THE INLAND LAKE RENEWAL PROGRAM

CHAPTER 33

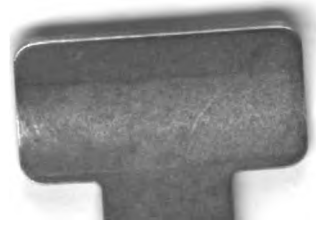
WISCONSIN STATUTES

AN EVALUATION BY

THE STATE OF WISCONSIN

LEGISLATIVE AUDIT BUREAU

81-26



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September 3, 1981

Senator Gary George and
Representative Phillip Tuczynski, Co-Chairpersons
Joint Legislative Audit Committee
State Capitol
Madison, Wisconsin

Dear Senator George and Representative Tuczynski:

We have completed our evaluation of the Inland Lake Renewal program administered by the Department of Natural Resources.

Our analysis indicates that a combination of problems involving: (1) the statutory process for selecting lakes and funding projects exclusively through lake districts, (2) the declining number of new lake districts forming, and (3) inadequate program development and monitoring by DNR have caused the program to fail to meet the evaluation standards we developed from Chapter 33.

We believe that it may be difficult to create a program which would include all the elements of an effective lakes program. Therefore, we recommend the Legislature eliminate the Inland Lake Renewal program.

We appreciate the courtesy and cooperation extended to us by staff in the Department of Natural Resources, University of Wisconsin-Extension and Lake District Commissioners.

Respectfully submitted,

By Dale Cattanach
Dale Cattanach
State Auditor

DC/ARF/cd

SUMMARY

The primary goal of the Public Inland Lake Protection and Rehabilitation program, Chapter 33 of the Wisconsin Statutes, is to improve and protect the quality of public inland lakes. Created in 1974, the program: (1) authorizes municipalities and local landowners to form special purpose governments, called lake districts, to conduct lake studies and undertake lake improvement projects, and (2) directs DNR to provide technical expertise and financial assistance to lake districts for both studies and projects.

The DNR employs seven persons, at a FY 1981 cost of $287,600 GPR, to provide technical and administrative assistance to lake districts. The University of Wisconsin Extension also employs two persons, at a cost of $50,000 GPR in FY 81, to provide management assistance to lake districts. The DNR receives a $2.3 million GPR biennial aids appropriation to be used as financial assistance for lake districts to conduct studies and undertake projects.

Each component of the Inland Lake Renewal program--lake districts, lake studies, and lake projects--relies on the initiative of local citizens. Lake districts are formed either by a city or village resolution or through a landowner petitioning process. Lake districts can levy property taxes, enter into contracts, or perform other non-regulatory actions necessary to protect or improve lakes. Lake districts are eligible for DNR technical and

- eleven projects did not address the source of lake problems,
- fourteen projects are likely to result in only short-term improvements;
- nine projects will only marginally improve the lake's recreational potential, and
- seven projects will provide only a limited public benefit or a private benefit.

In addition, we believe three lake projects would probably have been undertaken without state aid. Further, there are indications that three other projects, perhaps scaled down, would still have been undertaken by lake districts without state aid.

We believe the failure to achieve our evaluation standards taken from Chapter 33 objectives is the result of two major problems: (1) the statutory process of selecting lakes and funding projects exclusively through lake districts, and (2) inadequate program development and monitoring by DNR.

Lake districts are the only entities authorized to receive DNR assistance. Some districts also pursue lake improvements without state assistance. Although local interest in lake management is vital to the process of rehabilitating and protecting a lake, we found the lake district mechanism has significant limitations, which include:

- the tendency of lake districts to organize and request state funds when lake problems are visible and costly to correct, rather than when lake quality is threatened but can still be protected from deterioration;

- the tendency of smaller lakes to be rehabilitated because the cost of rehabilitation on larger lakes is prohibitive;

- the tendency of lake districts to include only a portion of the watershed in their boundaries and to favor in-lake work over watershed protection work because in-lake usually bears immediate (but short-term) and visible results.

- the difficulty of forming a lake district that overlaps several local governments.

In addition to responding to local lake management initiatives, the DNR has a number of other responsibilities for promoting the objectives of Chapter 33. However, we found the DNR:

- has notestablished standards for lake projects to ensure they meet the objectives of Chapter 33,

- has not made adequate effort to ensure that the Inland Lake Renewal program is operated in coordination with other DNR and federal programs which could contribute to lake protection,

- has not met its own requirements and followed its own procedures in administering the program, and

- has not utilized its own authority to improve upon the quality of lake studies data when consultants have submitted inaccurate data.

We also found that fewer lake districts are forming, indicating a declining future demand by lake districts for both DNR technical and financial assistance and UW-Extension lake district assistance.

We recognize, however, that valuable lake resources continue to be threatened by upstream and in-lake problems that will adversely affect water quality and recreational potential. We believe an effective state program would need to include:

- an improved lake selection process to identify larger lakes with wider public benefit,
- lake project standards to accomplish both protection projects in watersheds and rehabilitation projects in lakes,
- incentives for lake protection work,
- procedures to measure the effectiveness of different rehabilitation techniques,
- improved program accountability to ensure quality data is received,
- improved program coordination to maximize the impact of available funding,
- substantial funding or in some cases, a shift away from more costly rehabilitation techniques.

We believe, however, that it may be difficult to create a program which would include all of these elements. Further, we recognize that while the objectives of the current program may be sound, a combination of problems involving: (1) the statutory process for selecting lakes and funding projects exclusively through lake districts, (2) the declining number of new lake districts forming, and (3) inadequate program development and monitoring by DNR leads us to conclude that the existing program will not achieve those objectives.

We recommend, therefore, the Legislature eliminate the Inland Lake Renewal program within the DNR. This would reduce expenditures by $2.3 million GPR in grants and $575,200 GPR in salaries for seven DNR staff, if applied to the 1981-83 biennium.

If the Inland Lake Renewal program is eliminated, the responsibilities assigned to the UW-Extension with regard to the program would end. While other activities related to lake water quality which have been undertaken by the UW-Extension may be useful, we believe it may be appropriate to eliminate the appropriation originally intended for this program in Extension. *Therefore, we recommend that the Legislature eliminate funding for Inland Lake Renewal program activities within the UW-Extension.* This would reduce expenditures by $100,000 GPR in salaries for two Extension staff, if applied to the 1981-83 biennium.

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INTRODUCTION

Background

The Public Inland Lake Protection and Rehabilitation program, Chapter 33 of the Wisconsin Statutes, was created in 1974. The primary goal of the Inland Lake Renewal program is to improve and protect the quality of public inland lakes. The Office of Inland Lake Renewal within the Department of Natural Resources (DNR) administers the program.

Chapter 33 authorizes municipalities and landowners interested in lake renewal to form special purpose governments called public inland lake protection and rehabilitation districts (lake districts) to initiate and manage lake improvement projects. Lake districts can levy property taxes, enter into contracts, and perform other actions necessary to rehabilitate or protect public lakes. Currently, there are approximately 125 lake districts.

Lake districts carry out two activities through the Inland Lake Renewal program:

- Lake studies: At the request of a lake district, the DNR provides technical expertise and financial assistance to study lake problems. Private consultants gather the necessary data, but DNR staff analyze the data and describe alternative methods of improving or protecting the lake for the lake district. Through FY 1981, 97 lake studies have been conducted.

- Lake projects: The DNR also provides grants and technical assistance to lake districts for projects which improve or protect the lake. Twenty-five lake districts have received state grants or have been designated to receive grants since the program's creation in 1974. Twelve of these have also received federal grants from the Environmental Protection Agency (EPA).

Chapter 33 authorizes the creation of the Inland Lakes Protection and Rehabilitation Council to advise the DNR on matters pertaining to lake management. The nine-person Council can recommend a lakes classification system be undertaken and standards and guidelines for lake rehabilitation plans be established.

The Office of Inland Lake Renewal employs seven persons in state funded positions to provide technical and administrative assistance to lake districts. In addition, two persons are conducting evaluation research under two federal EPA grants. For FY 1981, the operational budget was $287,600 GPR. The University of Wisconsin-Extension also employs two persons, at a cost of $50,000 GPR in FY 81, to provide management assistance to lake districts.

The DNR receives a $2.3 million GPR biennial aids appropriation to be used as financial assistance for lake districts to conduct studies and undertake projects. Since 1974, the total of all annual appropriations has equaled $8,200,000. Of this sum, $976,000 has been spent or encumbered for lake studies and $3,864,260 for lake projects. The remainder, $3,359,740, has lapsed to the General Fund. Significant lapsing of funds has occurred after each biennium; approximately 50% of the biennial appropriation for 1979-81 lapsed.

Scope of Evaluation

In 1974 the Legislature recognized the possible deterioration of public lakes and created a lake renewal program to "enhance and restore the potential of our inland lakes to satisfy the needs of the citizenry" (s. 33.001). This evaluation assesses the success of the Inland Lake Renewal program in achieving the objectives outlined in Chapter 33.

The key elements of the program--lake districts, lake studies, and lake projects--are the focus of this evaluation. More specifically, we address the following issues:

- whether lake districts are an effective governmental unit to undertake lake management;
- whether lake studies are conducted efficiently and effectively;
- whether project grants are effectively used; and
- whether the DNR provides adequate program coordination to maximize the use of state funds for lake protection and rehabilitation.

