS)	AVERAGE COST \$	COST SHARE %	TIME SCHEDULE AND ESTIMATED COST SHARE BY PROGRAM YEAR (FOR NON-COST SHARE ITEMS SHOW UNITS)			SOIL LOSS	
						19 88	19 89	19 90	PRE	POST
3	4	Diversion							45	15
		Grading	300 ft.	.70 ft.	75%	158.00				
		Land Smoothing	0							
		Vegetation	.2 ac	226.00 ac	75%	34.00				
		Lime	.4 ton							
		Fertilizer 10-10-10	200 lbs							
		Fescue	12 lbs							
		Small Grain	1/4 bu							
		Small Grain Mulch	.2 ac	300.00 ac		45.00				
		Mulch Netting	3000 sq ft	.03 sq ft	75%	68.00				

Technical Representative But B. Jell Date 10-13-88

Exhibit 20 (continued)

NAME: John A. Farmer		COUNTY	AGREEMENT NUMBER		TOTAL ACRES EFFECTED		ANIMAL TYPE AND NUMBER			
ADDRESS: 000 Any Street Anywhere, N.C. 00000		Any	XX-89-XX-XX		110		50 Cows			
ITEM NO.	FIELD NO.	PLANNED TREATMENT	ESTIMATED AMOUNT (UNITS)	AVERAGE COST \$	COST SHARE %	TIME SCHEDULE AND ESTIMATED COST SHARE BY PROGRAM YEAR (FOR NON-COST SHARE ITEMS SHOW UNITS)			SOIL LOSS	
						19 88	19 89	19 90	PRE	POST
5	5	Sod-based Rotation	20 ac.	40.00 ac	FR		800.00		320	80
		Establish as follows:								
		1st yr-small grain								
		orchard grass, ladino clover								
		2nd yr-orchard grass								
		ladino clover								
		3rd yr-corn, small grain								
		4th yr-corn								
		See attached job sheet #1 for seeding								

Technical Representative Pat B. Sub

Date 10-12-88

NAME: John A. Farmer		COUNTY	AGREEMENT NUMBER		TOTAL ACRES EFFECTED		ANIMAL TYPE AND NUMBER			
ADDRESS: 000 Any Street Anywhere, N.C. 00000		Any	XX-89-XX-XX		110		50 Cows			
ITEM NO.	FIELD NO.	PLANNED TREATMENT	ESTIMATED AMOUNT (UNITS)	AVERAGE COST \$	COST SHARE %	TIME SCHEDULE AND ESTIMATED COST SHARE BY PROGRAM YEAR (FOR NON-COST SHARE ITEMS SHOW UNITS)			SOIL LOSS	
						19 88	19 89	19 90	PRE	POST
6	7	Sediment Basin							20	-
		Earth Moving	1500 cu yd	1.40 cu yd	75%		1575.00			
		Principal Spillway								
		4" barrel;								
		6" riser	110 ft	2.12 ft	75%		175.00			
		4" shear gate	1 ea	177.37	75%		133.00			
		Vegetation	2.5 ac	226.00 ac	75%		424.00			
		See attached job sheet #2								
		Small Grain Mulch	2.5 ac	300.00 ac			563.00			

Technical Representative Pat B. Sub

Date 10-13-88

Exhibit 20 (continued)

NAME: John A. Farmer ADDRESS: 000 Any Street Anywhere, N.C. 00000			COUNTY Any	AGREEMENT NUMBER XX-89-XX-XX		TOTAL ACRES EFFECTED 110		ANIMAL TYPE AND NUMBER 50 Cows		
ITEM NO.	FIELD NO.	PLANNED TREATMENT	ESTIMATED AMOUNT (UNITS)	AVERAGE COST \$	COST SHARE %	TIME SCHEDULE AND ESTIMATED COST SHARE BY PROGRAM YEAR (FOR NON-COST SHARE ITEMS SHOW UNITS)			SOIL LOSS	
						1988	1989	1990	PRE	POST
		ANNUAL COSTS:				2243.00	4270.00	600.00		
		TOTAL COST SHARE: \$7163.00								
		The Cooperator agrees to apply the planned treatment according to the standards and specifications approved by the Division of Soil and Water Conservation. Failure to carry out the un-numbered contract items (UN) does not constitute non-compliance with the contract. The cooperator agrees to maintain the stripcropping system for 5 years, sod-based rotation for a minimum of 12 months in sod, and all other practices 10 years except for conservation tillage and land application of animal waste which are annual practices. The cooperator also agrees to test soil on benefited acres every 2 years and animal waste annually.								
		AGREED TO BY:	John A. Farmer					10-13-88		
		COOPERATOR:	James B. Owens				Date:	10-13-88		
		TECHNICAL REPRESENTATIVE:	Ed A. Beck				Date:	10-13-88		
		DISTRICT CHAIRMAN:	L.M. Chalmers				Date:	10-20-88		

