*Minnesota Department of Agriculture*

# Agricultural Best Management Practices Loan Program

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## *State Revolving Fund*

## *Status Report*

***January 28, 1998***

Minnesota Department of Agriculture
90 West Plato Blvd
St. Paul, MN 55107

# EXECUTIVE SUMMARY

During the 1994 Legislative session, Governor Carlson proposed and the legislature enacted initiatives to provide funding for nonpoint source water quality problems. One portion of this initiative was the Agricultural Best Management Practices (AgBMP) Loan program, created to assist local governments in implementing agricultural components of their Local Comprehensive Water Plan. The program provides no interest loans to the local governments, which in turn provide low interest loans to farmers, agriculture supply businesses and rural landowners for the implementation of Agricultural Best Management Practices that are a priority in the area's adopted water plan.

Individual counties and Joint Power Organizations (JPOs) representing multiple counties may apply yearly for AgBMP loan funds. In their application they describe the following:

- water quality problems and causes,
- solutions to these problems,
- priorities for working toward these solutions, and
- the anticipated water quality benefits they hope to achieve.

The AgBMP program has received requests for $78 million and was appropriated and has allocated $27.1 million to 82 of the state's 87 counties. Over $15.1 million dollars have been disbursed to fund the 1,332 projects completed to date.

- 323 Agricultural Waste Management practices have been implemented throughout the state. These systems included replacement or upgrading of manure holding basins, pits or tanks; manure handling, spreading or incorporation equipment; and feedlot improvements such as clean water diversions around feedlots or berms and chutes to contain and direct contaminated runoff into the holding basins.
- 64 Structural Erosion Control practices have been funded, including projects such as sediment control basins, waterways, terraces, diversions, buffer and filter strips, shoreline and streambank rip-rapping, cattle exclusions, windbreaks and gully repair.
- 526 Conservation Tillage practices have been implemented to date, funding various types of cultivation or seeding implements that leave crop residues covering at least 30% of the ground after seeding.
- 407 existing non-conforming septic systems on farms and rural properties have been repaired or replaced through this program.
- 12 other projects, including well sealing, chemical and petroleum storage containment structures, and chemical spray equipment, have been funded through the program.

The average anticipated funding need per county is approximately $254,000 per year, requiring an annual statewide funding level of about $22 million. To capitalize local revolving loan funds at this level in 86 counties (thereby generating this amount yearly in loan repayments) a total investment of $145.5 million would be required.

Three surveys were conducted to assess the satisfaction and needs of the borrowers, the County Administrators, and the Local Lenders. Over 98% of the borrowers, 99% of county

contacts and 85% of Local Lenders responding indicated overall satisfaction with the program. These positive responses, coupled with solicited comments, serve to demonstrate the success of the program in implementing targeted practices as well as to illustrate areas that could be improved.

Based on the results of MDA's survey, the farmers participating in the AgBMP program utilizes conservation tillage practices more often than non-participating farmers. The proportion of each type of livestock operation that participates is typical of the state as a whole. The operations are typically individuals or family run farms. The typical participant is about 45 years old with a high school diploma and some additional schooling.

Given the success of the program, an Individual Sewage Treatment System (ISTS) and Well Loan Program, aimed at providing loans to private landowners for repairing septic systems, is being administered in parallel to the AgBMP Program. This program begins with the 1998 allocation, and has an initial statewide allocation of $4 million.

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# INTRODUCTION

## Purpose

The purpose of the Agricultural Best Management Practices (AgBMP) Loan program is to assist local units of government in implementing agricultural components of their Local Comprehensive Water Plan. This assistance is in the form of zero interest loans to the local government. The local government in turn provides low interest loans to farmers, agriculture supply businesses and rural landowners who implement Agricultural Best Management Practices that are priorities identified in the local water plan.

## History

### *Governor's Environment 2000 Initiative*

During the 1994 Legislative session, Governor Carlson proposed and the legislature enacted a multi-faceted initiative to implement a program taking advantage of the new environmental avenues opened by the Environmental Protection Agency (EPA) to fund nonpoint source water quality problems. This initiative coordinated the efforts of the Minnesota Department of Agriculture (MDA), Minnesota Pollution Control Agency (MPCA), Board of Water and Soil Resources (BWSR), Minnesota Housing Finance Agency (MHFA), and Department of Trade and Economic Development (DTED) to address nonpoint source pollution issues in the private arena. The initiative also amended Minnesota Statutes § 446A.07 Subd. 8(4) to allow for the use of State Revolving Fund (SRF) funds for these non-point source purposes. The SRF is administered by the Public Facilities Authority (PFA), which is administratively a part of DTED. Approximately $34 million from the EPA - SRF Capitalization Grant was approved to implement these programs through the biennium. These funds were to address non-point source pollution issues such as:

- Agricultural Waste Systems
- Structural Erosion Control Practices
- Equipment (Minimum tillage, manure handling, etc.)
- Storm Water Management
- Abandoned Well Sealing
- Contaminated Run Off
- Individual Sewage Treatment Systems
- Commercial Septic Systems
- Resort Septic Systems

## *Legislative History*

### AgBMP Loan Program

The Agricultural Best Management Practices Loan program was first authorized in 1994 with a spending limit of $20 million from the SRF. This legislation (Minn. Stat. § 17.117) defined the overall purpose and procedures of the loan program and established a subcommittee of the state's Project Coordination Team, (Minn. Stat. § 103F.761 Subd. 2(b)), to review and rank applications. An amendment to the legislation was passed in 1995 to simplify rules allowing counties to act as Local Lenders. In 1996, the spending authority for the AgBMP Loan program was increased to $40 million.

### ISTS & Well Loan Program

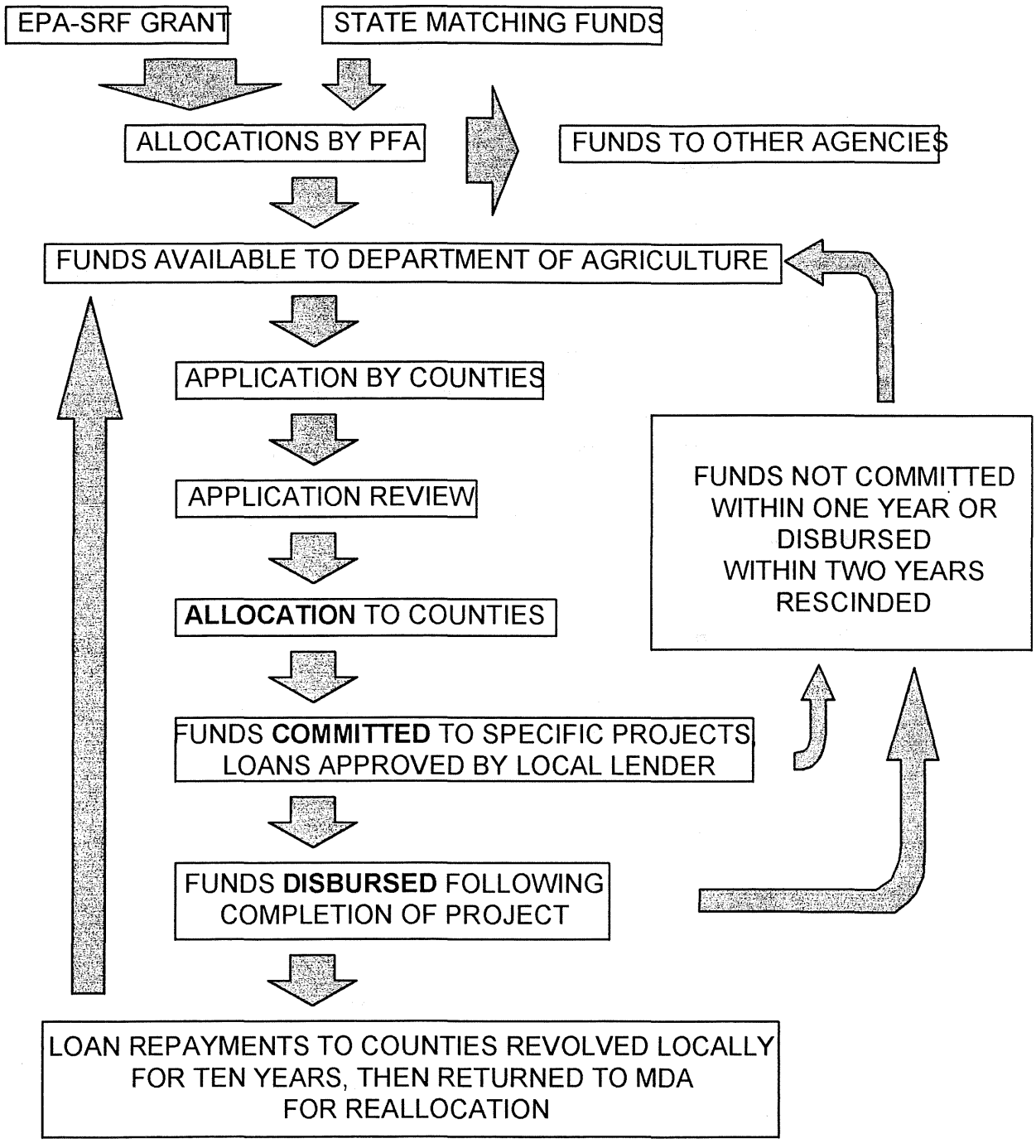
During the 1997 session, the legislature provided an additional $4 million in state funding for repairing non-conforming Individual Sewage Treatment Systems. This new funding is not part for the AgBMP Loan program, but was designed to complement the AgBMP program by expanding borrower eligibility from just agricultural or rural septic systems, as allowed under the AgBMP program, to providing loans to private landowners for repairing septic systems anywhere within the county. Under this authorization, the MDA is to distribute the additional money as loans to counties using the procedures of the AgBMP program (Minn. Stat. § 17.117) or the ISTS and Well Loan Program (Minn. Stat. § 115.57) of the MPCA.

The statute and guidelines of the AgBMP Loan Program (Minn. Stat. § 17.117) were not affected by this new legislation and remain targeted on implementing the agricultural priorities of the Local Comprehensive Water Plan.

## *Allocations to Counties*

Figure 1shows a flow chart of the process of funding, applying and disbursements of funds for the AgBMP Loan program.

Figure 1. Ag BMP Loan Program Funding Flow Chart.



## Application Process

In the fall of each year, the MDA announces the application period for the program. This is typically a two or three month opportunity for the counties to prepare and submit their application. In 1995 and again in 1997, the MDA held workshops to assist local units of government to complete the application form. The application allows the local governments to describe their local needs for funding in relation to their Local Comprehensive Water Plan, legislative criteria and the program's purpose. The primary questions asked in the application process are: What are the local water quality problems and their causes? What are the solutions? What are the county's priorities? What are the benefits? The applications require the local governments to summarize their proposed scope of work into five major categories:

1. Agricultural Waste Management: This includes projects such as manure storage basins and tanks, manure handling, loading and application equipment, and physical improvements to feedlots that prevent runoff or groundwater contamination.
2. Structural Erosion Control Practices: This includes projects such as sediment control basins, waterways, terraces, diversions, buffer and filter strips, shoreline and streambank rip-rapping, cattle exclusions, windbreaks and gully repair.
3. Conservation Tillage Equipment: This includes both cultivation and seeding equipment designed to maintain a minimum of 30% crop residue cover after seeding. Various types of chisel plows, rippers, air seeders and planting drills are typically financed.
4. ISTS: This includes repair or upgrade of existing, non-conforming septic systems on farms or rural properties.
5. Other: This includes practices such as well sealing, chemical and petroleum storage and chemical spray equipment.

After the close of the application period, each application is reviewed, evaluated, and ranked by each member of the Statutory Review Committee. The Statutory Review Committee is authorized under Minn. Stat. § 17.117 Subd. 9 and 103F.761 Subd. 2(B) to review and rank applications. This committee is composed of representatives from the Departments of Agriculture, Health and Natural Resources, the Pollution Control Agency, Board of Water and Soil Resources, the Association of Minnesota Soil and Water Conservation Districts, Association of Minnesota Counties, the US Natural Resource Conservation Service and the Farm Services Agency. Those applications that propose a program that targets local priorities and implements solutions that maximize the benefits receive the highest ranking. This evaluation is based on the nine statutory criteria and the applicant's past performance in fulfilling their previous work plans. The individual rankings of each reviewer are combined to determine the overall ranking of all applications.