Our evaluation focuses on the twenty-five lake districts which have received funds or received grant commitment for lake projects. Grants for lake projects represent the major expenditures of the program and the final step in a lake management plan. The twenty-five projects, listed in Appendix II, are in different stages of completion. For our analysis we looked at project plans proposed by districts which have been designated to receive grants as well as those which have already been completed.

Analyses and conclusions in this report are based on interviews with staff of the DNR, U.W.-Extension, Southeast Wisconsin Regional Planning Commission, and county and federal program personnel. We also interviewed lake district commissioners and visited eighteen of the twenty-five project sites. In addition, we reviewed lake protection and rehabilitation programs in ten other states.

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LAKE PROBLEMS AND INSTITUTIONAL RESPONSIBILITIES

Types of Lake Problems

The principal problems encountered in a lake are sedimentation and eutrophication. Both of these problems adversely affect a lake's water quality and recreational potential. If a lake project is to improve water quality and increase recreational use, sedimentation and eutrophication must be addressed.

Sedimentation is the deposition and accumulation of material in the bottom of the lake. These materials may consist of organic matter, such as weeds,that die and remain in the lake, or runoff materials, primarily soil, from the surrounding land or watershed which drains surface water to the lake. The result is a gradual filling in of the lake. As these materials accumulate in the lake, they provide a nutrient-rich base for the growth of weeds which limits swimming and boating demand.

Eutrophication is the process by which lakes are enriched with nutrients, particularly phosphorous. Most lakes will undergo a natural process of nutrient increase from accumulating organic materials, but human practices, such as the application of fertilizer on farmland in the watershed, greatly accelerate this process for many lakes. Nutrient sources are often divided into: (1) point sources, those which enter a lake or stream from a specific location, such as a waste treatment plant, and (2) nonpoint or diffuse sources, those coming from general watershed runoff or

groundwater. The result of eutrophication, whether from point or nonpoint sources, is excessive weed and algae growth.

Possible Solutions to Problems

The relationship between a lake and its watershed leads to two general approaches to solve water quality and recreational problems. One approach, applied in the lake, attempts to rehabilitate the lake by addressing primarily the consequences of lake problems. The other approach, focusing on the watershed, attempts to protect the lake by addressing primarily the sources of lake problems.

A major strategy for rehabilitating a lake, used in 18 of the 25 lake projects, is dredging. Whether by mechanical excavation or hydraulic vacuum, dredging removes nutrient-rich bottom sediments from the lake and increases water depth. However, as a lake rehabilitation strategy, dredging is very expensive. Current estimates are $1.50 to $2.00 for the removal of one cubic yard of sediments. If the project plan requires increasing the lake's depth from 5 feet to 10 feet to prevent weed growth, a 60-acre lake would require removal of nearly 500,000 cubic yards of sediment.

Other in-lake strategies used by lake districts include aeration, weed harvesting and chemical treatments. Aeration is an attempt to correct the depleted oxygen levels in the water caused by excessive nutrients. By increasing the volume of oxygen in water, aeration can help to prevent winter fish kills

caused by low oxygen levels. Aeration systems can be expensive, but most cost less than $50,000. Weed harvesting and chemical treatments are both in-lake strategies designed to rid the lake of weeds and algae. Described by the DNR as primarily cosmetic strategies, neither of these approaches is funded by the Inland Lake Renewal program. (One exception is Lake Noquebay in Marinette County where weed harvesting is being funded on an experimental basis.)

Watershed strategies are used to protect a lake by reducing problems at their source. If the problem is sedimentation, watershed work focuses on streambank stabilization and upstream farming practices. Streambank stabilization to prevent soil erosion can be achieved through seeding bare soil or placing large rocks (called "riprap") along the bank. Upstream farming practices, such as contour stripping, can also be important to help prevent soil erosion. If the lake's problem is high nutrient loading from the watershed, nonpoint source controls are used in agricultural areas as well as near septic systems. A major nutrient control used on farms is the installation of a manure storage facility. This allows the farmer to store nutrient rich manure during the winter rather than spread it on snow-covered fields where it runs off into streams and lakes in the spring.

Thus, improving a lake may involve working on problems in both the lake and the surrounding watershed from which much of

the sediment and nutrients which create lake problems originate. Many lake projects are initiated to improve both water quality and recreational uses of the lake. If a lake has significant problems that limit its potential recreational uses, such as shallow depth or weeds, watershed work alone will not improve boating, swimming, or fishing. These lakes will require in-lake rehabilitation work to remove weeds and increase water depth as well as watershed work to reduce the flow of sediments and nutrients that are the source of the problem.

Other lakes offer quality recreational opportunities that are threatened by problems originating in the watershed that could lower water quality and, eventually, impair recreation. These lakes can be protected by watershed work alone.

State Programs to Address Lake Problems

The concern over the potential deterioration of Wisconsin's lakes received statewide attention during a number of demonstration projects between 1968 and 1974. These projects were part of a joint program involving the University of Wisconsin, the DNR and the Upper Great Lakes Regional Commission. Four of these demonstration projects were carried over and completed under the Inland Lake Renewal program.

In 1974, the Legislature created, through Chapter 33 of the statutes, an Inland Lake Renewal program to continue the task of preserving and improving the lakes of the State. The statutes

provide for a balance between rehabilitation and protection work that ensures long-term project results. Rehabilitation of a lake, focusing on in-lake work, is to be complemented by lake protection in the watershed that addresses the sources of lake problems.

Within the DNR other programs affect lake water quality. The Nonpoint Source program, established by Chapter 418, Laws of 1977, focuses on watershed practices to correct the sources of water quality problems. Working with the soil and water conservation districts in the counties, the Nonpoint Source program shares with individuals the cost of improving watershed practices in designated priority watersheds. Other DNR programs include researching the causes of water quality problems, planning to control point sources and nonpoint sources of pollution, and evaluating the effect of various efforts to improve water quality.

Federal Programs to Address Lake Problems

On the federal level, several programs provide technical and financial assistance for lake management. Three of the most important are the Environmental Protection Agency (EPA), Agricultural Stabilization and Conservation Service (ASCS) and the Soil Conservation Service (SCS).

The Clean Lakes Act (section 314, P.L. 92-500), administered by EPA through the DNR, provides financial assistance to lake districts for lake projects. These EPA grants cover 50% of

anticipated project costs with the remainder coming from state and local sources. The availability of these funds in the mid-1970's was a major incentive for lake district formation in Wisconsin. Since 1974, 12 of Wisconsin's 25 projects have received EPA grants totaling $4.2 million. As of July, 1981, further funding for this program was eliminated in the executive budget. If Congress affirms this cut, EPA will not be a source of funds for future lake projects.

The ASCS administers two programs (Agricultural Conservation Program and Waterbank Program) that focus on watershed practices. The ASCS assists farmers in installing various erosion and nutrient controls. The SCS provides technical expertise for the implementation of watershed control programs. This expertise is utilized by state agencies, including the DNR's Nonpoint Source program, as well as ASCS.

In summary, there are a number of federal and state programs that become involved in lake management. However, since the elimination of the EPA Clean Lakes program, the Inland Lake Renewal program is the only one that funds both in-lake rehabilitation work and some watershed practices which protect the future of the lake. The Nonpoint Source and ASCS programs focus exclusively on watershed protection practices.

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INLAND LAKE RENEWAL PROGRAM OPERATIONS

The three major components of the Inland Lake Renewal program are lake districts, lake studies and lake projects. All three components rely on the initiative of local citizens. At each stage, from the formation of a lake district through project planning, local initiative directs the program. Although local concern and interest in lake management is vital to the success of a lakes program, it can also limit the program's capability and future potential. This section describes some of these limitations as they occur at different stages of program operations.

Local initiative as mandated by statute, in combination with DNR's management of the Inland Lake Renewal program, has resulted in:

- the majority of lake districts focusing attention primarily on lake rehabilitation and giving little attention to long-term protection,
- lake studies of questionable quality, and
- lake projects which have not achieved the evaluation standards we developed from Chapter 33.

Lake Districts

While lake districts are often formed in order to carry out a major lake improvement project with state assistance, some are involved in lake management without state assistance. Lake use controls, fish stocking, and weed harvesting are examples of lake district activities performed without state assistance. Chart 1

CHART 1
MAJOR STEPS IN THE INLAND LAKE RENEWAL PROGRAM

LAKE DISTRICT

1. Formed by local citizens interested in improving lake water quality and recreation.

LAKE STUDY

2. Assistance requested by lake districts.
3. Study design prepared by DNR.
4. Private consultant hired by lake district to gather data.
5. Lake management alternatives prepared by DNR.

LAKE PROJECT

6. Proposed by lake district.
7. Environmental impact assessment and public hearing.
8. Approved by DNR; financial assistance provided.
9. Project undertaken by lake district.

follows a lake district through the various steps from formation of the district to beginning a project. The lake district formation process relies primarily upon the initiative of local citizens and is limited in its potential effectiveness because public perception of the lake problem must be sufficient to arouse concerns that will lead to the formation of a lake district. The DNR does not have the authority to create lake districts, but does assist lake districts at various stages of the process.

The legislation which created the Inland Lake Renewal program assigned responsibility to UW-Extension "to assist the department of natural resources in effectuating the lake rehabilitation program under Ch. 33." To carry out this function, $20,000 was appropriated in FY 1974 and $50,000 in FY 1975 and in each subsequent year. UW-Extension has supplemented this appropriation from other funds to provide two full-time staff.

Extension staff assigned to the Inland Lake Renewal program attend organizational meetings and provide information to all lake districts. Extension staff also provide assistance in designing and administering lake studies and projects. The educational role of Extension is focused on assisting the organization and administration of lake districts. A recently formed state association of lake districts also provides assistance to new or prospective lake districts.