# REQUEST FOR PAYMENT

Exhibit 21

DATE May 10, 1989	AGREEMENT NUMBER XX-89-XX-XX
COUNTY Any	

## PLANNED TREATMENT COMPLETED

ITEM NO.	FIELD NO.	PRACTICE	UNITS PLANNED	UNITS COMPLETED	AMOUNT EARNED (\$)
1	1	Waste Management System - Grading	1304 cu yd	1304 cu yd	1633.00
		- Vegetation	.5 ac	.5 ac	85.00
		- Small Grain Mulch	.5 ac	.5 ac	113.00
2	2,3	Land Application of Waste	300,000 gal	150,000 gal	600.00
4	4	Diversion - Grading	300 ft	250 ft	131.00
		Vegetation	.2 ac	.2 ac	34.00
		- Small Grain Mulch	.2 ac	.2 ac	45.00
TOTAL					2641.00

I (We) hereby certify that the above practices have been implemented according to the specifications of this program and the planned units of each practice have been completed as shown. I (We) also certify that this request contains no duplication of payment under any other federal or state cost share program.

<b>APPLICANT (J.A. Farmer )</b>  <b>PAYMENT DUE \$ 2641.00</b>  <b>SOCIAL SECURITY NO. 123-45-6789</b>  <b>NAME</b> John A. Farmer 000 Any Street <b>ADDRESS</b> Anywhere, N.C. 00000	<b>APPLICANT ( )</b>  <b>PAYMENT DUE \$ 0.00</b>  <b>SOCIAL SECURITY NO.</b>  <b>NAME</b> Jane B. Owner Rte. 4, Box 293 <b>ADDRESS</b> Anywhere, N.C. 00000
<b>SIGNATURE</b> <i>John A. Farmer</i> <b>DATE</b> 5-10-89	<b>SIGNATURE</b> <i>Jane B. Owner</i> <b>DATE</b> 5-10-89

The above practices have been implemented according to the specifications of this program.

*Port B. Tech* **DATE** 5-10-89  
*SB Approver* **DATE** 5-10-89  
**TECHNICAL REPRESENTATIVE OF THE DISTRICT**

I hereby certify that the above information is accurate and hereby approve payment to the applicant(s) in the specified amount.

*D.M. Khan* **DATE** 5-10-89  
**DISTRICT CHAIRMAN**

FUND	CONTROL	AMOUNT	C	FAC	OBJECT	RCC	PROGRAM	DIST.	PURCHASE ORDER NUMBER	P	ID	ASSET NUMBER	REFERENCE NUMBER	IDENTIFICATION





# *Wisconsin Agricultural Cost-share Programs*

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**A** 1985 survey showed that over one-third of Wisconsin's rivers and streams are threatened or affected by nonpoint sources of water pollution. To address these problems, Wisconsin has developed two major agricultural nonpoint source programs that provide cost-share funds and technical assistance to farmers.

The first program, the Wisconsin Nonpoint Source Water Pollution Abatement Program (Nonpoint Source Program), allocates funds and authorizes the Department of Natural Resources (DNR) to control nonpoint source pollution. The Department of Natural Resources selects critical watersheds and oversees water quality management plans that lead to the implementation of agricultural best management practices.

The second program, the Soil and Water Resource Management Program (Soil and Water Program), provides the necessary administrative and financial assistance to control soil erosion problems and to conserve long-term soil productivity. The Department of Agriculture, Trade, and Consumer Protection (DATCP) oversees Wisconsin's counties' soil erosion control plans, and provides funding to install agricultural BMPs.

While the Soil Program is intended primarily to control soil loss from Wisconsin farms, it also reduces nonpoint source pollution. In addition, while the primary emphasis of the Soil Program is on technical assistance, cost-share funds are also made available to farmers by DATCP to implement BMPs to control soil erosion.

Farmers who are eligible for cost-sharing funds under either program may receive between 50 and 70 percent of the labor and material costs of install-

ing BMPs. Acceptable BMPs include contour cropping, stripcropping, field diversions, terraces, grassed waterways, reduced tillage, critical area stabilization, grade stabilization structures, shoreline protection, settling basins, barnyard runoff management, manure storage facilities, and livestock exclusion from woodlots (for a complete listing and full description of all applicable BMPs, see Exhibit 24).

Both programs are administered at the local level by Land Conservation Committees. These committees are responsible for developing a working relationship with farmers, determining which BMPs should be implemented on a given farm, developing cost-share agreements and contracts with farmers, and assuring implementation, compliance, and maintenance of these agreements. The Land Conservation Committees receive assistance from the University of Wisconsin Cooperative Extension Service, the USDA Soil Conservation Service, and the USDA Agricultural Stabilization and Conservation Service.