The Statutory Review Committee meets to determine funding recommendations to the Commissioner of Agriculture for allocation of loans to counties. At this meeting several guidelines are established in response to the number of applications, funds available, funds requested, and overall quality of applications. These guidelines define the maximum allocation to a single county, how many counties will be funded, and the

framework for distributing funds among funded counties. These guidelines function to competitively distribute the money yet ensure the equitable treatment of each applicant.

Although this guidance changes from year to year, the guidelines established for the 1997 application period demonstrate the systematic approach to the distribution of funds. The following were the recommendations of the review committee for allocating the FY 1997 funds:

1. All applicants received at least $50,000.
2. The top 12% of the applications received $300,000 or their requested amount.
3. The next 10% of the applications received $200,000 or their requested amount.
4. The next 30% of the applications received $150,000 or their requested amount.
5. The next 25% of the applications received $100,000 or their requested amount.
6. The bottom 23% of the applications received $50,000.

The Commissioner of Agriculture reviews the allocation recommendations of the Statutory Review Committee. Although the Commissioner has the option of modifying or rejecting these recommendations, the 1997 recommendations from the Statutory Review Committee were accepted as submitted.

## Requested Funding and Proposed Scope of Work

Each year, requests from counties and Soil and Water Conservation Districts have far outpaced available funds (see Figure 2). Over the first three application periods the MDA received applications totaling over $78 million dollars. Although many eligible projects were proposed, the implementing legislation requires that the proposed projects be completed within two years after the county receives the allocation of funds. Therefore, the Department requested that the counties carefully review their subsequent applications and only request funding for priority or targeted projects that could realistically be completed within the two year time frame of the program. This has reduced the average request per county from $707,000 (from the 1995 application period) to $320,000 (from the 1997 application period), yet requests from the 1997 application period still totaled over $22 million. Figure 2 also shows the amounts requested for each of the funding categories. Most counties are submitting applications that address agricultural impacts by implementing all categories of practices, with Agricultural Waste Management usually the highest priority, followed by Conservation Tillage equipment, Septic System repair, and Structural Erosion Control practices, Figure 3.

Figure 2. Requested Funds from Counties for AgBMP Loan Program, 1995-1997.

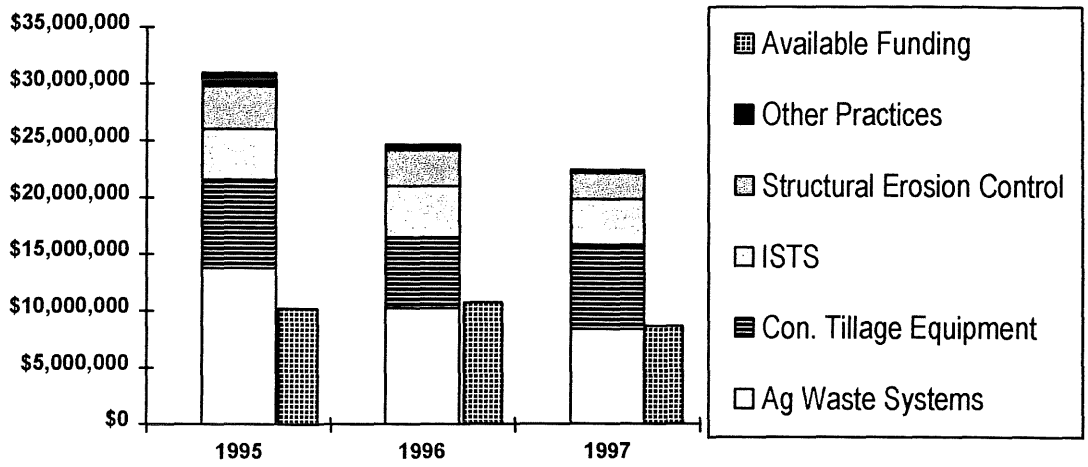
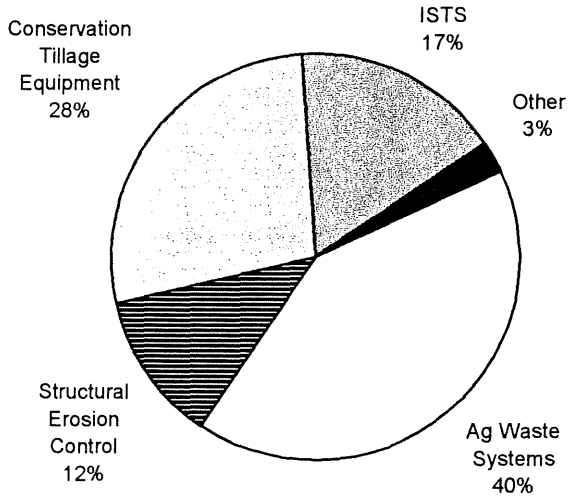


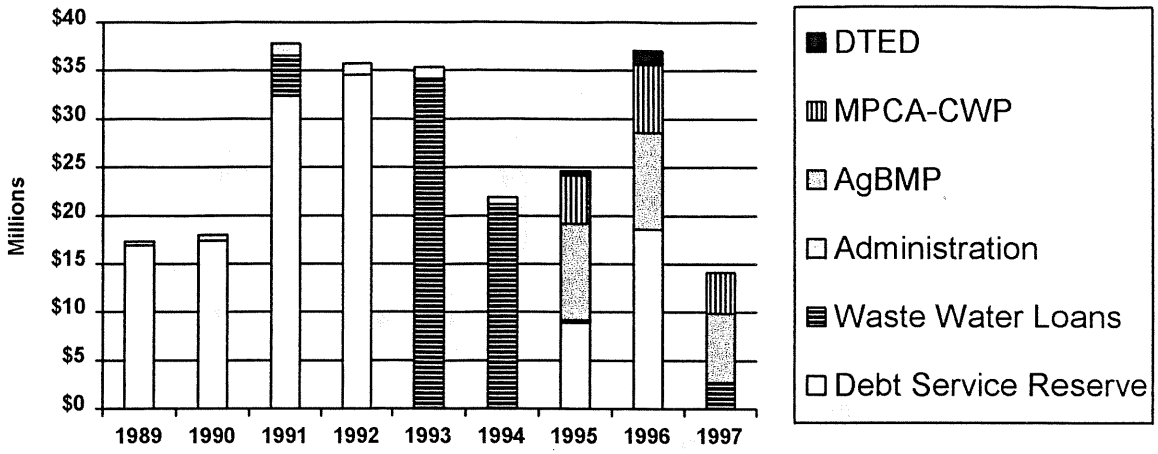

Figure 3. Percentage of funds requested for each practice category, 1995-1997




## Available Funding for Allocation to Counties

The amount of funds available for distribution to AgBMP Loan Programs is determined by the PFA, although the legislature sets the spending limits for the program. Before making its allocation to the Department, the PFA reviews the status of the EPA - SRF Capitalization Grant to the State, requests from other programs using SRF funds (including municipal waste treatment plants), interest rates, bond ratings and other factors. To date, AgBMP Loan funds have been allocated directly from the federal EPA - SRF Capitalization Grant. In addition to the AgBMP Loan program, the MPCA Clean Water Partnership, Small Cities Development Loans, and Tourism Loan Programs have also shared the EPA - SRF Capitalization Grant funds. Figure 4 shows the total amount of the Capitalization Grant and the amount allocated to each program. The AgBMP loan program received $10 million in 1995, $10 million in 1996 and $7.2 million in 1997.

Figure 4. Amount and distribution of annual EPA - SRF Capitalization Grant through Minnesota Public Facilities Authority.




For FY 1998, no EPA - SRF Capitalization Grant funds are currently available. Although approximately $24 million has been tentatively allocated to Minnesota from the EPA, the required state match of federal funds is not anticipated to be available until July 1998. It is expected that bills in the 1998 Minnesota Legislative session will include the necessary matching funds.

## Allocated Funding and Revised Scope of Work

When allocations are made by the MDA, the applicants are notified of their allocation amount. If the allocation is less than they requested, they are asked to adjust the scope of work requested in their application to match the funds allocated. Each Applicant is allowed significant latitude in revising the scope of work, and may choose to fund only the top priority categories of projects or prorate the funding based on the proportions in the original application.

Figure 5 summarizes the amount allocated by counties to each category as a percentage of the total amount available to the program. The percentage of funds assigned to each category of practices has not changed significantly since the inception of this program.

Figure 6 summarizes the number of projects proposed for the three years in each of the funding categories, based on the allocated funds. Numerically, ISTS projects are dominant because of their small cost compared to agricultural waste systems and tillage equipment. However, total allocations for ISTS projects remain only 14% of the overall program, Figure 7. Agricultural waste systems are the dominant category based on the dollars allocated, with 46% of all funds in that category.

Figure 5. Percentage of funds allocated in each category, 1995-1997.