Lake districts are, by statute, special purpose governments empowered to levy property taxes, borrow money, enter into contractual

arrangements, and "do any other acts necessary to carry out a program of lake protection and rehabilitation" (s. 33.22(1)). Lake districts, however, do not have zoning authority or police powers, so they cannot control lake property development or require property owners to use good conservation practices.

General purpose governments (such as counties and cities), sanitary districts, and private lake voluntary associations may also undertake some lake improvement projects. Lake districts, however, provide certain advantages over these alternative organizations. These advantages include:

- Revenue raising: lake districts can raise revenue more easily than can voluntary lake associations because lake districts have taxing authority.

- State aids: lake districts are eligible for technical and financial assistance from the Inland Lake Renewal program, while other governmental units and private associations are not.

- Lake management: lake districts can be better mechanisms for managing lake improvement efforts because a lake district typically encompasses all lake property owners and other interested persons. In addition, lake district residents--generally lake property owners--are highly motivated to improve the lake because they are the most directly affected by the lake's water quality and recreational usefulness.

According to Chapter 33 of the statutes, lake districts can be formed in one of two ways: (1) landowners may petition the county board or town board, or (2) a village or city council may adopt a resolution. A lake district formed by village or city council resolution or by petition to a town board must have the

district and lake boundaries completely within the municipality's boundaries. A county board must authorize the creation of lake districts which include portions of more than one municipality, although each municipality must first approve inclusion of its lands in the proposed lake district.

Prior to July, 1981, the governing body of a lake district consisted of either the village, city, or town council or a group of five individuals, three elected and two appointed by local governments. With enactment of Chapter 18, Laws of 1981, all lake districts now have the option of converting to the three elected, two appointed system of governance.

The primary issue in forming a lake district is establishing the district's boundaries. Persons circulating a petition to form a lake district generally want to include as many properties and as much of the lake's watershed as is practical, because:

- a larger lake district has greater financial resources with which to undertake a lake improvement project, and;
- causes of lake degradation usually originate in the watershed, and addressing sources of degradation may be easier if watershed property owners are lake district members.

On the other hand, petitioners also have an incentive to include only the most interested parties--usually lake property owners--within the proposed lake district boundaries. Lake property owners, perceiving the lake as a direct benefit, usually support a lake management program focused on lake rehabilitation.

However, persons living in the watershed often do not perceive the lake problems as a concern for them. Therefore, watershed property owners who are somewhat removed from the lake may be less willing to participate in a lake improvement project even though their involvement may be essential to long-term protection of the lake.

The result has been that most lake district boundaries include only a small portion of the watershed. In addition, many lake districts have small populations. Based on a response to a recent UW-Extension survey, 14 of the 43 responding lake districts (32%) have fewer than 100 households, and 26 of the 43 lake districts (60%) have fewer than 200 households. Moreover, approximately 70% of all lake districts responding are entirely contained within only one municipality.

Lake districts encourage local participation in lake management, but with boundaries that do not include major portions of the watershed, lake districts are limited in their ability to address sources of lake degradation that exist in the watershed. The need to gather local support may force lake districts to focus on rehabilitating the lake to eliminate the more visible problems that affect lake recreation such as weeds and algae and give less attention to protecting the lake from upstream sources of nutrients and sediments.

Lake Studies

Lake districts have had difficulty in carrying out their responsibilities in conducting lake studies, and DNR has not consistently exercised its authority to ensure that useful information is gathered by private consultants who conduct lake studies. While DNR recognizes the problem and has attempted to improve the quality of lake studies, problems still exist. These problems have occurred primarily as a result of the confusing relationship between DNR, lake districts and private consultants as required by Chapter 33.

The lake feasibility study is a year-long study conducted by a private consultant to assess the water quality and general characteristics of a lake. The study provides data used by DNR staff in the preparation of management alternatives for a possible lake project.

Before offering either technical or financial assistance for a lake study, DNR policy requires that public access for the lake be certified as adequate. There are no other standards or requirements used by the DNR to deny or grant assistance. If public access is determined to be adequate, the lake district is eligible for assistance.

Preparation for a lake study begins when DNR staff prepare and forward to the lake district a feasibility study design. This design specifies what elements of the lake and watershed are to be monitored during the lake study.

The study design is used by private consultants as a basis for formulating a bid for the study. The lake district may receive a list of consultants from the DNR, as well as informal suggestions about the quality of work done by particular consultants, but it is the responsibility of the lake district to choose a consultant. Based on the bids received, the lake district accepts and signs a formal contract with "the lowest responsible bidder" (s. 33.13(1)).

When the lake district has contracted with a private consultant, the DNR signs a grant agreement with the lake district to provide financial assistance. The Inland Lake Renewal program covers 60% of the study costs with the remainder paid by the lake district in monetary and/or in-kind services. Inland Lake Renewal grants are paid to the lake district, which is responsible for paying the consultant. There is no legal contract between the DNR and the private consultant, but DNR does have the authority to require changes in the feasibility study necessary to ensure quality data.

During the year in which the feasibility study is conducted, the private consultant sends quarterly reports and a final report of the data collected to the lake district and to the DNR.

When the feasibility study is completed, the staff from the Office of Inland Lake Renewal prepare a management alternatives report. This report summarizes and analyzes the data collected

by the private consultant and identifies a number of possible lake management approaches. It is the responsibility of the lake district to take the next step of developing a specific lake management plan.

Since 1974, 97 feasibility studies have been funded by the Inland Lake Renewal program. Costs for feasibility studies have ranged between $1,610 and $56,000, with a median of $10,310.

The relationship between the DNR, the lake district, and the private consultant leads to a number of important limitations for the program. Under the present system, lake districts are legally responsible for the hiring of consultants and the monitoring of consultant data. However, lake district commissioners seldom have the technical expertise to judge either the qualifications of the consultant or the quality of the data being collected. The result is that some consultants have turned in late reports and data the DNR has found to be inaccurate. The DNR does attempt to monitor the data collecting ability of private consultants through a quality assurance program. Additional funding for this monitoring program was requested by DNR in its 1981-83 biennial budget, but denied by the Governor. Subsequently, the DNR reallocated $6,000 to fund this activity.

Although the quality assurance program does attempt to monitor consultant data gathering, the opportunity for application of DNR staff expertise is limited because of the contractual relationship between the lake district and the consultant. While relying

on the contractual relationship between the lake district and the private consultant may be one way of insuring lake district involvement, we believe it has led to numerous problems of quality control over the data collected by the private consultants.

Lake Projects

As with forming lake districts and conducting studies, local interests and concerns serve as the key element in initiating lake projects. Local support may be essential to successful lake management, but local priorities related to eliminating visible lake problems may not be consistent with the objectives of Chapter 33 which include long-term protection as well as rehabilitation.

Using the management alternatives as guidelines, the lake district approves a project plan prepared with advice from private consultants. Contracts are signed between the lake district and engineering or construction firms, but the DNR does not enter into legal agreements with those hired by the lake district.

As part of the grant and plan approval process, the DNR schedules a public hearing in the lake district area. At the hearing, conducted by a Department of Administration examiner, the DNR appears as a neutral party and the lake district presents its plan and supporting evidence. The hearing examiner may approve, approve with modifications, or disapprove the plan. In so doing, the examiner considers the plan's possible effects on the environment, but does not rule on matters of financial

ability or financial assistance. After the ruling by the hearing examiner, the DNR issues the permits and gives final approval to the application for financial assistance. Since the program's inception, all proposed plans have been approved, some with slight modification, by the hearing examiner, and all applications for financial assistance have been approved by the DNR.

When the project has been approved by the DNR and the funds encumbered, the final step is approval by the lake district membership. This vote is usually taken during the summer annual meeting of the lake district. Thus far, only one project plan has been rejected by the lake district membership (Little Muskego in 1981). With approval by the general membership, the lake district is ready to begin the project.

A major step in the lake project phase is the awarding of a grant to the lake district. The amount of the grant is determined by three factors:

1) if there are no federal funds for the project, state funds will cover 80% of the project costs with the lake district paying 20%; however,

2) an individual grant cannot be greater than 10% of state funds available in any one year; and

3) if federal funds are available, the federal grant covers 50%, the State 30% and the lake district 20%, although the state share must still be less than 10% of state funds available in that year.

The 10% restriction has been the limiting factor for project grants in 13 of the 25 projects. The dollar amount of the 10%

limit has varied, depending on the total aids available in that particular fiscal year. This restriction led to the practice of encumbering funds in the second year of the biennium when the 10% limit was applied to all remaining funds in the biennial appropriation. Chapter 20, Laws of 1981 (the 1981-83 Biennial Budget Act) changed the 10% in one year to 10% of the biennial appropriation. Thus, the 1981-83 appropriation of $2.3 million allows a maximum project grant of $230,000 regardless of which year of the biennium the funds are encumbered.

The statutes indicate that these funds should be used for projects that meet basic standards of public benefit and long-term improvement. Rehabilitation of a lake should be done only when adequate protection from future sources of degradation is ensured. Our analysis of lake projects is presented in the next section.

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RESULTS OF LAKE PROJECTS

The Inland Lake Renewal program has funded 25 lake projects since 1974. Twelve of the 25 projects have received federal funding, with federal grants typically covering 50 percent of the project's total cost. Appendix II lists the recipient of each grant along with the type of project, fiscal year in which state funds were encumbered, and the total cost of the project divided into state, federal and local shares. Of the 25 projects, nine have been completed, nine are currently in progress, five have yet to start and two have been cancelled. Our analysis is based on completed project results as well as expected results identified in project plans.