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## **Eligibility**

### **Selection of Priority Watersheds/ Critical Areas**

■ **NONPOINT SOURCE PROGRAM:** Under this program, the Department of Natural Resources offers cost-share funds to farms located within priority watersheds, using a two-step process to identify those watersheds:

## Wisconsin Nonpoint Source and Soil Erosion Programs

BEST MANAGEMENT PRACTICE	EFFECTIVE- NESS	CAPITAL COST	ON- SITE BENEFIT	RELATION OPERATING PRACTICES	COST SHARE RATE %
Contour cropping	High	Low	Moderate	Moderate	50
Strip cropping	High	Low	Moderate	Moderate	50
Field diversions	High	Moderate	Moderate	Low	70
Terraces	High	Mod-high	Moderate	Low	70
Grassed waterways	High	Moderate	Moderate	Moderate	70
Reduced tillage	High	Low	Moderate	High	50
Crop rotations	High	None	Moderate	High	0
Fertilizer management	High	Low	Moderate	High	0
Pesticide management	High	Low	Moderate	High	0
Critical area stabilization	High	High	Low	Low	70
Grade stabilization	High	High	Low	Low	70
Shoreline protection	High	High	Low	Low	70
Barnyard runoff mgt.	High	Mod-high	Moderate	Low-mod	70
Manure storage (long)	High	High	Moderate	Moderate	70*
Manure storage (short)	High	Moderate	Moderate	Moderate	70**
Livestock excl/woodlots	High	Low	Low	Moderate	50

\* Up to \$10,000

\*\* Up to \$6,000

1. The DNR uses the following factors to rank watersheds:

- livestock use and agricultural production;
- the magnitude of nonpoint source pollutant loads;
- the potential for significant nonpoint source reductions;
- the severity of water quality problems; and
- the potential increased public use and benefits that would result from efforts to control nonpoint source pollution.

2. The DNR also examines additional factors:

- the county's willingness to participate in the program;
- the number of projects in the county; and
- the DNR's workload.

In developing its priorities, the DNR encourages participation at the district level, including regional

committees such as the Land Conservation Committees, and representatives from the SCS, U.S. Geological Survey, League of Municipalities, University of Wisconsin, and other interested groups. The DNR also consults with the DATCP in developing the list of priority watersheds.

■ **SOIL PROGRAM:** Under the Soil Program, the DATCP is directed to define critical areas, and thus, those counties that are eligible to draw up soil erosion management plans. These counties can offer cost-share funds to farmers under the Soil Program.

The DATCP bases the determination of critical areas on an SCS document, the *Natural Resources Inventory*, which presents results of an inventory of environmental factors, such as major land resource areas of Wisconsin, temperature, rainfall, and cover status. These factors were used to compute the average predicted erosion rate for each county. The DATCP chose those counties with an average predicted erosion rate above the tolerable level (T value) and with significant acres of cropland to draw up a soil erosion management plan.

During this stage, DATCP does not consider subjective variables such as farmers' willingness to par-

The DATCP's selection of critical areas for the Soil Program is less exclusive than the Department of Natural Resources' selection of priority watersheds, evidenced by the fact that 55 of Wisconsin's 72 counties are required to participate, while only 32 of 330 watersheds have been selected for nonpoint source control.

■ **NONPOINT SOURCE PROGRAM:** When a watershed is selected to become a priority watershed, the Department of Natural Resources provides complete funding to Land Conservation Committees