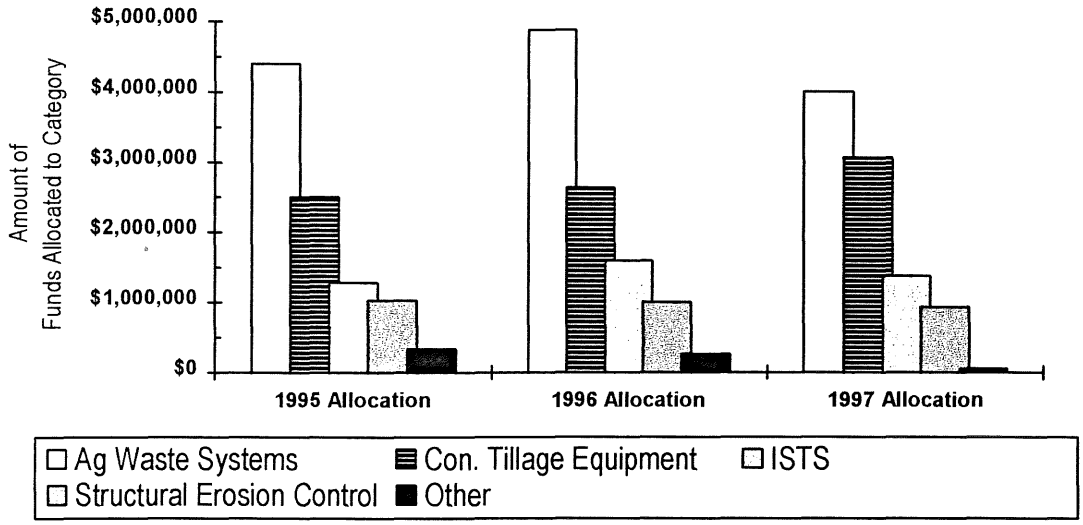



Figure 6. Number of proposed practices based on allocated funds, 1995-1997

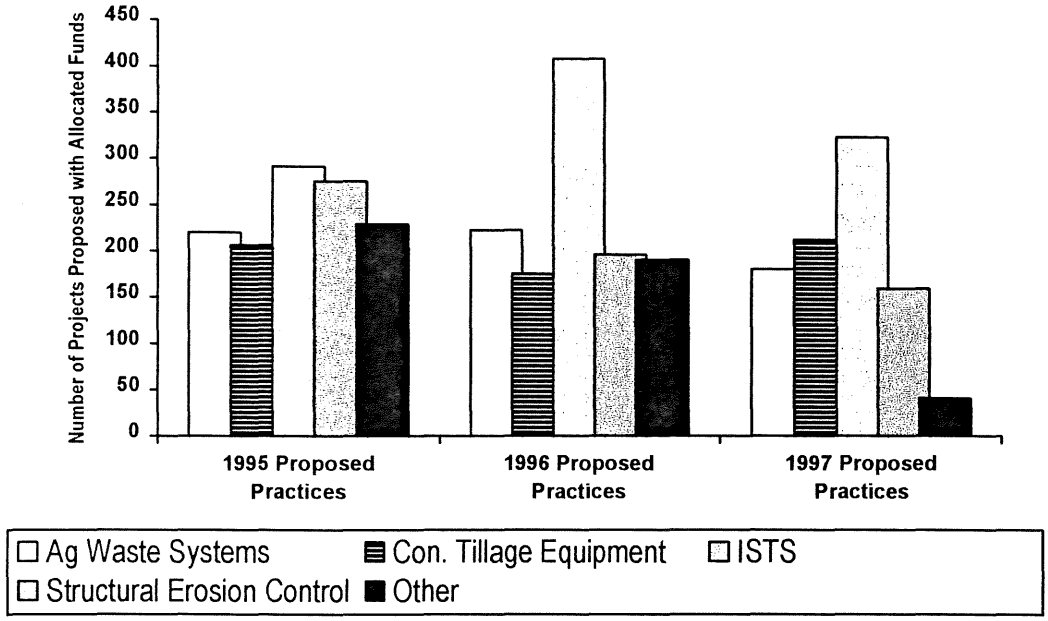
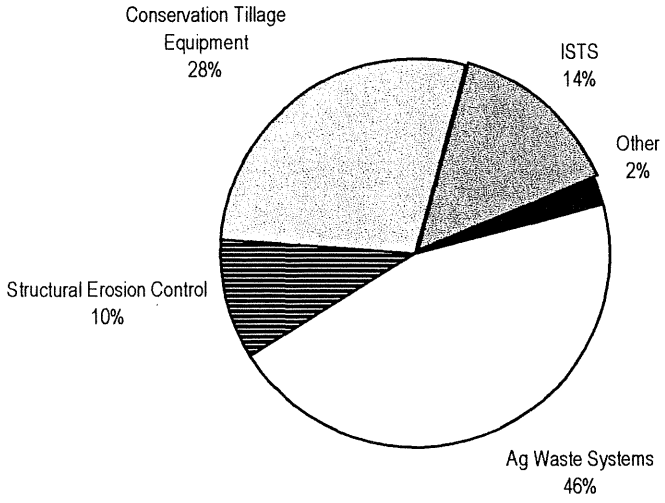


Figure 7. Percentage of funds currently allocated in each practice category, all years combined, 1995-1997.




## Time Limits and Funding Rescission

The loan program requires the recipient counties to obligate the funds allocated to them within one year and to expend the funds within two years. If funds remain uncommitted after one year or unused after two years, the allocation of these funds is rescinded by the Department and the funds are reallocated during the next application period. Of the nearly $9.5 million allocated in 1995, $2.4 million was rescinded and reallocated with the 1997 funds. Approximately $1.5 was rescinded from the 1996 allocation and will be reallocated with the 1998 funds. As the local program managers gain experience in the program and build a clientele base of waiting projects, the amount rescinded is declining. This also has the secondary benefit of forcing the applicants to propose a realistic scope of work, requiring them to evaluate the local need, public support and available staff when preparing their application. By limiting the access to the funds to a maximum of two years, the money is more equitably distributed among applicants based on their actual ability to implement the projects and disburse the funds. In this way the funds are put to use quickly toward projects that are completed on a timely schedule.

## Down Payments, Local Matching and Cost Share Funds

The loan program will finance the total amount of a project up to $50,000 and there is no requirement by the MDA for a down payment by the borrower. However, the borrower often pays a significant portion of the project through cash, trading in used equipment or qualifying for state or federal cost share programs. Table 1 shows a summary of the average contribution by the borrower for the various categories funded through the program. For Agricultural Waste Facilities, Structural Erosion Control Practices and Conservation Tillage Equipment, the borrower generally establishes significant equity at the project's outset from personal or other financial resources, ranging from 30% to as high as 58% of the project's total cost.

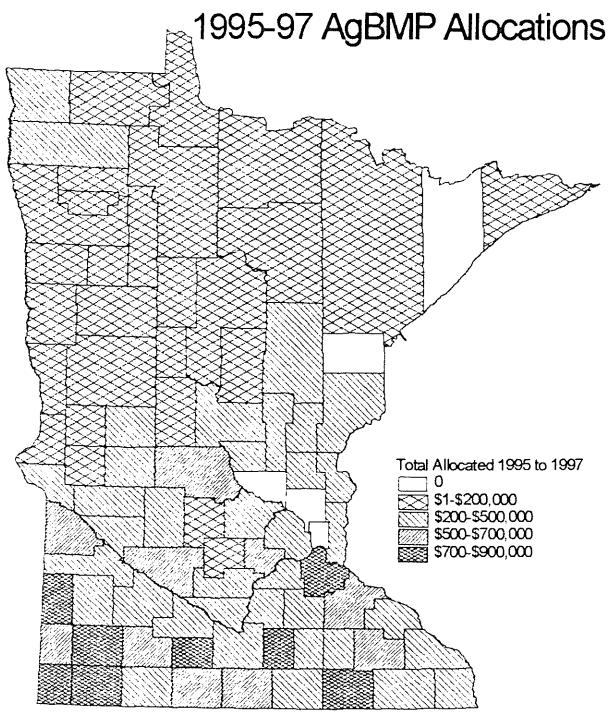
Table 1. Summary of average loan amount, total project cost and percentage of project paid from Non-AgBMP funds.

| Category | Average Loan Amount | Average Total Project Cost | % of Loans Paid by Other Sources |
|---|---|---|---|
| Agricultural Waste Management | $19,706.40 | $28,302.74 | 30% |
| Structural Erosion Control | $5,142.73 | $12,234.36 | 58% |
| Conservation Tillage Equipment | $12,443.71 | $18,157.03 | 31% |
| Septic Systems | $4,427.63 | $4,776.98 | 7% |
| Other Practices | $5,787.17 | $6,434.25 | 10% |

## CURRENT STATUS

### All Years Combined

Figure 8. Cumulative amount of AgBMP funds allocated to counties, 1995-1997.




The AgBMP Loan program has allocated $29.5 million in new and reallocated funds to 82 of the state's 87 counties to implement 3,084 projects, Figure 8. Table 2 shows the number of projects that anticipated to be implemented, based on the amount of funds allocated. Over 1,332 projects have been completed statewide, with over $15.1 million loan dollars disbursed, Table 3. Figure 9 summarizes monthly and cumulative expenses since the program began in 1995, Figure 9. As one might expect, spending for ag waste, structural erosion control and ISTS practices are strongest during the summer months, while the purchase of conservation tillage equipment is constant throughout the year. The program currently disburses over $600,000 monthly, demonstrating the effectiveness of the counties in implementing the practices on a timely schedule.

Table 2. Summary of allocations to counties by category, 1995-1997.

| Category | Number of Loans | Amount of Loans | % of Loans |
|---|---|---|---|
| Ag Waste Management | 622 | $13,268,234 | 45.0% |
| Structural Erosion Control | 601 | $2,831,515 | 9.6% |
| Conservation Tillage Equipment | 613 | $8,441,271 | 28.6% |
| Septic Systems | 812 | $4,279,742 | 14.5% |
| Other Practices | 436 | $646,235 | 2.2% |
| **Total** | 3,084 | $29,466,997[1] | |

[1] This includes $27.1 million in new EPA-SRF funds and $2.4 million in reallocated funds.

Figure 9. Cumulative amount of AgBMP funds disbursed by month, 1995-1997.

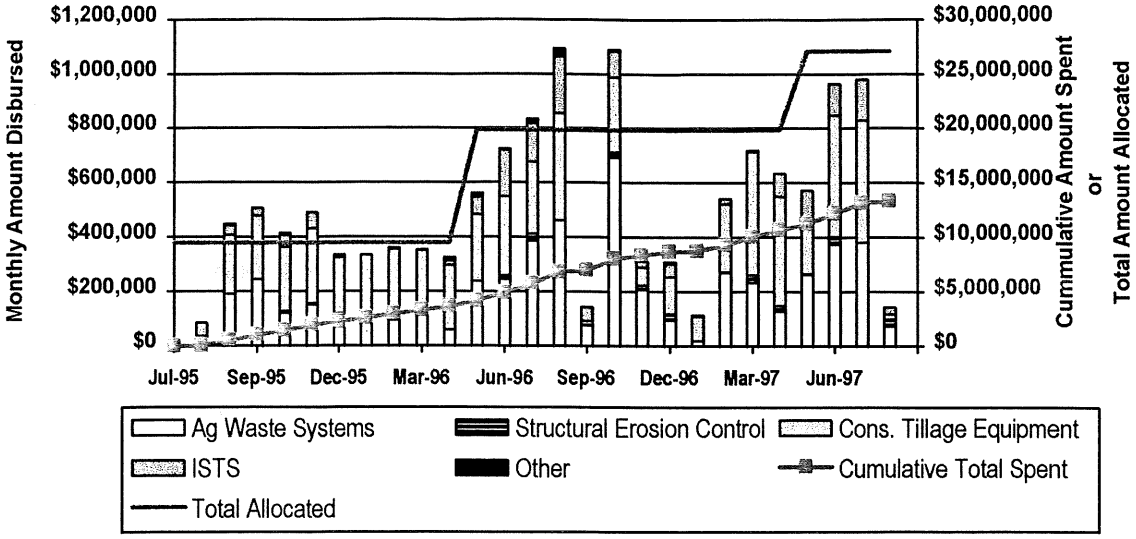


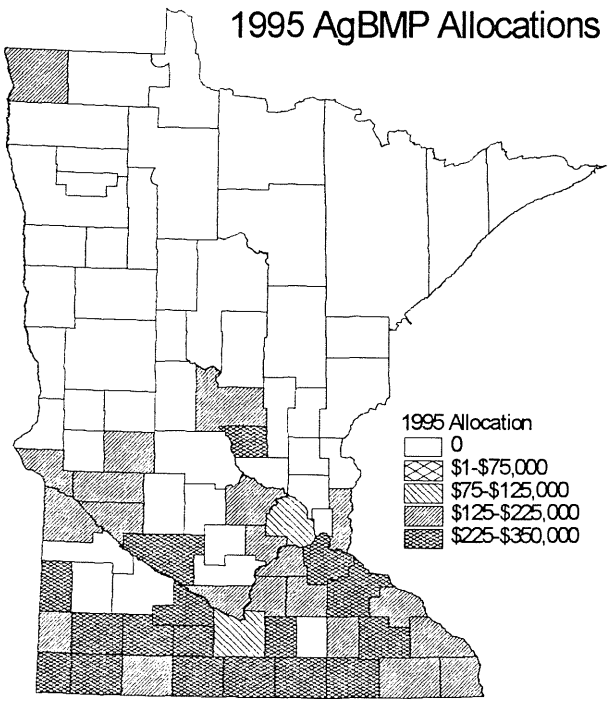

Table 3. Summary of number and costs of implemented projects by category, 1995-1997.

| Category | Number of Loans | Amount of Loans | % of Loans |
|---|---|---|---|
| Ag Waste Management | 323 | $6,365,167 | **42%** |
| Structural Erosion Control | 64 | $329,135 | **2%** |
| Conservation Tillage Equipment | 526 | $6,545,392 | **43%** |
| Septic Systems | 407 | $1,802,044 | **12%** |
| Other Practices | 12 | $69,446 | **0.5%** |
| **Total** | **1,332** | **15,111,184** | |

## Results of the 1995 Allocation

### *Proposed Number and Cost of Practices - 1995*

Figure 10. Amount and location of counties receiving 1995 AgBMP funds




In 1995, 49 applications were received from 48 counties and one joint powers organization, ultimately resulting in 43 loan agreements covering 43 counties, primarily in southern Minnesota, Figure 10. Of the original applications, five counties did not receive funding and the joint powers board was unable to find a local lender willing to participate in the program. Twenty-six of the loan agreements are administered by local Soil and Water Conservation Districts, while the county government, usually the Environmental Health or Zoning and Planing Offices, administers 17 of the agreements. Approximately $9.5 million was originally allocated. This included proposals to implement 1,170 projects. After one year, 703 of these proposed projects had firm commitments from borrowers. At that time, the uncommitted $2.4 million was rescinded and redistributed under the 1997 allocation. An additional $0.4 million will be rescinded and will redistributed with the 1998 allocation.