The statutes and administrative code provide general guidelines for the type of project that should receive state assistance. According to the declaration of intent (s. 33.001), projects should be "undertaken only if they promote the public rights in navigable waters, environmental values, and the public welfare . . . with benefits to all state citizens."

In ruling on financial assistance applications for projects, the DNR is to consider a number of factors, including: (s. 33.16)

a) "whether the citizens of the state will reasonably benefit . . . and the degree of benefit;

b) "whether sufficient long- and short-term benefits will be derived from the project, in relation to its cost;

c) "whether the project is financially viable, given the resources of the district . . .;

d) "whether adequate steps have been or will be taken to ensure that the improved conditions resulting from the project will be sustained by adequate controls over potential sources of lake degradation . . ."

Chapter 33, section 16 also states that the DNR:

" . . . shall make a finding whether the preponderance of evidence presented shows that, where applicable to the situation under review, contamination from . . . (various pollution sources) . . . and any other sources responsible for lake degradation, are or will be substantially eliminated as a source of lake degradation, in order that any lake rehabilitated under this chapter may be protected or maintained in its protected or rehabilitated state . . . ."*

The DNR has not established standards which apply these criteria. In fact, the DNR has not interpreted the statutory criteria as project standards but rather as possible factors to consider in funding projects.

To evaluate the 25 projects according to the intent of Chapter 33, we applied evaluation standards based on program objectives described in the statutes. The standards we applied are:

1. Whether, as a result of the project, the causes of poor lake quality have been "or will be substantially eliminated as a source of lake degredation." (s. 33.16(5))

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*At DNR's request, the biennial budget for 1981-83 eliminated the language requiring that this finding be made.

2. Whether the project will result in "sufficient long-term and short-term benefits" in relation to cost. (s. 33.16(4)(b))

3. "Whether the citizens of the state will reasonably benefit" as a result of the project (s. 33.16(4)(a)).

4. Whether the project will either improve the recreational value of the lake or protect an existing high quality resource.

5. Whether any lake projects would have been undertaken without the availability of state grant assistance.

Addressing the Causes of Lake Degradation

Protecting the State's lake resources is one of the primary goals of the Inland Lake Renewal program. Lake quality will continue to deteriorate, regardless of lake rehabilitation efforts, unless causes of lake degradation are eliminated or are, at least, significantly corrected.

We found that eleven of the twenty-five projects do not address the causes of lake degradation and do not, therefore, provide protection as well as rehabilitation. Nine of these involve dredging, and two involve the installation of aeration devices. Some examples are:

- Chilton Millpond in Calumet County is an 8-acre impoundment which has experienced sedimentation and nutrient problems. The project involved dredging at a total cost of $80,000 ($64,000 state share). Project plans did not include any attempts to control soil erosion or nutrient loadings to the lake.

- Angelo Pond in Monroe County is a 35 acre impoundment which has experienced sedimentation and nutrient problems. The Inland Lake Renewal program funded a dredging project at a total cost of $268,750 ($215,000 state share). The project plan involved the removal of accumulated silt, but no project funds were spent on reducing soil erosion or nutrient loading.

- Mayflower Lake in Marathon County is a 98 acre natural lake which has experienced weed problems and fish winter kills caused by excessive nutrient loadings from surface water. The Inland Lake Renewal program funded an aeration project at a total cost of $7,550 ($6,040 state share). The aeration project is designed to minimize the effect of low oxygen levels on fish habitat, but it does not reduce nutrient loadings to the lake.

By failing to address the sources of lake degradation, long-term duration of project benefits are questionable.

Eight projects involve some work designed to correct the source of lake problems. Most of these combine dredging and watershed work. The remaining six projects focus primarily on correcting the sources of lake degradation. These six projects focused on reducing nutrient loadings by improving farming methods in the watershed or diverting storm sewer run-off.

Some examples of these projects are:

- Upper Willow Flowage in St. Croix County is a 220 acre impoundment which has experienced sedimentation and nutrient loading problems. Total project costs were $688,000 ($215,000 state share). Along with dredging portions of the lake, the Inland Lake Renewal program funded stream bank work to reduce the soil erosion problem. (The lake's watershed is also a priority watershed in the DNR's Non-point pollution program and will receive additional funds directed toward reducing nutrient loadings.)

- Big Cedar Lake in Washington County is a 932 acre natural lake which has received excessive nutrient loading as a result of poor farming practices. The Inland Lake Renewal program funded a lake protection project costing $267,500 ($215,000 state share). This project included assistance to farmers for improving farming practices and construction of manure storage facilities.

Long-Term Improvements

A lake project should also result in "sufficient long- and short-term benefits . . . in relation to its costs" (s. 33.10). Lake improvement projects are often costly; projects which produce only temporary improvements generally will not be cost-effective.

The DNR does not include an estimate of the longevity of project benefits in most lake management reports, although estimates are made for most projects. In addition, the DNR has not established a standard defining "long-term improvements." Three characteristics of a project and lake, however, indicate the potential for producing long-term lake improvements:

1. Source of problem corrected: The longevity of lake improvements will be increased if the project substantially corrects the source of lake degradation.

2. Project scope: In addition to addressing the source of the problem, the project scope must be sufficient to ensure that the problem (e.g., weeds) will not reoccur even if the source of degradation is controlled. In a dredging project, this would mean removing enough sediments to ensure a water depth adequate to stop the light penetration necessary for weed growth. Also, the dredging should remove nutrient rich sediments that would serve as a fertile base for weed growth.

3. Watershed: Long-term improvements are more difficult to achieve as the watershed area becomes larger in relation to the lake area. If the watershed is more than twenty times the size of the lake, the possibility of controlling nutrient and sediment sources is greatly reduced. This characteristic is typical of impoundments on rivers where the watershed may be hundreds of times the size of the lake. Natural lakes usually have a much smaller watershed-to-lake acreage ratio.

   In addition, the type of watershed, whether agricultural, urban, or forested, can be a significant factor.

Our standard for assessing the duration of lake improvements is that a "long-term" improvement occurs when lake problems will not arise for at least 25-30 years. This time period serves as an approximate frame of reference for the consideration of the three characteristics just described.

We found that at least one-half of lake projects will probably not result in long-term improvements because: (a) projects did not substantially correct the cause of lake problems, (b) project scope was insufficient, and (c) the watershed-lake characteristics indicate that long-term improvements may not be possible or economically feasible. Some examples are:

- Lake Emery in Marquette County is a 34 acre impoundment which has experienced sedimentation and excessive nutrient loading. The project involved dredging part of the lake and cost $259,394 ($208,034 state share). The project will realize only temporary improvements because no attempts were made to reduce soil erosion or nutrient loadings, and the watershed is over 200 times greater than lake size. In addition, the new lake bottom will still serve as a nutrient-rich base for weed growth.

- Angelo Pond, in Monroe County is a 35 acre impoundment that has experienced sedimentation and excessive nutrient problems. Again, long-term improvements are not probable because the dredging project, which cost $268,750 ($215,000 state share), included no protection work and the watershed is over 2,000 times greater than lake size. Although the new lake bottom is primarily sand, soil erosion may soon leave a nutrient-rich base that will allow weed growth.

Erosion and nutrient control has been included in six dredging projects in an attempt to expand the duration of lake improvements. On many of these projects, however, we question whether significant reductions in sedimentation and nutrient problems will occur and provide long-term improvements. For example:

- Lake Henry in Trempealeau County is a 43-acre impoundment. The project included both dredging and watershed controls at a total cost of $412,480 ($140,157 state share). Long-term benefits are questionable because: (a) the watershed is 2,700 times greater than the lake, and (b) in the two years since project completion heavy rains have resulted in sedimentation filling in an estimated one-tenth of the area originally dredged.

- Bugle Lake in Trempealeau County is a 35 acre impoundment which has experienced severe sediment and nutrient loading problems. The Inland Lake Renewal program funded a project at a total cost of $500,000 ($175,000 state share). The dredging project included erosion controls with additional nutrient control work done by the Non-point program. Nevertheless, long-term improvements are questionable because (a) the watershed is 2,000 times greater than the lake, and (b) the Environmental Impact Assessment prepared by Inland Lake Renewal staff before approving the grant notes that the project is not "expected to significantly improve water quality in Bugle Lake."

Some projects, however, will provide long term improvements to lake water quality. One example:

- Mirror and Shadow Lakes in Waupaca County total 52 acres and have experienced algae problems due to excessive nutrient loadings. The lake project cost a total of $408,268 ($122,480 state share). This project diverted the City of Waupaca's storm sewers, thereby permanently reducing nutrients by 50 percent.

Public Benefit

According to the statutes, the citizens of the State should "reasonably benefit" from Inland Lake Renewal projects (s. 33.16(4)(a)) Each lake which receives project grants should be capable of supporting general public uses and have public access to support this use. Otherwise, only lake front property owners will be able to enjoy improved lake resources.

The DNR does not formally estimate who will benefit from a lake project, what the benefit will be, or the degree of benefit. Rather, the DNR determines whether the general public has the capability of using the lake by determining whether the lake has "adequate" public access.

Standards for determining the adequacy of an access are outlined in the DNR's administrative code. DNR District staff make the determination by considering a number of factors, including: the availability of parking for cars and trailers near the access, public ownership or interest in the access, and the present and potential boating uses of the lake. Availability of public

swimming facilities or public parkways is not considered in this determination. If an access is judged inadequate, the lake district is responsible for improving the access either prior to or as a condition of receiving funds.