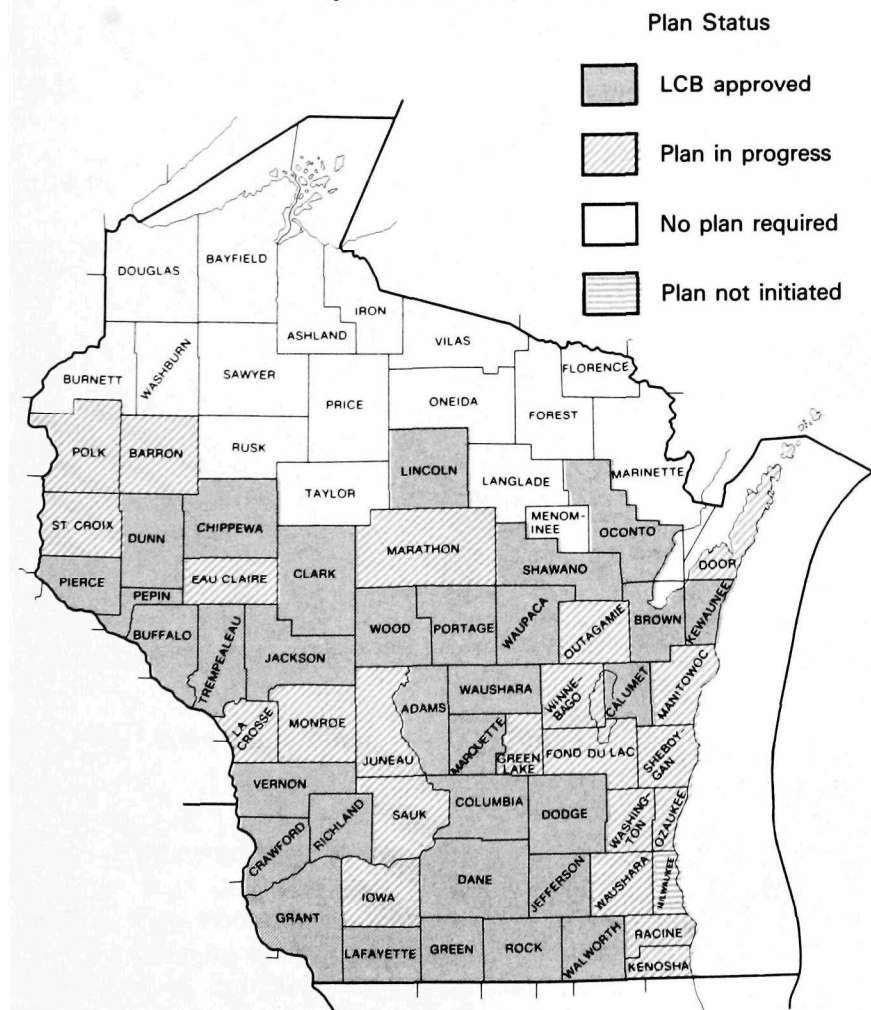
The main purpose of a watershed plan is to evaluate the critical nonpoint source pollution problems for the watershed so as to choose which landowners and BMPs will be eligible for cost-share funds. A watershed plan documents the location of all significant sources of pollution, the best ways to control them, what changes in water quality or water use will result from their control, how much the project will cost, and the necessary staffing level.

To produce these plans, the Land Conservation Committees must inventory and test livestock waste runoff, upland erosion, streambank erosion, and nitrogen loading. Acres of cropland are inventoried to determine crop location and crop rotation prac-

The Department of Natural Resources uses a computer model to determine which farms contribute most to nonpoint source pollution within watersheds and therefore, should be eligible for cost-share funds. The Wisconsin Nonpoint Model (WIN) is a sediment delivery model that provides a field-by-field analysis of sediment loadings to a watershed. WIN scores farms on factors such as slope of the land, existence of buffer zones, type and quantity of crops grown, planting method, and distance from the farm to surface water. WIN estimates how long it takes runoff to travel to other fields and watersheds by using USLE parameters, crop rotation, data, average upslope and downslope boundaries, and channel flow.

With this information, Land Conservation Committees place each farm in one of the following categories: eligible essential, eligible, or not eligible. Those farms classified in the former two categories qualify for technical assistance and cost-share funds under the Nonpoint Source Program. Farms that are eligible es-

## Erosion Control Planning Project Status May 1, 1988



47

sential can be required to implement necessary BMPs if they will not sign cost-share agreements voluntarily (they will still be offered cost-share funds). As of summer 1989, this requirement has not been enforced.