### *Actual Number and Cost of Practices Implemented - 1995*

As of January 1, 1998, 573 projects have been completed, at a total cost of $6.6 million. Some counties have as late as March 1998 to complete their initial two year disbursement period.

Figure 11 shows a summary of the monthly expenditures in each category of projects for the 1995 allocation period. Once loan agreements were signed, the program was immediately implemented by the local governments, developing projects expending about $400,000 monthly. The demand remained strong until the funds became nearly exhausted and the second round of funding become available. Figure 11 also shows the cumulative amount spent and the total amount allocated to the counties from the 1995 allocation. The total amount allocated was reduced with the rescission of approximately $2.4 million from counties that failed to commit their funds to projects within the twelve months commitment period, with an additional $0.4 million returned from projects under budget or not implemented within two years. Together, Agricultural

Waste Management and Conservation Tillage Equipment projects used 88% of all available funds, Table 4.

The spring flooding during 1997 delayed construction of several projects. Therefore, the Department, within its legislative authority, has allowed counties to request an additional one year extension to complete those projects that have begun. Approximately 10 counties have requested and received an extension of the two year deadline for 1995 funds.

Figure 11. Monthly and cumulative amount disbursed by AgBMP Loan Program, 1995.

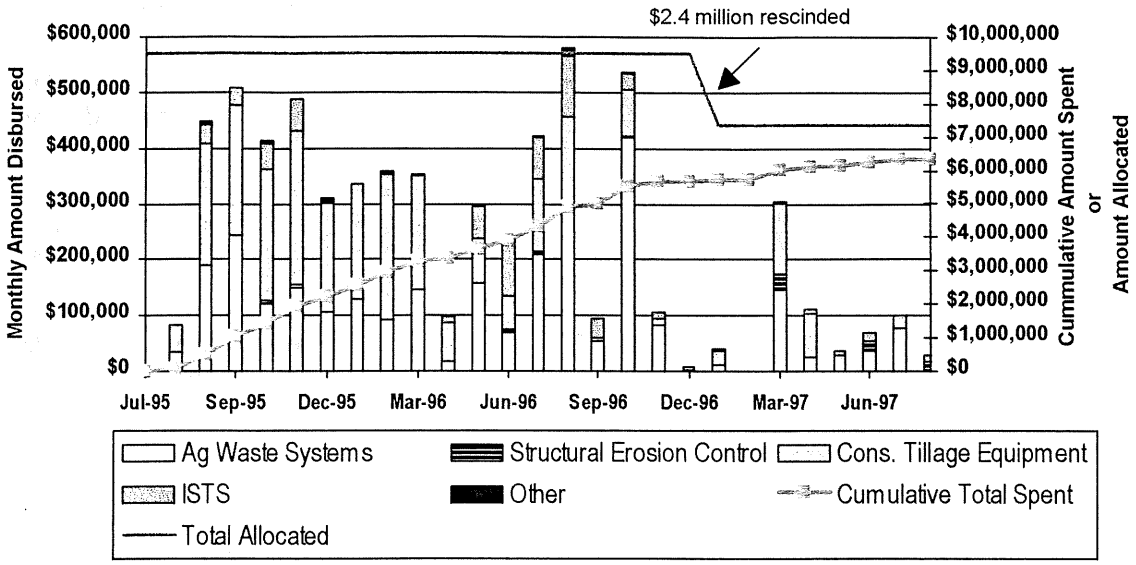


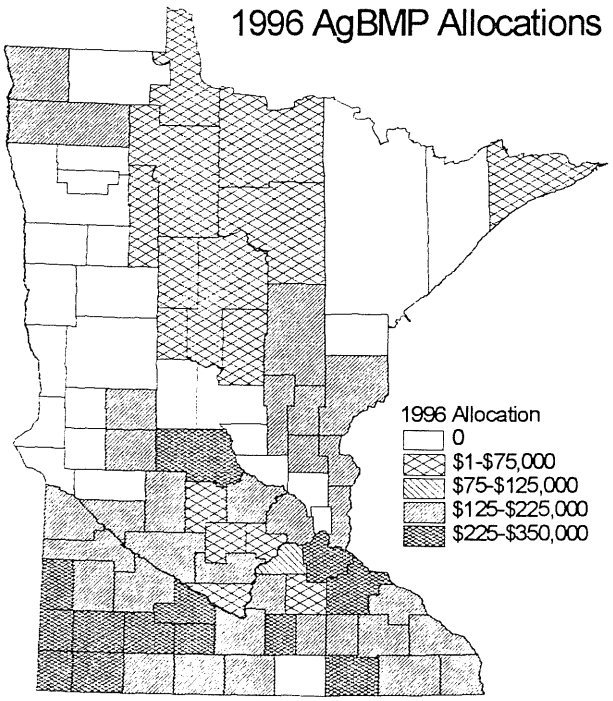

Table 4. Summary of number and costs of implemented projects by category, 1995.

| Category | Number of Loans | Amount of Loans | % of Loans |
|---|---|---|---|
| Ag Waste Management | 157 | $3,100,094 | 47.3% |
| Structural Erosion Control | 32 | $120,324 | 1.8% |
| Conservation Tillage Equipment | 216 | $2,659,369 | 40.6% |
| Septic Systems | 163 | $669,606 | 10.2% |
| Other Practices | 5 | $7,570 | 0.1% |
| **Total** | 573 | $6,556,963 | |

## Results of the 1996 Allocation

### *Proposed Number and Cost of Practices - 1996*

Figure 12. Amount and location of counties receiving 1996 AgBMP funds




In 1996, 54 applications were received from 52 counties and two joint powers organizations. Fifty-two loan agreements were negotiated, providing funds to 65 counties, Figure 12. Of the original applications, one joint powers board was unable to provide adequate security to guarantee repayment of the loan and one county withdrew its application. Approximately $10.4 million was allocated, which included proposals to implement 1,119 projects. Soil and Water Conservation Districts administer 33 of the loan agreements while county government administers 19 agreements.

The Department extended the deadline to commit the funds for all 1996 allocations by four months due to the spring 1997 flooding, providing the counties time to address the immediate flood related issues while still having time to solicit potential projects later in the year. Approximately $1.1 million was rescinded from programs that failed to enter into binding commitments within 12 months following the allocation of funds.

### *Actual Number and Cost of Practices Implemented - 1996*

To date, halfway into the two year period to disburse funds, more than half of the funds available from the 1996 allocations have been disbursed, implementing 559 projects and providing $6.3 million dollars in loans, Table 5. Conservation Tillage Equipment and Agricultural Waste Management projects have received about the same amount of funding to date. Since Agricultural Waste Management projects typically take in excess of one year to complete from design and permitting to construction, the second year of the cycle should see an increase in projects completed.

Figure 13. Monthly and cumulative amount disbursed by AgBMP Loan Program, 1996

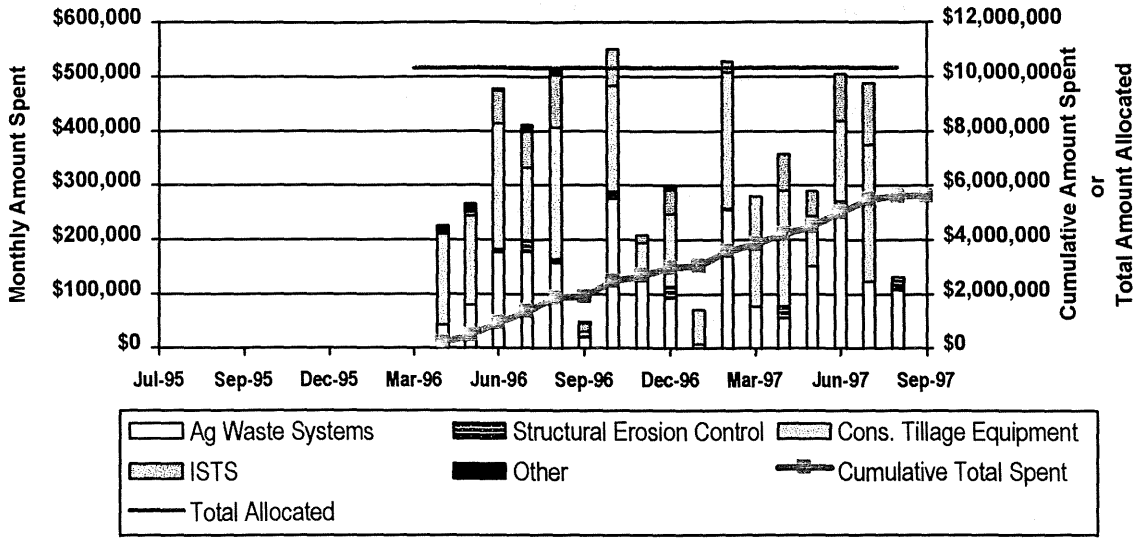


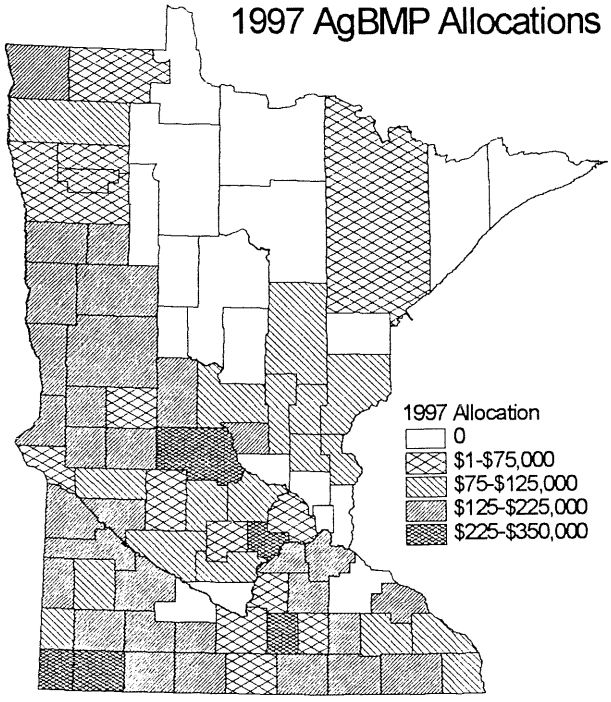

Table 5. Summary of number and costs of implemented projects by category, 1996.

| Category | Number of Loans | Amount of Loans | % of Loans |
|---|---|---|---|
| Ag Waste Management | 124 | $2,479,177 | 39.3% |
| Structural Erosion Control | 28 | $183,568 | 2.9% |
| Conservation Tillage Equipment | 211 | $2,705,389 | 42.9% |
| Septic Systems | 189 | $872,679 | 13.3% |
| Other Practices | 7 | $61,876 | 1.0% |
| **Total** | 559 | $6,302,689 | |

## Results of the 1997 Allocation

### *Proposed Number and Cost of Practices - 1997*

Figure 14. Amount and location of counties receiving 1997 AgBMP funds.




In 1997, 55 applications were received from 52 counties and three joint powers organizations. Fifty-three loan agreements were have been finalized, with two more pending, providing funds to 70 counties, Figure 14. Approximately $9.6 million ($7.2 million new funds from the EPA and $2.4 from rescinded 1995 funds) has been allocated toward the implementation of 914 projects. Soil and Water Conservation Districts will administer 37 loan agreements and the county government will administer 18 loan agreements.

### *Actual Number and Cost of Practices Implemented - 1997*

Most counties have been working to disburse the balance of the 1995 funds and commit the 1996 funds. Therefore, the drawdown of the 1997 funds has been somewhat slow, except for a few individual counties that have developed a strong program and have already established waiting lists for funds. To date, about a quarter of the way through the two year disbursement period, $2.3 million has been disbursed, with Conservation Tillage dominating these initial expenses, Table 6.

Figure 15. Monthly and cumulative amount disbursed by AgBMP Loan Program, 1997.