The public access determination is the only measure of public benefit made by the DNR. A major problem with access as a public benefit criterion is that it is based on the size of the lake. The larger the lake, the larger the public access must be as measured by the number of boat ramps and parking spaces. However, a small lake may have adequate access with only a walkway to the lake. The result is that a 10 acre impoundment may have adequate public access, but its small size limits public benefit.

To estimate the benefit of lake projects, we have characterized each as one of two types:

1. Primarily private benefit or limited public benefit, where the lake has either extensive private shoreline development, has poor or limited public access, or is too small to support use by a significant number of people at the same time.

2. Localized or regional public benefit, where the lake supports multiple uses for persons living in many surrounding municipalities, or has a public park and developed access and has the potential to support broad public use.

We have determined that seven projects have resulted in private or very limited public benefit and that lake recreational improvements, if any, will be enjoyed by lake property owners or a limited number of the general public. Three examples of these projects include:

- Lilly Lake in Kenosha County is an 87 acre natural lake that was dredged at a total cost of $729,000 ($155,000 state share). The lake has extensive private development along the shoreline. The lake does not have a public park. The public access is currently being constructed and will be limited to two parking spaces.

- Lake Emery in Marquette County is a 34 acre impoundment that was dredged at a total cost of $259,394 ($208,034 state share). The lake has private development along one shoreline, a state highway along the other, and no public park. The public access is difficult to locate and in poor repair. A number of nearby large lakes serve as the primary water resource in the area.

- Chilton Millpond in Calumet County is an eight acre impoundment that was dredged at a total cost of $80,000 ($64,000 state share). The lake has a public park and a boat ramp on its shores, but the small size of the impoundment limits public benefit.

On the other hand, we have determined that eighteen of the projects have resulted in either a broad regional public benefit or the potential for providing local public benefit. Four of the eighteen projects will result in regional public benefits. Two projects included efforts toward long-term protection while two were limited to lake rehabilitation. An example of each includes:

- Big Cedar Lake in Washington County is a 932 acre natural lake that had nutrient control work done in its watershed at a total cost of $267,500 ($215,000 state share). The lake, which has a good quality fisheries and heavy boating use, will be protected from future serious deterioration. Though the lake has no public park, some regional benefits will result because the lake already experiences heavy use from surrounding populations. (Even this project will provide substantial benefits to private lake front property owners, as at least 90 percent of the shoreline is privately developed.)

- Lake Henry in Trempealeau County is a 43-acre impoundment where a dredging and watershed project was completed at a total cost of $412,480 ($140,157 state share). This lake is expected to serve as an improved lake fishing resource. Though other recreation uses are limited due to lake size, there is a park on the lake and a boat ramp. Moreover, there are very few lake resources near Lake Henry, and lake users are expected to come from greater distances.

Recreational Benefits

Improving the recreational potential of the State's public lakes is an anticipated benefit of protecting and restoring lakes. The legislative declaration of intent notes that "lakes form an important basis of the state's recreational industry and that the increasing recreational usage of the waters of this state justifies state action to enhance and restore the potential of our inland lakes to satisfy the needs of the citizenry" (s. 30.001). Lake rehabilitation projects should improve or restore a lake's recreational potential, while lake protection projects should protect existing high quality recreation resources.

The DNR does not formally assess expected lake recreation improvements as part of reviewing project grant requests. Consequently, the Inland Lake Renewal program has not established priorities to grant requests according to the recreational potential or value of a lake.

We have reviewed the actual or possible recreational improvements resulting from lake projects. Improvements can be grouped into three categories: swimming, fishing, and boating. Our

analysis is based on discussions with DNR Area Fish Managers, Office of Inland Lake Renewal staff, lake district commissioners, and on-site inspections.

We found that the majority of lakes will have improved fishing potential as a result of lake projects. However, we also found that very few projects will improve swimming and boating, because: (a) 14 of the 25 lakes are under 100 acres and therefore already have limited boating potential; (b) few lakes have public swimming areas and; (c) most lakes will still have nutrient-rich waters which will limit swimming demand. Some examples of projects which will only marginally improve lake recreation potential are:

- Lake Martha in Trempealeau County is a 13 acre impoundment that was dredged at a total cost of $203,150 ($162,520 state share). Increased water volume will expand habitat available for warm water fish. However, the 13 acre impoundment can support only limited small boating demand. Local public swimming demand is not met by a public beach but rather a public swimming pool located next to the lake. (The pool was constructed with aid from DNR, a $60,358 grant from the Outdoor Recreation and Acquisition Program.)

- Hartford Millpond in Washington County is a nine acre impoundment that will be dredged and have a bulkhead constructed on the lake shores at a total cost of $312,000 ($212,000 state share). This project will result in virtually no improved lake recreational potential: the nine acre millpond cannot support boating, the bulkhead line deepens the shoreline and makes swimming unsafe, and the millpond's fishing potential is considered marginal. Local residents usually travel to Pike Lake State Park five miles away to do lake fishing.

- Comus Lake in Walworth County is a 117 acre impoundment that plans a dredging project at a total cost of $900,000 ($212,000 state share). The dredging project will only partially improve fishing: fish habitat will be expanded, but dredging will not reduce the rough fish population. There is no public swimming beach, and boating will be only marginally improved because of lake size and restrictive boating regulations. Extensive lake recreation resources are nearby; 10 lakes larger than Lake Comus are within 15 miles.

Three other projects--Upper Willow Flowage, Lake Henry, and Perch Lake--will have results similar to the Lake Martha project: a somewhat improved fishing habitat but limited boating improvements and almost no swimming benefits because of nearby public swimming pools.

Some of the lake projects have improved public recreational uses of the lakes. Examples of these projects include:

- Half Moon Lake, in the City of Eau Claire is a 132 acre natural lake that had a storm sewer diversion and aeration project at a total cost of $743,000 ($130,000 state share). Public swimming improved as a result of increased water quality, and fishing has improved due to an apparent decline in the frequency of fish winterkills.

- White Clay Lake in Shawano County is a 234 acre natural lake that had a watershed nutrient control project at a total cost of $292,566 ($119,493 state share). Though the project has not improved swimming, a high quality fishing lake which receives regional use has been protected from future deterioration.

Need for State Aid

An additional consideration to be made by the DNR is ". . . whether the project is financially viable, given the resources of the district and the possibility of financial and nonmonetary aid . . ." (33.16(4)(c)). The statutes imply that

the DNR is to make an assessment as to the financial viability of the project given the resources of the lake district. The DNR is to provide state support to aid and assist those local lake management efforts. The DNR is not required to consider a lake district's relative need for state aid, but we included this in our evaluation in order to compare the financial capacity of lake districts that have received state grants.

There have been examples in which the DNR has discouraged a particular project because of potentially insufficient local resources, but the DNR does not make an assessment of the actual need for state aid. State grants may be considered unnecessary if projects would have been undertaken without state assistance. To address this criterion, we assessed whether any lake projects would have been undertaken without state grant assistance.

Lake district officials and Inland Lake Renewal staff can only speculate as to whether lake district members would have supported a project if no state aid were available. We reviewed records and interviewed lake district officials, however, to determine whether any projects would have been done without state aid. The primary indicator we used is whether the lake district had already initiated a project or completed plans to independently finance a project prior to requesting state aid.

We found three cases in which we believe projects would probably have been completed without state assistance. They are:

- Half Moon Lake, in which the City of Eau Claire had already determined the causes of the lake's problems and developed a lake project plan prior to the creation of the grants program. Before state aids were available, the city had authorized issuing a bond to fund the full cost of the lake project.

- Chilton Millpond, in which the City of Chilton had already dredged a portion of the eight-acre millpond and bids had been let to complete the project, when city officials became aware of state lake project grants.

- Lilly Lake (Kenosha County), in which the local lake association had already prepared a dredging plan and obtained the necessary permits when the grants program was created. The local association expected to fund a smaller dredging project on its own. Subsequent federal and state aid, however, allowed the lake district to expand its dredging project.

It is difficult to determine whether other lake districts would have undertaken lake projects without state assistance. The key variable is the willingness of lake district members to use more of their own financial resources to support the project. In an attempt to "measure" willingness, we can provide a brief description of lake district financial resources and a relative comparison of the financial burden borne by lake districts under the state/federally assisted program.

To date, lake districts which have received grants vary considerably in the extent of their district financial resources. Based on information available on 23 of the 25 lake districts which have or will receive state grants, 11 of the 23 lake districts have total equalized assessed valuations greater than $50 million. Five lake districts, however, have total equalized assessed valuations under $5 million.

Lake districts also vary dramatically in: (a) their relative contribution to projects under the current program, and (b) what they would be required to pay for their projects if state and federal aid were not available. Under the current grants program, for example, the Lake Emery lake district paid $51,360 for their project, which necessitated an amount equal to a one-year mill levy of $65 per $1,000 property valuation. The one-year mill levy is used for explanation purposes only; Lake Emery actually used a combination of property tax levy and special assessments spread over a number of years. In comparison, Half Moon Lake district residents paid an amount equal to a one-year mill levy of only $0.17 per $1,000 property valuation.

Table 1 compares local contributions under the current program (for eight lake districts) with contributions which would be necessary if no state and federal aid were available. Again, the one-year property tax levy is used for comparative purposes only; each lake district may have used other financing mechanisms as well as the mill levy.