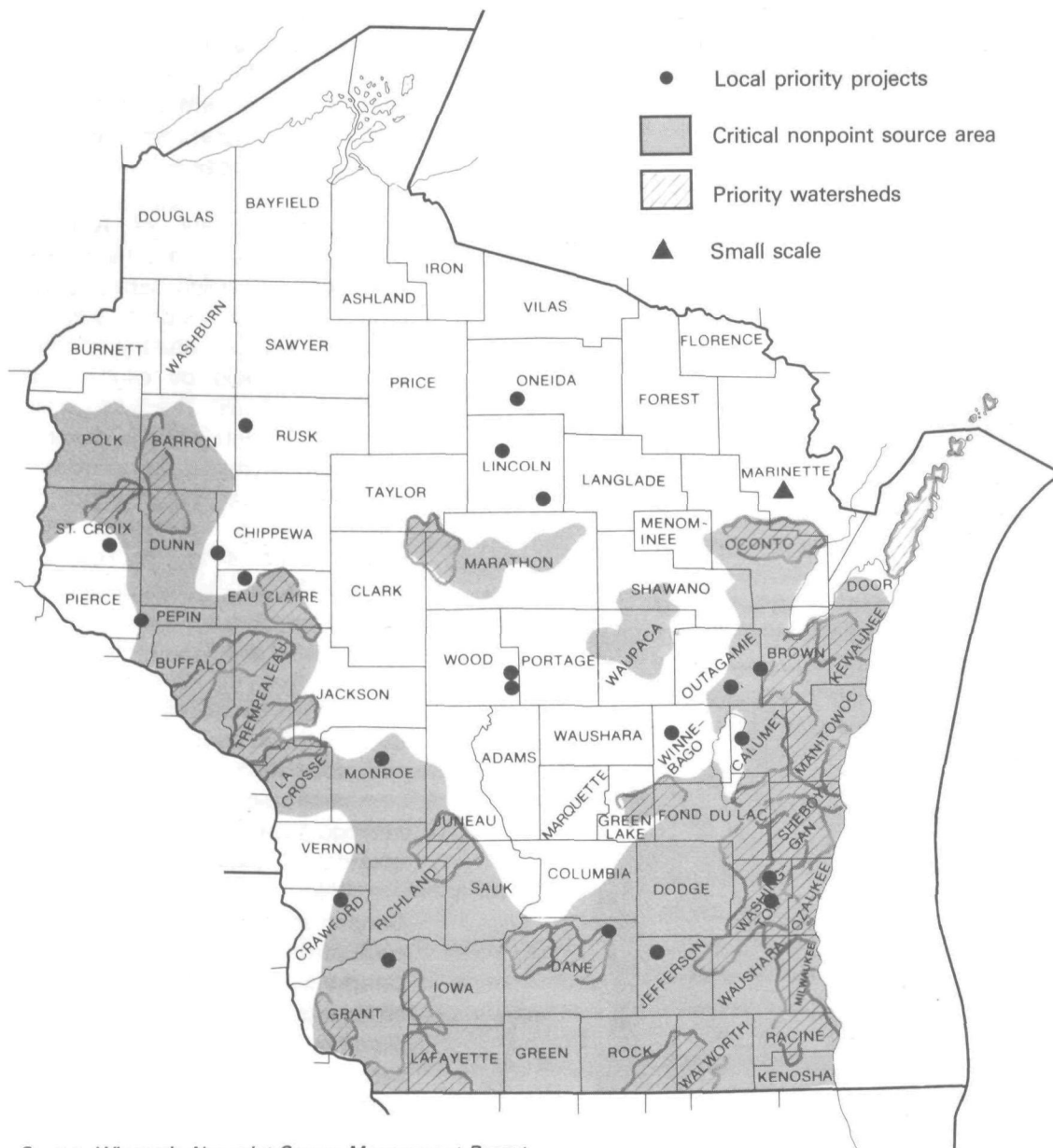
Thirty-two watersheds have been chosen by the Department of Natural Resources for priority watershed projects (out of 330 watersheds), making approximately 20 percent of the State's farmers eligible for cost-sharing funds under the Nonpoint Source Program (see Exhibit 26).

■ **SOIL PROGRAM:** After Wisconsin's DATCP selects counties to participate in its Soil Program, local Land Conservation Committees develop soil erosion plans with funding provided by the DATCP. Counties may receive cost-share grants at a rate of 50 percent of the costs incurred during preparation of soil erosion control plans.

Factors similar to those used by the Nonpoint Source Program are used to determine which landowners are eligible for the Soil Program. In addition, the Land Conservation Committees use the USLE, a tool developed by USDA to relate major erosion factors to predicted erosion rates, to create a soil

Exhibit 26

### Priority Watershed Projects in Wisconsin — 1988



Source: Wisconsin Nonpoint Source Management Report.

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erosion plan that targets certain BMPs and landowners for participation in the Soil Program.

Landowners who reside in an area where the DATCP has approved a soil erosion management plan, and who contribute significantly (as defined previously) to the soil erosion problem, are eligible for cost sharing and technical assistance under the Soil Program. Fifty-five of Wisconsin's 72 counties have designed soil erosion plans. About 45 percent of the State's farmers are eligible for cost-sharing funds and/or technical assistance under the Soil Program.

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## **Contract Arrangements/ Requirements**

### **Nonpoint Source Program**

After developing watershed plans, Land Conservation Committees contact those farmers who are eligible for cost-share funds. The first contact is by a mailing that describes the county water quality and the landowner's eligibility for cost-share funds. The Land Conservation Committees also send out newsletters announcing the selection of their county to participate in the Priority Source Program. The next step is to visit qualified farms to determine which BMPs are applicable to individual farms.

If the landowner agrees to implement the BMPs deemed necessary by the Land Conservation Committees, a cost-share contract is signed by both parties. The landowner must complete the project within five years and must maintain BMPs for at least 10 years thereafter. The landowner can submit a request for cost-share funds annually during the five-year implementation process, receiving reimbursement for labor and capital costs accrued over the year. Alternatively, if the BMP is installed during a single fiscal year, the landowner submits a request for full reimbursement. A landowner can either personally implement the BMP or hire a contractor.