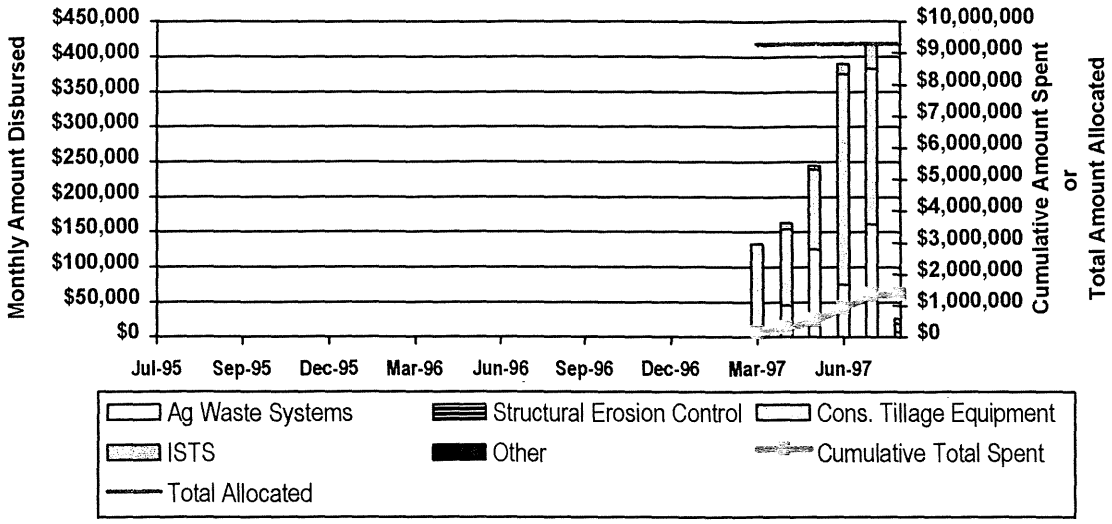



Table 6. Summary of number and costs of implemented projects by category, 1997.

| Category | Number of Loans | Amount of Loans | % of Loans |
|---|---|---|---|
| Ag Waste Management | 42 | $785,895 | 34.9% |
| Structural Erosion Control | 4 | $25,242 | 1.1% |
| Conservation Tillage Equipment | 99 | $1,180,633 | 52.4% |
| Septic Systems | 55 | $259,758 | 11.5% |
| Other Practices | 0 | $0 | 0.0% |
| **Total** | 200 | $2,251,528 | |

## Results of the 1998 Allocation

### *Request for Proposals for 1998 Allocations*

The application period for 1998 funds was open from 10/2/97 to 12/5/97. The applications were reviewed in December with the initial allocations to be announced by late January. Loan agreements should be signed and the funds available to the counties by March 1998.

### *Amount of Funds Available in 1998*

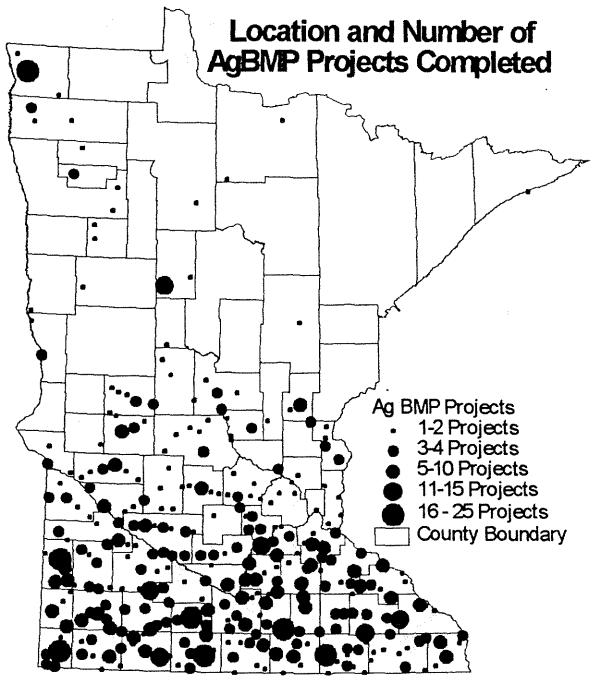
The PFA has not determined the amount of new funds available for the program from the FY 1998 federal budget, if any. Approximately $1.5 million rescinded from the 1995 and 1996 allocations will be reallocated during this application period. The amount from the FY-1998 EPA-SRF Capitalization Grant has not been determined.

Although not AgBMP funds, an additional $4 million for a Countywide ISTS and Well Loan Program was added to the responsibilities of the AgBMP Loan Program. These funds will be allocated during this application period using the same application and procedures as the AgBMP Loan program.

## Project and Their Locations

Over 1,332 projects have been completed, with projects in nearly all counties having funds available to them, Figure 16. The southern counties have implemented the majority of projects, mainly because of the 1995 allocation when mainly southern counties applied. As work proposed in the 1996 and 1997 allocations is completed, the distribution of projects will become more uniform throughout the state.

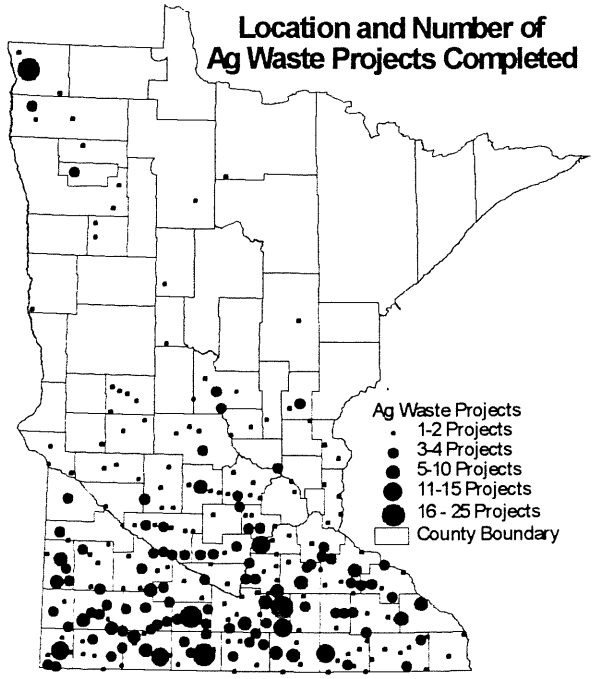
Figure 16. Location of AgBMP projects.




Location shows mailing address of loan recipient.
Actual project location may differ.

## *Agricultural Waste Management Systems*

Figure 17. Location of Agricultural Waste Projects, 1995-97.




Location shows mailing address of loan recipient.
Actual project location may differ.

Agricultural Waste Management Systems were implemented throughout the state where funds were available, Figure 17. Because most of the 1995 funds were allocated to southern counties, most of the agricultural waste projects are located in the southern half of the state. These systems included replacement or upgrading of manure holding basins, pits or tanks; manure handling, spreading or incorporation equipment; and feedlot improvements such as clean water diversions around feedlots or berms and chutes to contain and direct contaminated runoff into the holding basins. A total of 323 Ag Waste projects have been funded to date, providing proper storage and use of manure from 166,991 animal units.

Basins and other engineered practices are typically designed by the BWSR Joint Powers Board Engineers or Natural Resource Conservation Service (NRCS) staff engineers. Some counties contract with private engineers to provide these services when demand exceeds the government sponsored engineers. In these cases, the farmer often includes the cost of engineering into the total loan package.

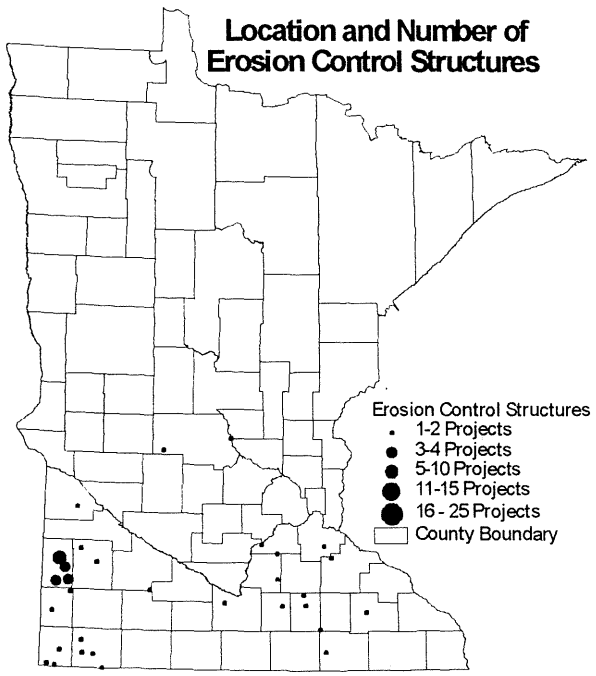
Manure handling and spreading equipment is often funded under this program. However, several counties require the new equipment to have a system to immediately incorporate the manure into the soil. Through the program counties have also funded three custom manure applicators that contract with multiple farmers for application and incorporation of manure.

We have observed that many farmers that have installed a storage basin will often reapply in subsequent years, requesting funds for equipment to handle the manure being stored in the new structure.

## *Structural Erosion Control Practices*

The number of Structural Erosion Control practices that have been funded is small, only 64. The actual demand appears to be less than originally requested in the applications due to the limited availability of state and federal cost share dollars. These cost sharing programs typically providing up to 75% of the proposed project's total cost. Without cost share dollars to absorb much of the cost of these practices, farmers have been reluctant to implement them. These practices provide little financial return to the farmer and sometimes takes land out of production. For example, making a 32 foot wide grassed waterway, has direct costs for construction and takes that land out of production. In addition these structures often require periodic maintenance. Despite these problems, some counties, most notably Lincoln County, have implemented several practices.

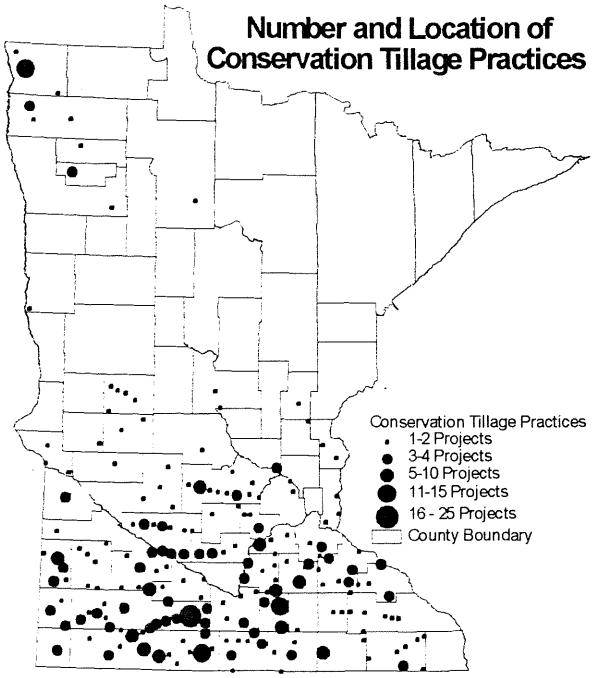
Figure 18. Location and Number of Structural Erosion Control Projects, 1995-1997.




Location shows mailing address of loan recipient.
Actual project location may differ.

## *Conservation Tillage Practices*

Figure 19. Location and number of Conservation Tillage Equipment practices.




Location shows mailing address of loan recipient.
Actual project location may differ.

The category of conservation tillage practices has been one of the program's most effective with 526 practices implemented. Farmers are provided a low interest loan as an incentive to initiate or improve their current tillage practices. The equipment funded is generally a specialized cultivation or seeding implement that leaves crop residues covering at least 30% of the ground after seeding. However, some counties fund only equipment that they consider to be an improvement over the farmer's current operations. For example, a farmer that is converting from a moldboard plow system would be eligible to purchase a chisel plow, while a farmer with a chisel plow may only purchase implements that achieve greater ground cover than the current practice. This equipment is promoting minimum tillage practices on approximately 372,408 acres.