Table 1
One-Year Property Tax Levy for Project Funding

Lake District	Current Program	Without State Or Federal Aid
Lake Emery	65.0 mill	326.0 mill
Lilly Lake	19.9	99.5
Elk Creek Lake	15.0	75.0
Bugle Lake	7.0	34.0
Perch Lake	0.7	3.5
Upper Willow Flowage	0.7	3.5
Hartford Millpond	0.4	2.0
Half Moon Lake	0.17	0.85

In Table 1, Lake Emery is an extreme example of lake district willingness to bear a heavy financial burden. If Lilly Lake is used as a more moderate example, it might be argued that four lake districts in Table 1 could have paid for the entire project without state and federal aid, and yet still paid less on a mill levy basis than Lilly Lake did for their lake project under the current program. In fact, 14 of the 23 lakes for which financial information is available would have needed less than 20 mills in one year without state or federal assistance.

Although this type of measure is not definitive, it does indicate the relative financial burden that would be faced by lake districts if there were no state or federal aid. This comparison, plus the earlier assessment of those projects that would have been done without state aid, indicates that some projects, perhaps scaled down, would still be undertaken by lake districts if state aid were not available.

Summary of Project Results

The Inland Lake Renewal program has funded primarily in-lake rehabilitation projects, with 18 of the 25 involving dredging. Only five projects focused on the source of the lake problem, with nine others being a combination of in-lake rehabilitation and watershed protection. The remaining eleven projects involved no protection work that would address the source of the lake problem. In most of the dredging projects, particularly those

involving small impoundments, long-term project benefits are very questionable. On a number of the lakes potential public benefit is limited by the size of the lake. Fourteen of the 25 projects are on lakes less than 100 acres. Public benefit and recreational potential are also limited on a number of projects by proximity of nearby water resources. Some projects will benefit the fisheries, but swimming and boating improvements are often minimal.

Based on the standards applied in this section of our report, 21 of the 25 projects failed to satisfy all five criteria (see Appendix III). A majority of projects failed on at least two of the criteria, with several failing on more than two. Certainly, conditions in each of the 25 lakes improved as a result of the projects, however, on the whole, a review of the projects shows a consistent pattern of failing to meet the evaluation standards we developed from Chapter 33.

The failure to achieve these objectives is the result of two major problems: (1) reliance on lake districts to initiate projects, and (2) DNR's inadequate program development and monitoring of the Inland Lake Renewal program.

Although local interest in lake management is vital to the process of rehabilitating and protecting a lake, the lake district mechanism has important limitations, which include:

1. the tendency of lake districts to organize and request state funds when lake problems are visible and costly to correct, rather than when lake quality is threatened but can still be protected from deterioration;

2. the tendency of smaller lakes to be rehabilitated because the cost of rehabilitation on larger lakes is prohibitive;

3. the tendency of lake districts to include only a portion of the watershed in their boundaries and to favor in-lake work over watershed protection work because in-lake usually bears immediate (but short-term) and visible results;

4. the difficulty of forming a lake district that overlaps several local governments.

The lake projects described in this report exemplify one or more of these limitations. In combination, these limitations eliminate many lakes that are larger, have less visible yet manageable problems, and may serve as more general public recreational resources.

Other states are more flexible in allowing other government units to receive assistance. Although several states do allow special purpose governments to be eligible recipients, all ten in our survey provided assistance to general government units as well (e.g., cities, counties). By not relying exclusively on special purpose units, a lake management program is able to avoid some of the limitations described above.

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DNR PROGRAM RESPONSIBILITY

While the Inland Lake Renewal program is mandated to be a locally initiated program, the DNR has a number of responsibilities to react to that local initiative in a manner which should promote the objectives of Chapter 33. However, the DNR has not:

1. established standards for lake projects to ensure they meet the objectives of Chapter 33,
2. ensured that the Inland Lake Renewal program is operated in coordination with other DNR and federal programs which could contribute to lake protection,
3. met its own requirements and followed its own procedures in administering the program.

Standards

The DNR has failed to implement minimum project standards. For example, the DNR does not assess the recreational use or public benefit of a lake, nor does it have a standard on "long term improvement" of lake water quality. The only minimum standard is the availability of public access, but even this does not adequately consider public benefit or any of the other standards described in Chapter 33. DNR staff do not interpret the criteria outlined in section 33.16 as standards to be applied to lake projects. DNR staff have indicated they do not plan to apply standards in the selection of projects for funding until such time as funds are insufficient to meet all lake project proposals.

The failure to implement project standards results in the DNR exercising little control over the program but rather reacting to lake district initiative. Although there may be minor changes in project plans at the suggestion of DNR staff, the plan proposed by the lake district usually determines project scope. The result of this process is the wide range of projects, described earlier, many of which do not meet the evaluation standards we developed from Chapter 33.

The Inland Lake Renewal program was one of the first state lake programs created nationwide. Compared to other states, the Wisconsin Inland Lake Renewal program is among a minority that does not apply standards. Six of the ten state lake programs award grants based on either minimum standards or a priority ranking. As an example, Iowa has specific minimum standards that limit eligibility to lakes larger than 25 acres and a watershed to lake size ratio of less than 200 to 1. In Washington, lake projects are not funded unless they have adequate public benefit, sufficient watershed protection and involve long-term cost effective improvement strategies. The standards used by other state programs usually include lake protection criteria.

In addition, six of the ten state lake programs rely on federal and local project funding with no state grants. The remaining four states which have state grants typically supplement federal grants. In these states, minimum project standards promulgated in 1980 by the Environmental Protection Agency are applied.

Coordination

The DNR has not adequately coordinated the Inland Lake Renewal program with other state programs that affect water quality and recreational use of lakes. The intent of Chapter 33 was to create a lakes program that would improve and protect both water quality and recreation on the state's lakes.

The DNR has a number of programs which may affect the water quality and recreational use of lakes. Programs which focus on water quality include such responsibilities as establishing water quality standards, assessing water quality and land uses in watersheds, developing programs to improve water quality, classifying lakes by the severity and type of water quality problems and gathering data on individual lakes.

Among these water quality programs, a major area for coordination is between the in-lake work done by the Inland Lake Renewal program and the watershed assessment of water quality and land use done by the Nonpoint Source program. Although some coordination does exist, such as the two lake districts that are currently in priority watersheds of the Nonpoint Source program and two more which are local priority watersheds, coordination between other lake projects and watershed work is usually lacking. This type of coordination is difficult to achieve given the different selection processes and client groups that are involved in each program. However, such coordination is critical if a lake management project is to include both in-lake rehabilitation and watershed protection.

In addition to coordination between program elements, coordination is also lacking between cost-sharing percentages offered by the various programs. The Nonpoint Source, federal ASCS and Inland Lake Renewal program have different cost-sharing percentages for the same watershed control projects (see Appendix III).

Besides water quality concerns, the Inland Lake Renewal program is also intended to protect and rehabilitate lakes for recreational activities. Recreational efforts in other DNR programs include developing public access to lakes, stabilizing stream banks, installing aeration systems in lakes and stocking lakes with fish.

Among these recreation programs, improving the lake fishery is an important concern for both the Inland Lake Renewal program and the DNR's Bureau of Fish Management. Although some program coordination does occur, systematic program communication is often lacking.

Procedures

The DNR has not always met its own requirements in developing lake management studies or followed its own procedures for awarding grants. The Inland Lake Renewal program has established inadequate control over the quality of lake studies, encumbered grant funds prematurely, established no formal standards for eligible costs,

funded projects without a normal lake study, and performed limited evaluation of the effectiveness of completed projects.

Lake districts contract with consultants to collect data for lake studies. Lake district commissioners rarely have the technical expertise to judge either the qualifications of the consultant or the quality of the data being collected. Although the DNR receives quarterly reports and does have legal authority, under Administrative Code NR 60.03(4)(b), to require changes in data collection, the DNR is reluctant to assert this authority directly over the consultant. Since the lake study contract is signed between the lake district and the private consultant, the DNR maintains that the lake district is legally responsible for the study. The poor quality data collected under this arrangement have resulted in the DNR issuing a number of lake management alternatives reports based on what they recognize as inaccurate and incomplete data.

According to the statutes, the DNR is to approve or deny a project grant application within 60 days after the public hearing and environmental impact assessment. However, funds for eight of the 25 projects were encumbered before the public hearing and before formal DNR approval. Two project grants were encumbered two years before a public hearing was held. This practice defeats the purpose of a public hearing and may ignore the eventual results of DNR's review of lake projects. In addition, the Office of Inland Lake Renewal usually encumbered project funds at

the end of a biennium to avoid lapsing grant funds. Twenty-three of the 25 project grants were encumbered in the last month of the biennium.

Eligible uses of state grant funds are not clearly identified by the Office of Inland Lake Renewal. Some administrative costs such as lake district meetings are not funded and some types of lake management strategies such as weed harvesting or chemical weed treatments are not funded. Yet, no comprehensive standards for eligible costs or for eligible lake management strategies have been determined. This leads to poor coordination with other state and federal programs that fund similar practices (see Appendix IV). For example, until 1980, manure storage facilities were eligible for:

1. 70% state funding with a maximum of $6,000 under DNR's Non-Point program,

2. up to 50% federal funding with a maximum of $40 per animal under the federal ASCS program,

3. 80% state funding with no maximum limit under DNR's Inland Lake Renewal program (up to $24,000 has been granted for a single manure storage project).

On several occasions, lake projects have been funded without lake studies.