Exhibit 27 presents an overview of Wisconsin's Nonpoint Source Program procedures.

### **Soil and Water Program**

The process of negotiating contracts and implementing BMPs under the Soil Program is quite similar to that described for the Nonpoint Source Program. Both programs are working to eliminate extensive delays between contract signing and BMP implementation by encouraging Land Conservation Committees to complete the cost-sharing agreement when the landowner is ready to implement the

BMPs. This should reduce the likelihood of forgetfulness or decreased willingness on the part of the farmer (which could be caused by volatile market conditions for farm products) to take part in the program.

An important characteristic of both of Wisconsin's cost-share programs is the mandatory acceptance by the farmer of all BMPs that Land Conservation Committees determine are necessary to control nonpoint source pollution. Thus, a landowner may not choose to install only those practices that have the highest on-site benefits.

Exhibit 28 presents an overview of Wisconsin's Soil Program procedures.

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## **Cost Sharing**

Both programs provide between 50 and 70 percent of BMP installation costs, with State funding limits only for long-term manure storage facilities (\$10,000 limit). Any cost-share agreement exceeding \$50,000 (or \$25,000 for the Soil and Water Program) in State monies must be submitted to the Department of Natural Resources or DATCP respectively, for approval.

Counties must choose a cost containment procedure based on average cost, range of costs, or bidding. For the average cost containment procedure, a county determines, based on past cost information, an average not-to-be-exceeded cost per unit of materials and labor for the installation of each type of BMP. For the range of costs containment procedure, a county establishes, based on past cost information, a cost range for the installation of each type of BMP. Eligible costs may not exceed the maximum cost of the range. For the bidding cost containment procedure, a county requires the landowner or land operator to request bids from contractors for the installation of a BMP. The landowner or land operator must accept the lowest bid.

Farmers are compensated for labor costs incurred during installation of the BMPs under the two programs at a wage rate set by Land Conservation Committees.

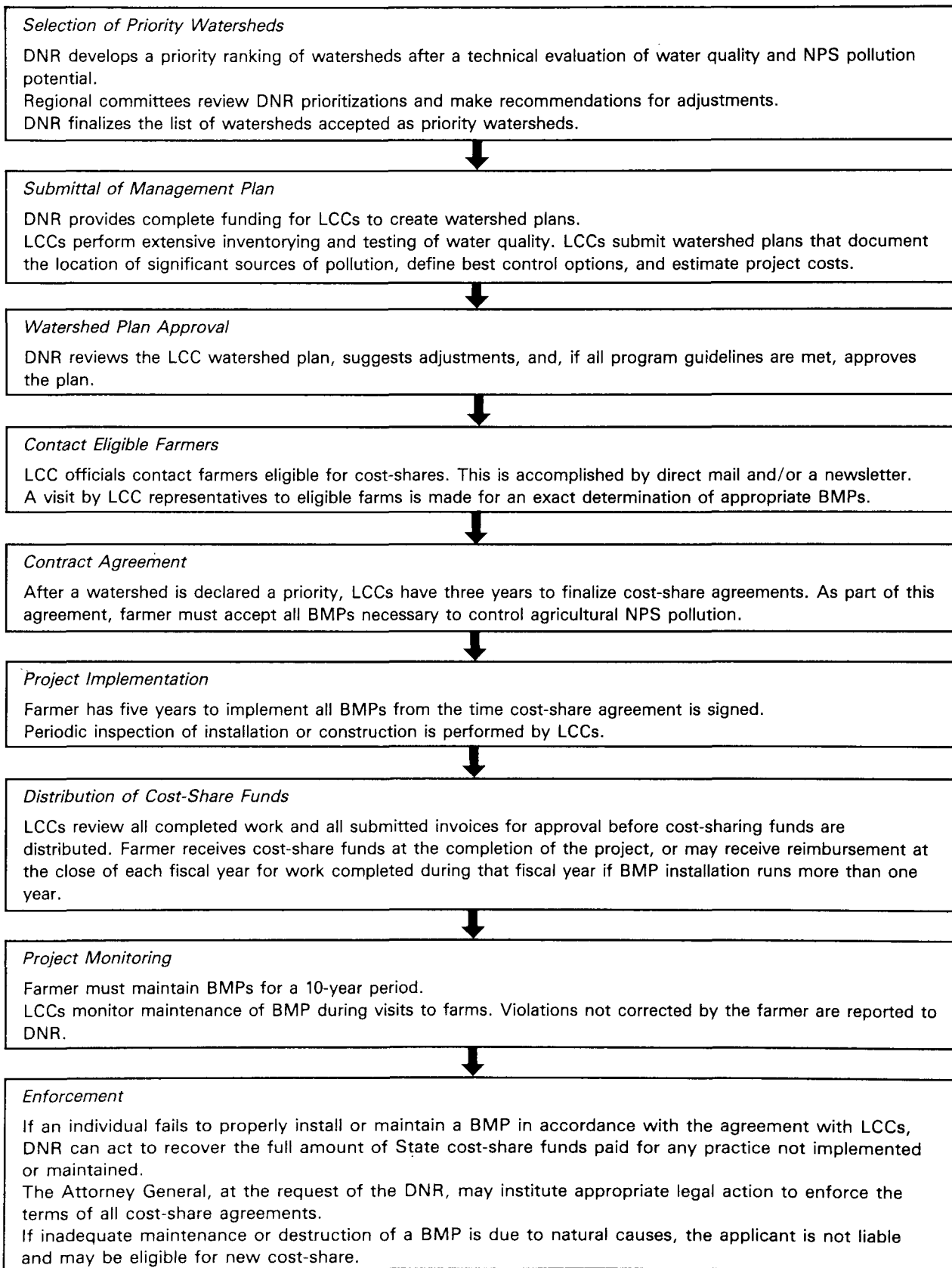
For all BMPs, maintenance costs are borne by the farmer, unless a BMP is rendered ineffective because of a natural disaster. In that case, the landowner is eligible for cost-share funds to repair the damage. The Land Conservation Committees are responsible for insuring that all expenses claimed by the landowners for reimbursement are justified and reasonable.