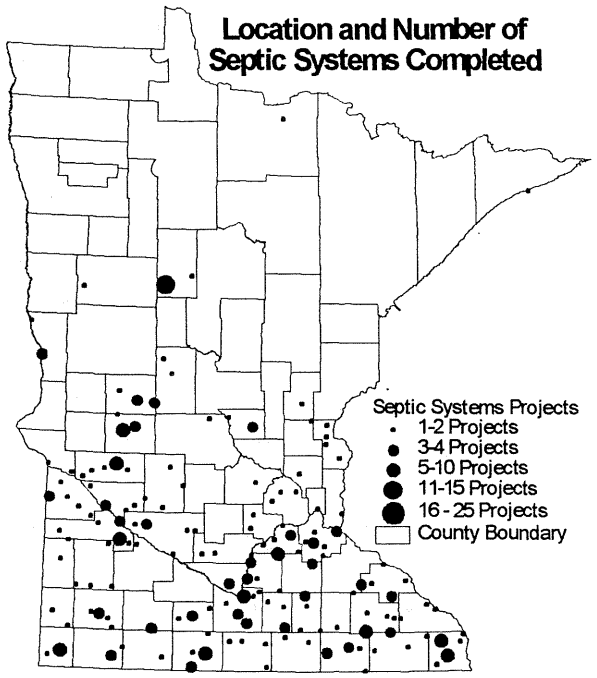
In many areas of the state, sedimentation to rivers and lakes is a primary, high priority water quality problem. In these areas, counties report that conservation tillage is the most cost efficient means of reducing sediment, as well as nutrient loading, to surface waters. Implementing conservation tillage practices on a single farm can effectively reduce runoff, erosion and nutrient loss from hundreds of acres. The counties have also reported that this low interest loan program has been the incentive that has encouraged many farmers to implement these practices.

## *Individual Sewage Treatment Systems*

The AgBMP program encourages the use of these funds to implement practices that are directly related to agricultural impacts on water quality. Local governments have emphasized agricultural waste management systems and erosion control methods. However, repairing failing farm and rural septic systems is eligible because failing systems do impact water quality.

To address the diversity of local problems, most counties have set aside about 10% of their total budget to address this issue. To date over 407 projects have been funded throughout the state, (Figure 20). The average cost of these projects has been $4,777, with a range from $379 to $19,315.

Figure 20. Location of repaired ISTS systems financed with AgBMP funds.




This area of funding has had some problems. Since the AgBMP loan program was originally established to primarily address agricultural nonpoint source pollution, farm and agriculturally related septic systems have been given greater priority than non-farm, rural residential septic systems such as lakeshore septic systems. Counties will typically divide the limited ISTS dollars between farm and non-farm septics, with farm septics receiving 60-70% of the available ISTS funds. This has resulted in turning down requests from some eligible individuals.

# SATISFACTION SURVEY

## Survey of Program Users

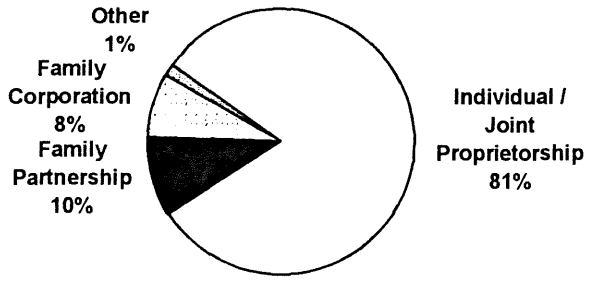
Three surveys were conducted to assess the satisfaction and needs of the borrowers, the administrators from the County, and the Local Lender.

On August 24, 1997, surveys were sent to 768 households that had received low interest loans through the Agricultural Best Management Practices Loan Program over the past three years. Those not yet responding were sent a second copy of the survey on October 23, 1997. Of these, 412 (54%) have been completed and returned to date..

The individuals designated as the County and Local Lender Contacts were also surveyed by mail using questionnaires that addressed their perspective of the program. The AgBMP program works with 66 County and Local Lender Contacts, who manage the programs for 82 counties and 35 lending institutions. MDA has received responses from 52 county contacts (79%) representing 73 counties and 34 Local Lender Contacts (51%) representing 24 of the lending institutions.

## *Description of AgBMP Borrower Clientele*

Figure 21. Legal Form of Farming Business.




Fully 80% of the farming participants operated either individual or joint husband-wife proprietorships, with the remaining 20% being fairly evenly divided between family corporations and family partnerships, Figure 21. Non-family businesses were virtually unrepresented. Though the average respondent manages more acreage and more livestock than the average farmer, the program still serves, almost exclusively, the family farm.

Respondents range in age from their early twenties to over sixty, with a mean age of 45, slightly below the statewide average farmer age of 52 (1992 census). Their education level ranges from lacking a high school diploma to having a post graduate degree, with approximately two-thirds having some post-high school education and fully one-third having a least a two year associate degree, Figure 23. Twenty percent have at least a four year college degree.

Figure 22. Age of Respondents.

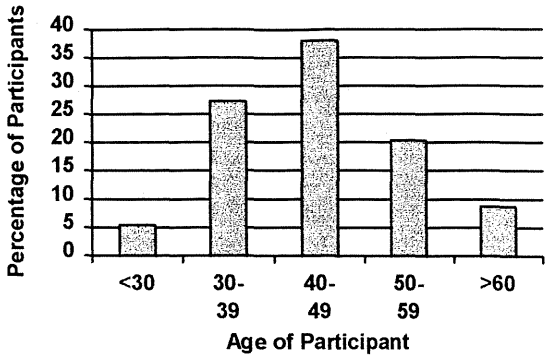
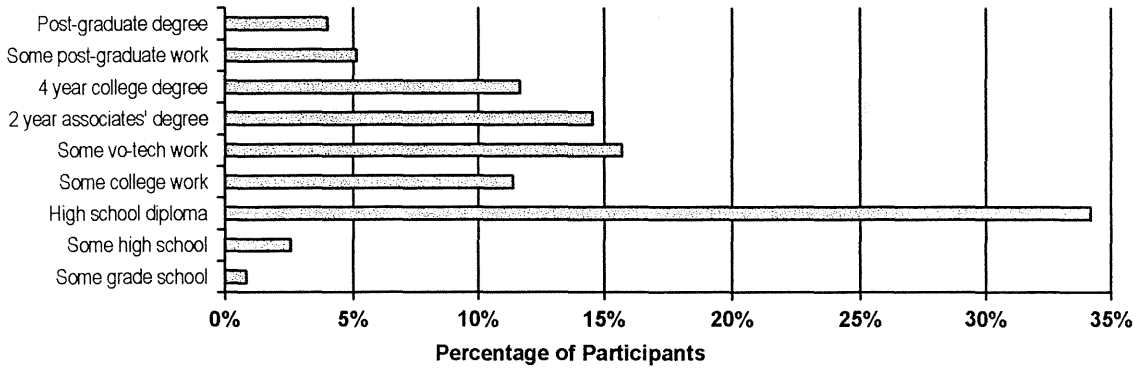



Figure 23. Education Level of Participants.




Approximately three-fourths of the participants are full-time farmers, with part-time farmers, retired farmers, and non-farmers also represented, Figure 24. Nearly all participants live in the country, Figure 25.

Figure 24. Occupation of Participants.

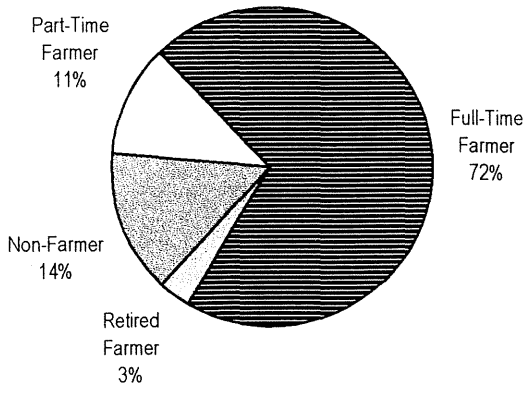
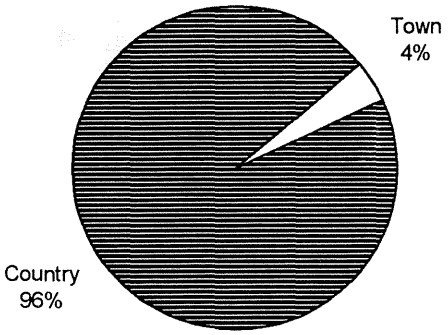



Figure 25. Residence of Participants.



Farm size ranges from a few acres to more than 2000 acres, Figure 26. The average participating farmer operates roughly 700 acres, double the statewide average farm size of 343 acres. Approximately half of this land is rented and over 90% is cropland. Of this land, approximately two-thirds is operated using conservation tillage, a practice funded through this program. This contrasts favorably with a statewide conservation tillage frequency of 26%, showing that the program is clearly accomplishing its goal of promoting conservation tillage as an erosion control measure.

Figure 26. Acreage Managed by Participants.

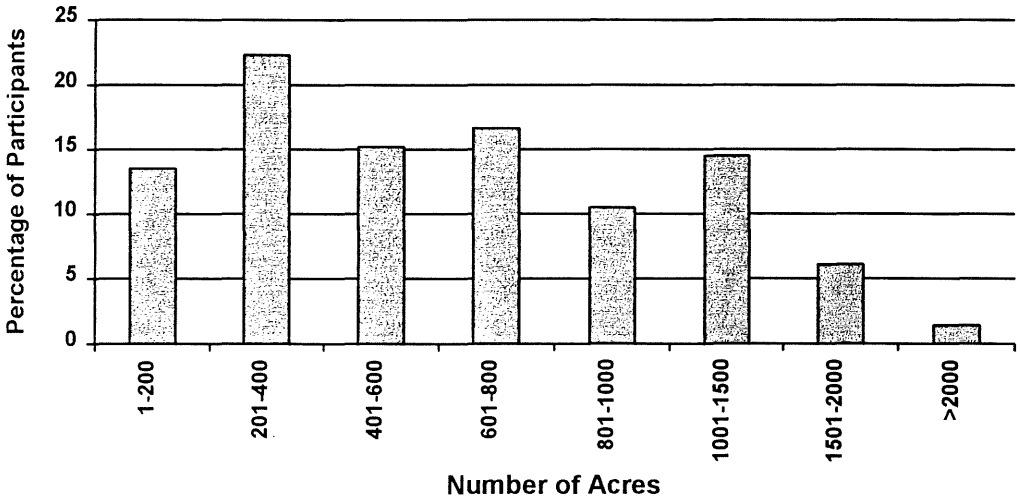
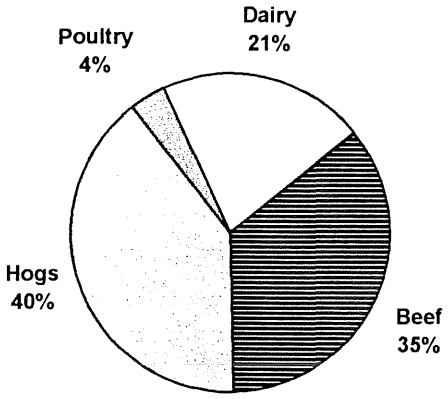



Figure 27. Percentage of livestock operations for each type of livestock.