> Chilton Millpond in Calumet County was granted funds to complete a dredging project already started by the city; a lake study was not conducted, DNR staff did not develop management alternatives for the lake, and DNR technical staff were not involved in the project.

Lake Decorah in Juneau County received a grant for an incomplete study and project funds were encumbered. However, local opposition emerged and in the resulting legal proceeding the court ruled that the lake district was illegally formed and, therefore, not eligible for the already encumbered state grant.

Lake Emery in Marquette County was granted funds for a dredging project and no lake study was conducted nor did DNR develop management alternatives for the lake.

Finally, lake protection and rehabilitation strategies that have been funded by the Office of Inland Lake Renewal have not been thoroughly evaluated after projects are completed. While some lake project evaluations have been undertaken with federal funds, regular evaluations of state funded project efforts have not occurred. The result is an inadequate or non-existent data base to judge the effectiveness of various lake management strategies which may be used to judge the value of future lake projects.

While Chapter 33 establishes a program in which lake studies and projects are initiated by the local lake districts and the DNR is assigned responsibilities which react to those local initiatives, we believe the DNR could have done more to ensure that the objectives of Chapter 33 were met. Establishing program standards, coordinating with other programs, and establishing basic administrative procedures would, we believe, have been useful. We also believe that as the problems which prevented the program from meeting its objectives were identified, the DNR should have proposed changes to the law which might have made it more workable.

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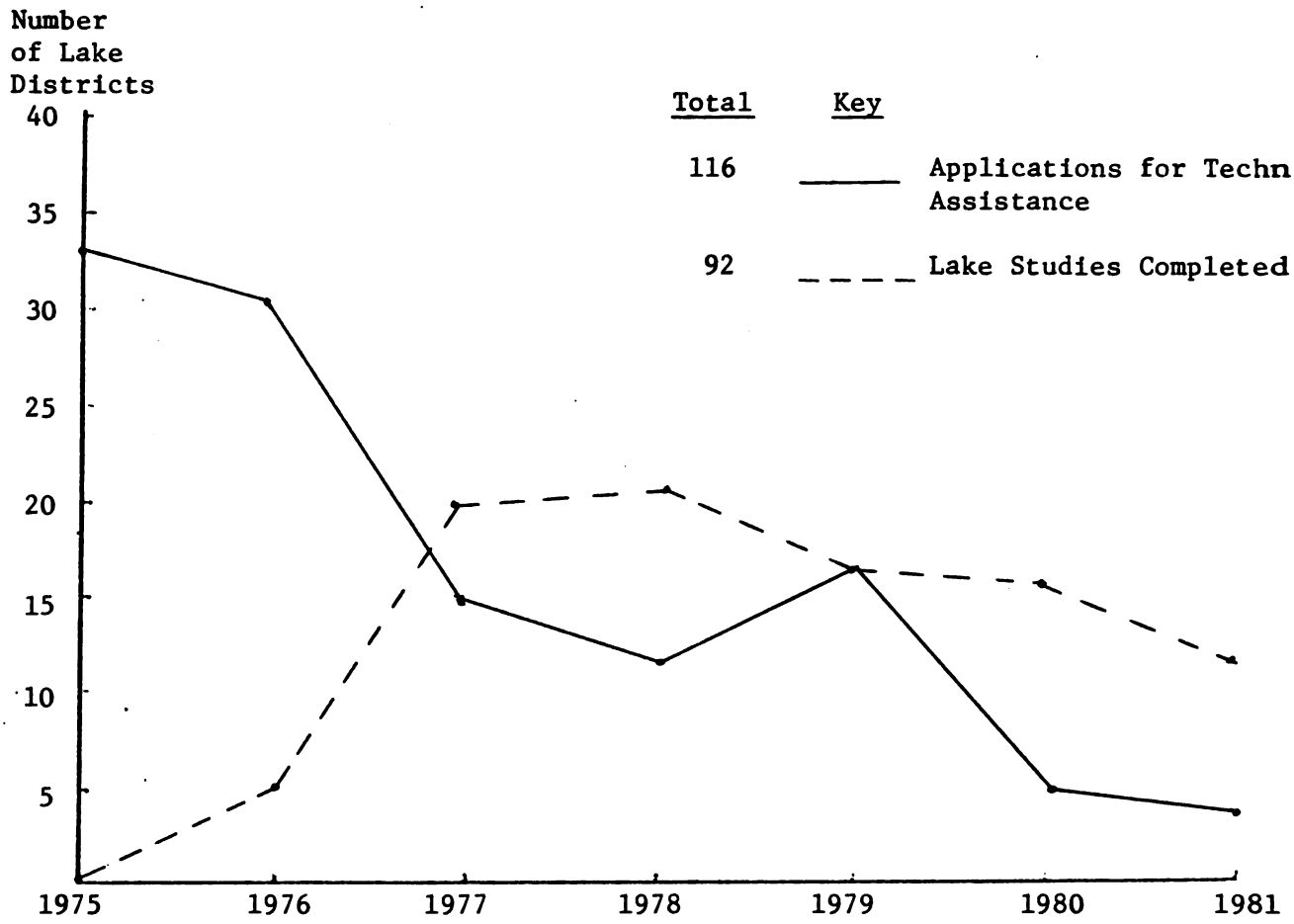
FUTURE DEMAND

As part of our evaluation of the Office of Inland Lake Renewal, we assessed the future demand for the services of the Inland Lake Renewal program. Projections of future requests for technical and financial assistance indicate a declining demand for those services. The historical trend of applications for technical assistance, the conducting of lake studies and the preparation of management alternatives show a substantial decrease from the first years of the program.

Since the program began in 1974, there have been 116 requests for technical assistance. The year-by-year trend shows a peak of over 30 applications in each of FY 1975 and FY 1976 declining to the present three in FY 1981 (see graph). Local economic pressures as well as the difficulty of reaching the consensus needed to form a viable lake district are major factors that have led to this decline. Most lakes that could be easily organized into a lake district have already been organized. The thousands of lakes that have not formed lake districts may have avoided doing so because: (a) lake problems are not visible or, in fact, not significant, (b) lack of local interest or local financial resources, (c) local resistance to lake district formation; and (d) lack of awareness of the Inland Lake Renewal program.



The number of lake studies undertaken by lake districts indicates a similar pattern. In FY 1978, there were 21 lake studies completed under the direction of the Office of Inland Lake Renewal, whereas there are only six currently in progress. The demand for lake studies in the future shows even further signs of decline. At present there are only two lake districts ready to start a lake study this fall.

A major component of staff workload is the preparation of management alternatives after the lake study is completed. To date, 79 management alternative reports have been prepared for lake districts. Although DNR staff are currently ending a backlog of management alternative reports, the future demand for such reports shows a sharp decline. Twenty-one reports were completed in FY 81 and 13 lake districts have completed the lake study and are awaiting a report. Once these are completed, only the six studies now underway and the two that are starting this fall will require management alternative reports.

Future demand for financial assistance for lake projects is more difficult to assess. Many of the lake districts which receive management alternative reports never proceed to an actual lake project that is cost-shared by the Office of Inland Lake Renewal. Of the 79 lake districts which have received management alternative reports, 25 have proceeded with projects, leaving 54 lake districts as potential project grantees in the next few years.

Through discussion with DNR staff and interviews with lake district commissioners, it appears that most of the 54 will not proceed with a project. Reasons for not undertaking a project include a lack of financial resources in the lake district, no critical lake management problem, or a problem so extensive that the cost of rehabilitation or protection work is prohibitive.

However, of the 54, our estimate is that perhaps 10 to 12 lake districts may proceed with projects in the next two to three years. Most of these projects will involve dredging. Additional work may include aeration, watershed controls, and shoreline protection. The general pattern is a continuation of the types of projects funded in the past, but on a smaller scale. The reduction in project scope is due largely to the loss of federal funds. Prior to July, 1981, EPA Clean Lakes funds provided 50% grants for 12 of 25 Wisconsin projects. Funding for new Clean Lakes grants may be eliminated in the federal FY 1982 budget.

The loss of federal funds combined with the 10% limit on state grants, will lead to a reduction in the scope of projects, as well as a possible shift in project types. Aeration, being a less expensive option, may become more popular as a lake management strategy, dredging projects will be reduced in scope, and watershed and shoreline components that address problems less visible to the lake district may be eliminated.

In summary, although several lake districts may form each year and there may be future requests for project grants, the overall trend for lake district formation and project planning is downward. As a lake management unit, the lake district is guided by local initiative and restricted by the need for consensus, visibility of lake problems and other limitations described in

the last section. The limitations of the lake district mechanism, in combination with a decline in lake district formation, leads to an overall reduction in the demand for the services of the Inland Lake Renewal program. This decline may also result in a decline in the demand for the informational service provided by University of Wisconsin-Extension.

Extension staff estimate that they spend approximately 60% of their time working with lake districts. As the number of districts forming has declined, Extension staff time has been used to provide information to voluntary lake associations and others interested in lake programs. Time has also been available to work on other water quality issues such as acid rain and clean drinking water.

While the other functions which have been assumed by UW-Extension may be having a useful impact on water quality in general, these activities are not those intended by Chapter 33 or the appropriation provided for support of the Inland Lake Renewal program. Further, the downward trend in lake district formation and project planning may result in a declining demand for Extension assistance to lake districts.