The cost-share rate under each program is based on the philosophy that there are private and public

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## Exhibit 27

### **Program Procedures: Wisconsin's Nonpoint Source Program**



Source: Wisconsin's Nonpoint Source Program Policy Documents.

**Program Procedures: Wisconsin's Soil Program**

*Selection of Soil Erosion Counties*

DATCP chooses counties to draw up soil erosion management plans based on the average predicted erosion rate for each county.



*Submittal of Management Plan*

DATCP provides LCCs with 50 percent of the costs incurred during preparation of soil erosion control plans and 100 percent reimbursement for administrative assistance. LCCs utilize the Universal Soil Loss Equation to create a soil erosion plan that targets certain BMPs and landowners for the soil program.



*Soil Plan Approval*

DATCP officials review the LCC Soil Plan, suggest adjustments, and, if all program guidelines are met, approve the plan.



*Contact Eligible Farmers*

LCC officials contact farmers eligible for cost-shares by direct mail and/or a newsletter. A visit by LCC representatives to eligible farms is made for an exact determination of appropriate BMPs.



*Contract Agreement*

DATCP allows LCCs significant flexibility in determining the timetable for BMP installation. LCCs are encouraged to complete the cost-sharing agreement when the landowner is ready to implement BMPs. As part of this agreement, farmers must accept all BMPs necessary to control soil erosion.



*Project Implementation*

Farmers are encouraged to install BMPs soon after the contract is signed. Periodic inspection of installation or construction is performed by LCCs.



*Distribution of Cost-Share Funds*

LCCs review all completed work and all submitted invoices for approval before cost-sharing funds are distributed. Farmer receives cost-share funds at the completion of the project, or may receive reimbursement at the close of each fiscal year for work completed during that fiscal year if BMP installation takes more than one year.



*Project Monitoring*

Farmer must maintain BMPs for a 10-year period. LCCs monitor maintenance of BMP during visits to farms. Violations not corrected by the farmer are reported to DATCP.



*Enforcement*

If an individual fails to properly install or maintain a BMP in accordance with the agreement with LCCs, DATCP can act to recover the full amount of state cost-share funds paid for any practice not implemented or maintained. The Attorney General, at the request of the DATCP, may institute appropriate legal action to enforce the terms of all cost-share agreements.

Source: Wisconsin's Soil Program Policy Documents.

benefits. For example, the construction of a manure storage facility has a high capital cost and a high expected public benefit. But a manure storage facility provides only a moderate private benefit and, thus, has the State-funded maximum cost-share rate of 70 percent.

The Land Conservation Committees have some discretion in adjusting upward the cost-share rates available to landowners using local funds, but the Department of Natural Resources and the DATCP encourage Land Conservation Committees to use standard rates to ensure equity between farms in different parts of the State.

For certain practices that have little direct benefit to the farmer, the Department of Natural Resources and the DATCP will match the Land Conservation Committee's increase of a cost-sharing rate up to 10 percent. For example, some counties could have a cost-share rate of 90 percent (up from a level of 70 percent suggested by the State) for a particular BMP, such as critical area stabilization. This is made possible by using their own funds to pay for a 10 percent increase in the cost-share rate and the State's matching funds to pay for an additional 10 percent (see Exhibit 29).