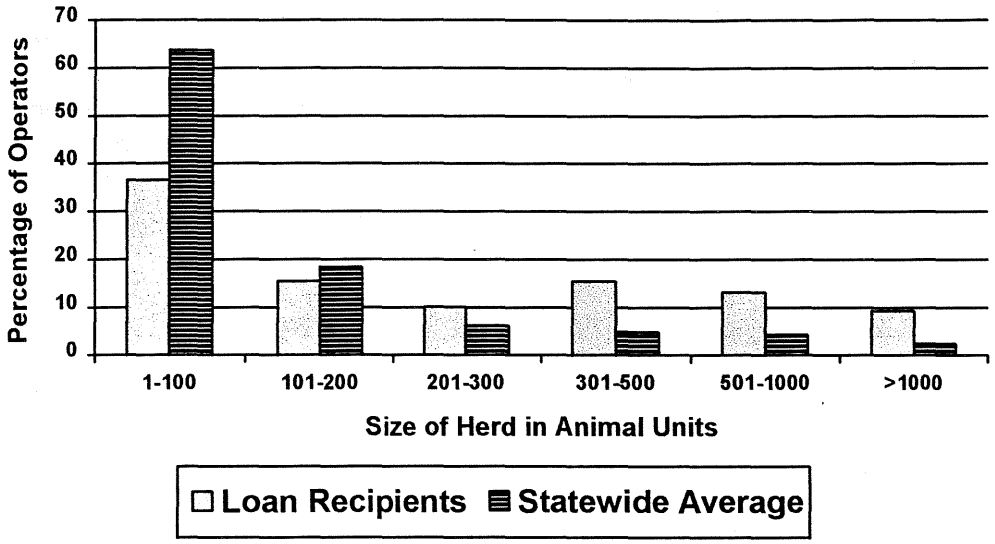

About 54% (221) of the responding participants managed livestock operations. Figure 27 shows the percentage of operations by animal type. Statewide, 44% of all farmers manage livestock (1992 census). Since one of the targets of the program is to resolve agricultural waste problems, it is not surprising that livestock operators participate strongly in this program.

By extrapolating the survey-reported herd sizes with typical animal unit equivalencies used by the MPCA, various types and sizes of farms can be compared, Figure 28. This shows that the AgBMP Loan Program serves a wide range of farm sizes, regardless of species raised, though the frequency

in farms greater than 200 animal units is more common than their actual proportion in the state, suggesting that smaller farms are not taking advantage of the program. County contacts have reported that many smaller farms do not have adequate cash flow capacity to implement these types of projects. Rather, farms typically must have a larger than average size to justify the need and support these major financial investments into their business.

Agricultural waste management projects for facilities permitted by the County or MPCA for more than 1,000 animal units are ineligible for AgBMP loans, however all farms, regardless of size are eligible for all other categories, including conservation tillage equipment, septic system repair and erosion control projects.

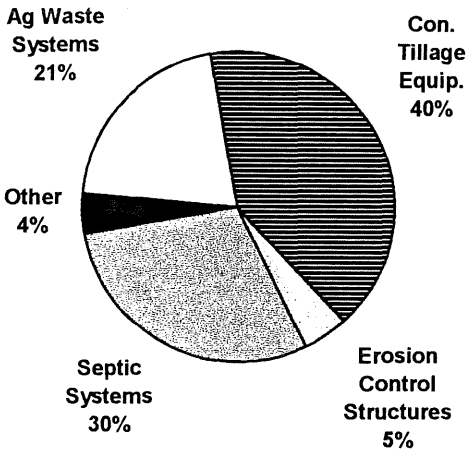
Figure 28. Size of Livestock Operation.




Based on the results of MDA's survey, the farmers participating in the AgBMP program utilizes conservation tillage practices more often than non-participating farmers. The proportion of each type of livestock operation that participates is typical of the state as a whole. The operations are typically individuals or family run farms. The typical participant is about 45 years old with a high school diploma and some additional schooling.

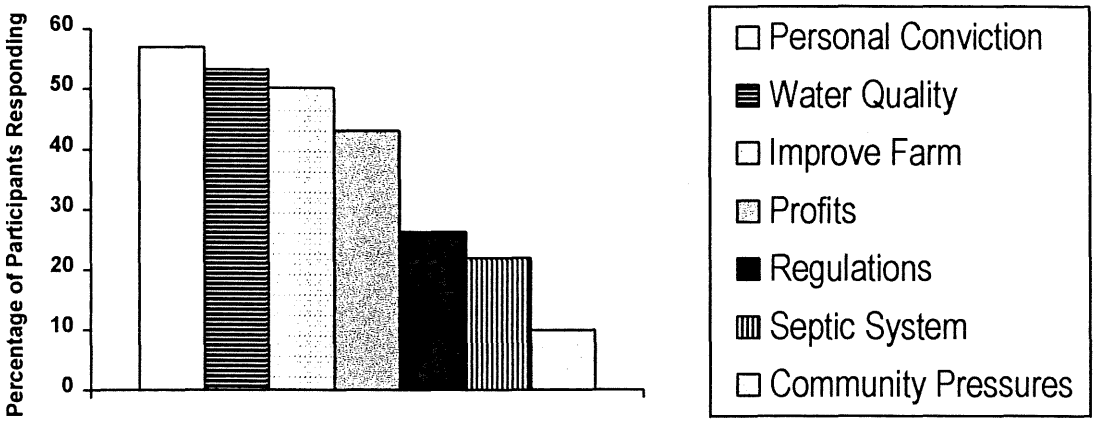
## *Purposes of Loans -- Borrowers*

Figure 29. Categories of practices implemented by respondents.




Those borrowers responding had used loan funds for the entire range of allowable practices, Figure 29. They also had a wide variety and often multiple reasons why they undertook a project, Figure 30, with personal convictions for protecting the environment and water quality being the most common. Though the majority of the practices will keep the participants in compliance with applicable regulations, only one fourth of the projects were done in response to permit or other regulatory pressures, Figure 30. Fully half or more of the participants cited improving water quality, improving the farm for future generations, and a personal conviction to protect the environment as primary reasons for implementing the projects funded by the loans.

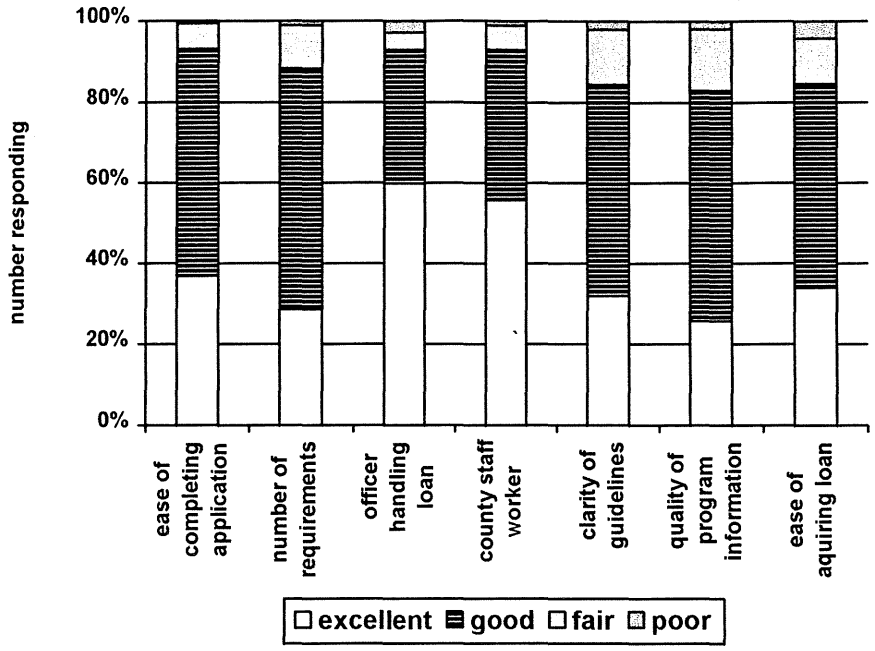
Figure 30. Reasons given by participants for using loan program.



## *Satisfaction of Borrower, County and Local Lender Contacts*

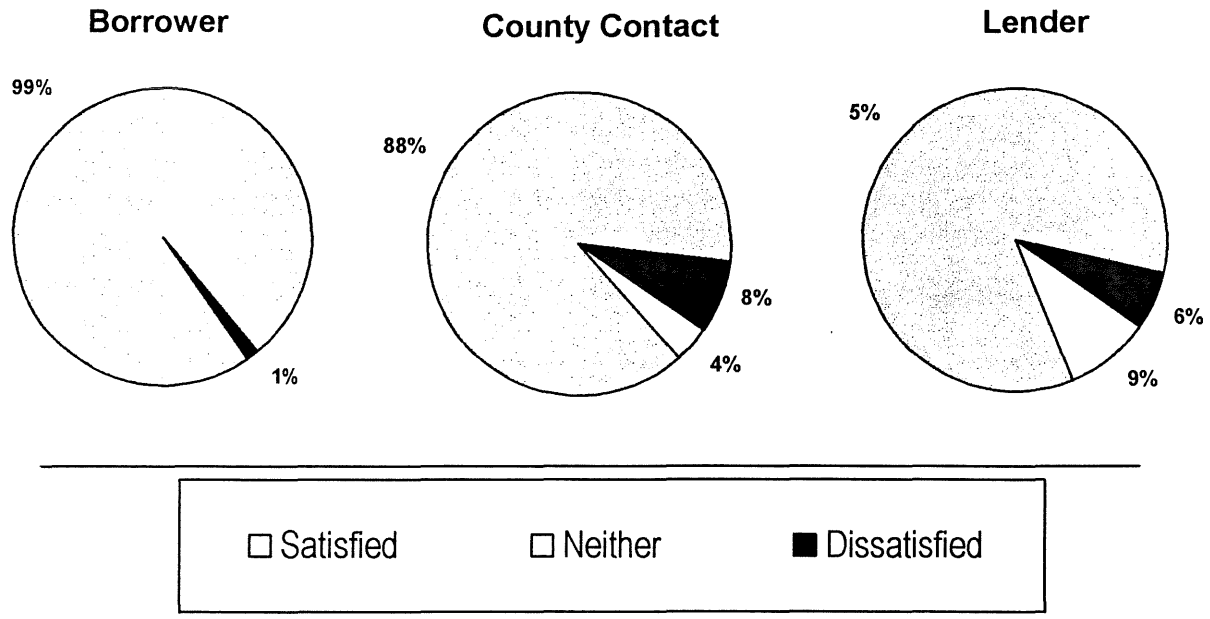
When asked to rate specific aspects of the process, Figure 31, the responses averaged in the range of good to excellent. The clients of the program highly rated all aspects of the program. Though all very positive, these ratings have illustrated specific aspects of the program that could be improved upon including clarifying the program guidelines and eligibility and providing better program information.

Figure 31. Borrower satisfaction ratings of various aspects of the program..




Over 98% of the borrowers responding indicated overall satisfaction with the program, ratings averaging 4.74 on a scale of 1 (completely dissatisfied) to 5 (completely satisfied), Figure 32. Only five individuals indicated overall dissatisfaction with the program. Eighty-eight percent of the county contacts indicated overall satisfaction with the program and had an average score of 4.75, with only 4 reporting "somewhat dissatisfied". Eighty-five percent of the Local Lenders indicated overall satisfaction and had an average rating of 4.19 with only 2 reporting "somewhat dissatisfied".

Figure 32. Overall Program Satisfaction.



## Suggestions for Improvement

Suggestions for improvements were solicited from the borrower, county and lender contacts, with the majority of the responses falling into relatively few categories as detailed below. The number of respondents giving each suggestion is shown in the parentheses:

### *Borrower*

- Decrease the time between loan approval and fund disbursement. (34)
- Improve the availability, distribution, interest rate and/or repayment terms. (26)
- Advertise the program better. (11)
- Prioritize and fund projects based on effects on improving water quality. (11)
- Reduce the amount of paperwork required. (8)
- Increase the number of banks having access to the funds. (6)
- Remove the requirement that all loans be secured. (2)
- Leave the program as it is, no improvement is necessary. (24)

### *County Contacts*

- Allow easier transfer of funds among categories or eliminate categories all together. (10)
- Simplify the paperwork, record keeping and application. (8)
- The program should provide funds for local administrative costs. (6)
- Make more money available. (5)
- Eliminate audit requirement. (3)
- Allow longer time to commit and disburse funds. (3)
- Leave the program as it is, no improvement is necessary. (6)

### *Local Lender*

- Provide faster or easier disbursements of funds. (10)
- Improve and simplify record keeping and paperwork. (6)
- Allow loans to individuals with greater risks or less collateral. (2)
- Broaden eligibility to include non-farm or in-town septics and larger livestock operations. (2)
- Leave the program as it is, no improvement is necessary. (3)

## Responses to Suggestions for Improvement

The survey results indicate that the program is generally viewed as a success in assisting with the implementation of targeted practices. However, the comments serve to point out areas in need of improvement.

### *Time from Loan Application to Disbursement of Funds*

The most common critical comment related to the time between applying for a loan and actually receiving the funds. The federal program that provides these funds require that costs must be incurred by the individual before disbursements can be made to pay for the expenses. This results in the contractor that builds a project or a supplier that provides equipment, having to wait for their payment until their bills can be submitted, processed and a disbursement from the state is received. Even under the best situation, this takes longer than a week. Other than normal mailing delays, most loan payments are delayed due to improperly completed contracts, inadequate documentation of work performed or requesting payment out of the wrong funding source.

In response to this problem, the Department directly contacts the banks or local contacts by phone to explain the problem when improperly prepared documents are received. The Department has also reduced the number of forms for documenting and requesting disbursements to one. By providing procedural training to participants, most problems have been remedied.

In addition, Local Lenders are permitted to send disbursement requests by facsimile, and are allowed more frequent submission of payment requests from counties (which are limited to once per month in the program guidelines) to further address this concern.

Though properly documented and account coded disbursement requests are paid in less than one week (and generally within two days), electronic transfers can reduce this time even further. However, given the causes of the predominant types of delays in the past, electronic transfers are not be feasible until the counties and the Department gain greater experience and confidence in their administrative and accounting procedures to more accurately track and properly assign disbursement request to the appropriate categories and funding source.

### *Improvement in Loan Terms*

The 26 borrowers (of 412) who suggested changing the terms of loans are more difficult to accommodate, as this could adversely affect the basic structure of the program. The interest rate is limited in statute to less than 3% APR, with an origination fee of not more than 1/2%. This margin and fee is typically the minimum rate a bank will accept for handling a loan. In addition some banks commented that for small loans (less than $5,000) the rate should be closer to 5% to cover the minimum threshold costs of loan intake and accounting.

The Department has also established maximum loan periods for the five categories of loans, 10 years for Agricultural Waste Systems, 5 years for Conservation Tillage Equipment and Septic Systems, and 2 years for well sealing projects. These terms were based on typical terms for conventional loans of comparable amounts. Extending the term of all loans to 10 years would greatly reduce the revolving aspect of the program, reducing the typical amount revolving at the local level by about 40%.

### *Number of Banks*

Only six of the borrower respondents suggested expanding the number of banks within a county that offers AgBMP loans, while 30% of the county contacts and 12% of the Local Lenders indicated having experienced some hardship by having only one Local Lender in the county. Although the program is limited to only one Local Lender that formally signs the loan agreement by statute, the statute specifically allows the designated bank to work with any number of other banks to provide service to the borrower. For example, Minnwest Bank in Rock County has developed an effective, cooperative system with many other local banks throughout the county. This cooperation has set an example of how participation agreements with numerous banks can function. However, implementation is dependent on local initiatives.

It is also imperative that the program has the strong cooperation of the Local Lender. The counties evaluate the merit of the program in relation to the Local Comprehensive Water Plan but it is the bank that is responsible for evaluating financial risk. It is also the Bank's responsibility to prepare and service the loan and it assumes all responsibility for collection and repayment to the state. Because the margin is so low (3%), Local Lenders may feel that the return for them from this program may not justify the risk and the cost of administration if the funds are divided among several lending institutions. In addition, if smaller allocations were made to several banks within a single county, the size of each account would be too small to effectively provide revolving funds for future loans.

## Major Environmental Concerns

The county contacts were asked what they felt were the greatest water quality issues in their area. The most common response was soil erosion, with feedlot and agricultural waste issues the second most frequent. The nutrient loading and water quality of lakes was the third most common response, Table 7. These priorities reinforce the emphasis that the Counties place on Conservation Tillage Equipment to reduce soil erosion from fields, and improved agricultural waste management practices as their highest funded categories.

Table 7. Ranking of priority water quality issues identified by County Contacts.

| Priority Issues | Number of Times Reported |
|---|---|
| 1. Soil Erosion and Sedimentation | **56** |
| 2. Feedlot and Agricultural Waste Management | **48** |
| 3. Surface Water Quality and Nutrient Loading | **41** |
| 4. Septic Systems (ISTS) | **28** |
| 5. Groundwater Contamination | **15** |
| 6. Abandoned wells or Contaminated Drinking Water | **12** |
| 7. Wetland Protection, Development, Use and Setbacks | **11** |
| 8. Degrading Rivers and Streams | **10** |
| 9. Stormwater Discharges | **9** |
| 10. Flooding | **7** |

# ANTICIPATED NEED

## Short Term Need for AgBMP's - $22 million annually

Each county contact was asked to estimate the number of practices they could implement and their annual need between 1998 and 2000. Averaging all responses for the three years resulted in a mean anticipated need of $254,000 per year per county. Extrapolating to 86 counties (Ramsey County is excluded) estimates a total statewide annual need of approximately $22 million per year, Table 8. The Local Lenders were asked this same question, and estimated the statewide annual need at $21 million, near the county contact estimate. Table 8 also shows the average number of practices a county could implement, the average total cost for projects in each of the categories and the typical county and statewide budget for these practices.

Table 8. Average Scope of Work for Counties and estimated statewide annual need.

| Category | Typical Number of Projects completed per year | Average Statewide Cost per Project | Typical County Budget | Number of Practices Implemented Statewide | Estimated Total Annual Need Statewide |
|---|---|---|---|---|---|
| Agricultural Waste Management | 2.67 | $27,970 | $74,680 | 230 | $6,422,471 |
| Structural Erosion Control | 2.67 | $10,752 | $28,708 | 230 | $2,468,874 |
| Conservation Tillage Equip. | 5.62 | $18,701 | $105,100 | 483 | $9,038,567 |
| ISTS | 9.23 | $4,727 | $43,630 | 794 | $3,752,198 |
| Other | 0.29 | $7,373 | $2,138 | 25 | $183,883 |
| **Total** | **20.48** | | **$254,256** | **1,762** | **$21,865,993** |

The county contacts were also asked to estimate how many projects their organization could realistically complete in a year, assuming their current staffing but money was not limited. Based on these responses, the typical county program could have an annual budget of $312,000, totaling of $27 million annual need statewide. This suggests that the counties could expand their current programs by 25% with their available staff resources, if additional funds were made available.

The long term goal of the program is to establish and capitalize a locally revolving account in each county, sizable enough to generate from repayments enough money to meet the county's estimated need for conservation practices. Assuming an annual need of $254,000, as suggested in the county contact survey, each county would need to have about $1.7 million dollars in this account, with a total of $145.5 million dedicated to the program statewide. The $27.1 million already allocated to the counties would generate about $4 million of the $22 million required each year. An additional $ 118.4 million is required to fully capitalize all local revolving accounts for implementing Agricultural Best Management Practices.

## Long Term Need for AgBMP's - $1,261 to $1,858 million

Minnesota has about 87,000 farms statewide, producing meat, dairy and plant food crops, as well as specialty non-food farms including crops such as flowers and trees. This industry has long recognized a need to minimize its impacts on the soil and water resources that it depends upon for productivity and stability. Long term needs can be estimated by evaluating its current status.

### *Agricultural Waste Systems - $615.34 million*

The Minnesota Pollution Control Agency currently estimates there are approximately 45,000 feedlots in Minnesota. The Agency or county governments have about 23,000 feedlots under permit. Environmental concerns associated with feedlots include nitrate, phosphorus and bacterial loading to surface and ground waters.

The AgBMP's to address these concerns include construction of manure containment structures, clean water diversions and filter strips to collect manure and treat contaminated water while diverting clean water and run off out of the feedlot.

Assuming 22,000 feedlots need upgrading, at an average cost of $27,970, approximately $615.34 million is needed to address and implement Agricultural Waste Management practices statewide. Local governments have indicated they could implement approximately $6.42 million annually, with current staff and other resources.

### *Conservation Tillage Equipment - $379.07 to $976.2 million*

Soil erosion can be significantly reduced by maintaining ground cover through winter and spring. One of the most effective practices to achieve this cover is to implement any number of minimum-tillage or no-tillage techniques that leaves the debris and roots from the previous year's crop intact. The goal of this practice is to retain 30% ground coverage following planting. This practice usually involves use of specialized tillage equipment such as chisel plows or air seeders which typically costs about $18,701.

There is no firmed estimate of the farms needing to implement conservation tillage. The Natural Resource Conservation Service (NRCS) estimates that 50% of Minnesota's farmlands acreage (19.2 million acres) have highly erodible lands or potential erosion hazards. Currently, about 5.1 million acres have implemented practices that achieve the 30% ground coverage criteria. Assuming that the average farm has 222 acres of cultivated crop land, approximately 23% or 20,270 Minnesota farms remain to implement effective conservation tillage practices. If this estimate is correct, the total financial need is $379.07 million. The NRCS also estimates that about 60% of all farmers have lands that need some level of conservation tillage to reduce erosion. Assuming 52,200 farms should implement this practice, the total need would be $976.2 million. These two estimates provide a range of the potential need for conservation tillage practices. The average annual need is about $9.04 million, as estimated by local county government units.

## *Farm Septic Systems (ISTS) - $172.72 million*

As the farm industry grew over the years, septic systems were installed on farmsteads using standard designs of the day. However many of those designs do not meet current codes or have failed, leading to the potential contamination of surface and ground water resources. Minnesota counties have reported, on average, 42% of existing septic systems do not comply with current rules.

Using the Minnesota Agriculture census number of 87,000 farmsteads, assuming all are on septics systems, and the average reported failure rate, approximately 36,540 farmsteads need upgrading or repairs. With an average replacement cost of $4,727, the total need is $172.72 million. The average annual need is about $3.75 million as estimated by local county government units.

## *Structural Erosion Control Practices - $93.54 million*

Structural Practices, such as terraces, waterways, sedimentation basins and buffer strips can significantly reduce localized erosion problems. These practices have an average total cost of $10,752 . Assuming that one of these structures is needed on 10% of the farms, the total need is $93.54 million. The average annual need is about $2.47 million, as estimated by local county government units.

The total Long Term Need for all Agricultural Best Management Practices is $1,261 million. Even with a program that averages implementing projects totaling $22 million per year, it would still take 58 years to address all the issues through the AgBMP Loan program.

## CONCLUSIONS

- The Agricultural Best Management Practices Loan Program has been providing funding to implement the agricultural components of Local Comprehensive Water Plans since 1995. A total of $27.1 million has been allocated statewide.
- Approximately 1,332 projects costing $15.1 million have been completed by December 31, 1997.
- Projects that address Agricultural Waste Management problems and Conservation Tillage Equipment have received about equal funding. The most numerous practice is repairing failing septic systems.
- Agricultural Waste Management projects often take several years to complete from the initial design through permitting and actual construction. The demand for these projects will remain strong because reducing agricultural waste runoff and nutrient loading to water resources is a high priority for local governments. However, because of the high cost, numerous steps for review, availability of engineering and staff resources, increases in this area may be slow.
- County contacts consider Conservation Tillage Practices as the most cost effective method to reduce sediment loading and particulate associated nutrient loading to surface waters. Local governments have places a high priority on addressing this issue. Acceptance by the farmer and implementation of these practices is easier to accomplish than agricultural waste management practices because the specialized equipment is readily available and in most cases, the cost will be the same or less than traditional moldboard plowing practices. It is expected that these practices will increase in the future.
- In order to meet the counties' average estimated annual need for implementing agricultural bests management practices ($254,000), approximately $22 million is needed. In order to capitalize local revolving funds to achieve this annual return, each county would need $1.7 million, or approximately $145.5 million statewide. A total of $27.1 has been allocated to date and should revolve about $4 million annually.
- The estimated total need to address all existing agriculture related water quality problems is about $1,261 million
- Over 98% of the borrowers, 99% of county contacts and 85% of Local Lenders responding indicated overall satisfaction with the program.
- Based on the results of MDA's survey, the farmers participating in the AgBMP program utilizes conservation tillage practices more often than non-participating farmers. The proportion of each type of livestock operation that participates is typical of the state as a whole. The operations are typically individuals or family run farms. The typical participant is about 45 years old with a high school diploma and some additional schooling.