#### Exhibit 29

### Crossman Creek Little Baraboo River Priority Watershed Project Sauk County

CODE	BMP	UNIT	COST-SHARING
C1	Contour cropping	Acres	\$ 6/acre
C2	Contour strip cropping	Acres	\$12/acre
C3	Diversions	Feet	70%
C5	Waterways	Acres	70%
C8	Reduced tillage: rotated cropland	Acres	\$15/acre*
C9	Reduced tillage: continuous row crop	Acres	\$45/acre**
M1	Critical area stabilization	Acres	90%
M1	Critical pasture stabilization	Acres	50%†
M2	Grade stabilization structure	Each	90%
MF	Streambank fencing	Rods	\$16.20/rod
MR	Riprap	Feet	90%
MS	Streambank, shaping and seeding	Feet	90%
MC	Stream crossing	Each	90%
MO	Other streambank work		90%
M4	Settling basins	Number	90%
L1	Barnyard runoff management	Each	70%
L3	Livestock exclusion from woodlots	Rods	\$ 9/rod
LL	Long-term manure storage	Each	70%***
LS	Short-term manure storage	Each	70%***
LR	Roof for barnyard runoff management	Each	70%

\* One year payment for reduced tillage on cropland in a rotation.

\*\* Payments to be made over three years for reduced tillage on cropland in continuous row crop.

\*\*\* State cost-share may not exceed \$10,000 for long-term storage and \$6,000 for short-term manure storage.

† Maximum payment of \$80/acre State share of eligible costs.

All landowner work contributions are calculated at \$5.00/hour and eligible for 70% reimbursement.

All practices must be maintained for 10 years following installation of the last contracted practice.

Source: Sauk County, Wisconsin LCC.



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## Enforcement Mechanisms

A landowner who enters into a cost-share agreement with the Department of Natural Resources or the DATCP must implement the BMP in accordance with technical specifications, and maintain the BMP for a period stipulated in the agreement. The landowner may receive cost-share funds at the completion of the project, or receive partial payment for the components completed if the BMP takes more than one year to complete. The Land Conservation Committees must review all work completed and all submitted invoices for approval before cost-share funds are paid. If a farmer fails to properly install or maintain a BMP in accordance with the signed agreement, the landowner may be liable for the full amount of State funds paid.

In cases where a violation of the maintenance agreement is found, the Land Conservation Committee verbally notifies the applicant and asks the landowner to correct the situation to avoid further action. If the landowner does not try to correct the violation, a Land Conservation Committee representative will document the complaint in writing with a reminder to the landowner of the legal obligation to maintain the BMP. The next step is a letter from the Department of Natural Resources or the DATCP informing the landowner that the county district attorney will be notified of the misuse of State funds unless the violation is corrected immediately.

Violations are almost always corrected after the landowner is informed verbally of the situation by a Land Conservation Committee representative. The furthest that any enforcement action has gone to date is the documentation of the violation in writing by the Land Conservation Committee (the second step outlined).

If a change in ownership, land use, or management occurs during the cost-share agreement period, the cost-share recipient must repay funds unless one of two conditions is met: (1) assurance, in writing, by the new owner or operator that BMPs will be properly maintained, or (2) demonstration to the county that the change in land use or management will not result in the degradation of existing water quality.

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## Funding Level

Wisconsin's Nonpoint Source Program has allocated approximately \$29 million for cost-share grants and about \$5 million in local assistance in its 10-year existence (1978-88). An estimated 99.15 percent of the cost-share grants were spent for agricultural BMPs.

The DATCP allocates \$2.7 million annually to Land Conservation Committees for implementation of the Soil Program. Of this funding, \$500,000 is targeted to agricultural cost-share grants.

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## Participation

To date, 1,763 cost-share contracts have been signed under the Nonpoint Source Program and reported to the Department of Natural Resources by the Land Conservation Committees. This figure does not include contracts signed by farmers but not reported.

Through 1989, approximately 500 cost-share contracts under the Soil Program have been signed and reported to the DATCP by Land Conservation Committees. Again, others may have been signed by farmers but not yet reported.

### FOR FURTHER INFORMATION CONTACT:

#### *Soil Erosion Control Program:*

David Jelinski  
Chief, Soil and Water Resource Management  
Section  
Wisconsin Department of Agriculture, Trade, and  
Consumer Protection  
(608) 266-0157

#### *Nonpoint Source Water Pollution Abatement Program:*

Michael Llewelyn  
Chief, Nonpoint Source and Land Management  
Section  
Wisconsin Department of Natural Resources  
(608) 266-9254