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RECOMMENDATIONS

We believe that the Inland Lake Renewal program, in operation, fails to meet the intent of the legislation enacted in 1974. The evaluation standards used in our analysis were taken from program objectives described in Chapter 33 of the statutes. These standards indicate that the program was intended to:

- ensure that the citizens of the State will reasonably benefit as a result of lake improvement projects,
- substantially eliminate the source of water quality degradation,
- improve the recreational value of a lake or protect an existing high quality resource,
- provide sufficient long-term benefits in relation to cost.

While the objectives of the program may be sound, a combination of problems involving: (1) the statutory process for selecting lakes and funding projects exclusively through lake districts, (2) the declining number of new lake districts forming, and (3) inadequate program development and monitoring by DNR leads us to conclude that the existing program will not achieve those objectives.

We recognize, however, that valuable lake resources continue to be threatened by upstream and in-lake problems which adversely affect water quality and recreational potential. Based on our analysis of the current program, we believe an effective alternative, consistent with the objectives of Chapter 33, would need to include the following elements:

1. Improved lake selection process. An effective lake selection process would identify larger lakes with wider public benefit, capitalize on existing local interest, and minimize the limitations encountered with the current lake district mechanism. Local interest is essential if the affected community is to promote, approve and provide the necessary financial support for a project.

2. Lake project standards. An effective lakes program would establish minimum standards for accomplishing both protection projects in watersheds and rehabilitation projects in lakes. Minimum standards would conform to project criteria outlined in Chapter 33, and would be designed to ensure only projects which address the causes of lake degradation, provide long-term improvements, result in broader public benefit and enhance the recreational potential of a lake would be funded. In addition, priorities for funding lake projects should be established if sufficient state funds are not available to fund all worthy projects.

3. Incentives for lake protection. An effective lakes program would provide incentives for lake protection work. In-lake work, which often involves dredging and provides immediate lake improvement, is usually supported by lake property owners. Protection work which would prolong the effects of in-lake rehabilitation or reduce the need for lake rehabilitation in high quality lakes usually has less support among lake property owners. One mechanism for providing incentives for protection would be increasing the state cost share for protection work and reducing the state cost share for in-lake work, particularly dredging.

4. Improved project effectiveness. An effective lakes program would carry out the existing statutory requirements for reviewing the effectiveness of completed lake projects. The effectiveness of improvement and protection strategies like dredging or various erosion control practices have never been comprehensively evaluated by the Inland Lake Renewal program. Such evaluations should be regularly performed to provide information which could be used in selecting the most beneficial projects in the future.

5. Improved program accountability. Program controls and accountability should be improved. This would ensure internal procedures for awarding grants be followed. The DNR should also directly contract with consultants collecting lake study data rather than relying on lake districts to improve the quality of lake studies.

6. Improved program coordination. An effective lakes program would more directly coordinate lake renewal funds with other state and federal programs which work to improve lake and stream water quality and improve the recreational potential of lakes. Improved coordination to maximize the impact of available funding is even more critical with the elimination of federal Clean Lakes funds.

7. Funding. If the causes of lake degradation are to be corrected in larger lakes with wider public use and benefits, an effective lakes program would require substantial financial support. Given the proposed cutback in federal funds and current state fiscal constraints, some rehabilitation techniques on larger lakes may not be able to be funded. If current funding levels are maintained, we believe the emphasis would, at minimum, need to shift towards less costly rehabilitation techniques, such as aeration.

We believe, however, that it may be difficult to create a program which would include all of these elements. For example, it may be difficult to develop a lake selection process which, on the one hand, relies on local initiative and localized interests and, on the other hand, selects larger lakes with wider public benefit. Similarly, projects which would encompass both watershed and rehabilitation work may be too costly or may be difficult to accomplish given the interests of lake property owners who may focus on more visible problems and results.

We recommend, therefore, the Legislature eliminate the Inland Lake Renewal program within the DNR. This would reduce expenditures by $2.3 million GPR in grants and $575,200 GPR in salaries for seven DNR staff, if applied to the 1981-83 biennium.

If the Inland Lake Renewal program is eliminated, the responsibilities assigned to the UW-Extension with regard to the program would end. While other activities related to lake water quality which have been undertaken by the UW-Extension may be useful, we believe it may be appropriate to eliminate the appropriation oringially intended for this program in Extension. *Therefore, we recommend that the Legislature eliminate funding for Inland Lake Renewal program activities within the UW-Extension.* This would reduce expenditures by $100,000 GPR in salaries for two Extension staff, if applied to the 1981-83 biennium.

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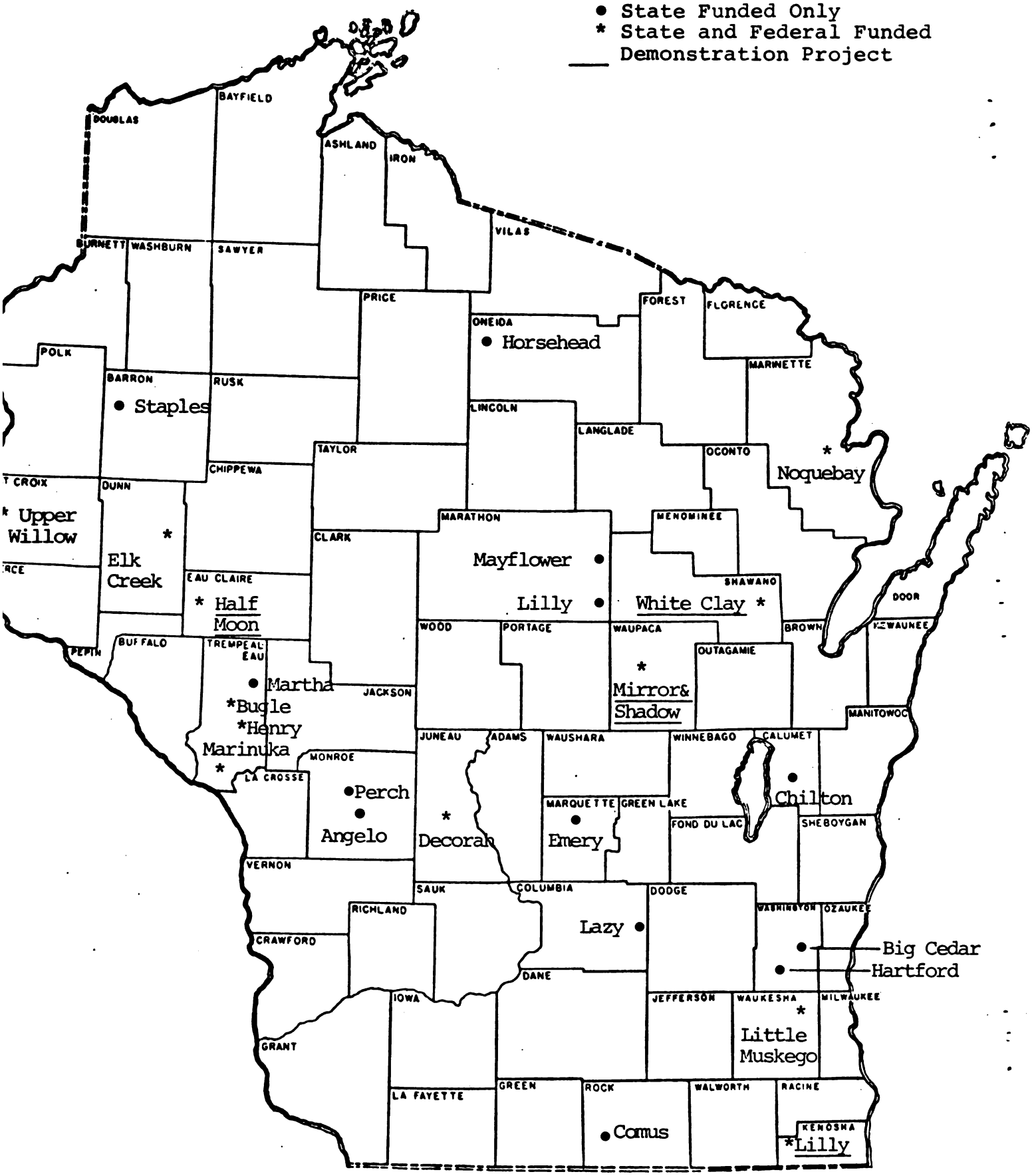
APPENDIX I
MAP OF LAKE PROJECTS



APPENDIX II

LAKE PROJECTS FUNDED OR ENCUMBERED 1974-1981

	Lake (County)	Year of Project Grant	Lake Size (In Acres)	Project (% of Project Cost)	Source of Funds/Total Cost* Federal	State	Local	Total Cost
1.	Half Moon Lake (Eau Claire)	1975	132	Storm sewer diversion (92%), dredging (7%), areation (1%)	$ 371,500	$ 130,000	$ 241,500	$ 743,000
2.	White Clay Lake (Shawano)	1975	234	Watershed and streambank improvements	143,200	119,493	29,873	292,566
3.	Lilly Lake (Kenosha)	1975	87	Dredging	352,000	155,000	222,000	729,000
4.	Mirror & Shadow Lakes (Waupaca)	1975	12 and 40	Storm sewer diversion	204,134	122,480	81,654	408,268
5.	Bugle Lake (Trempealeau)	1977	35	Dredging (33%), streambank work (67%)	250,000	175,000	75,000	500,000
6.	Lake Henry (Trempealeau)	1977	43	Dredging (67%), streambank work (33%)	206,240	140,157	66,083	412,480
7.	Lake Noquebay (Marinette)	1977	2,150	Weed harvesting	245,000	147,000	98,000	490,000
8.	Little Muskego Lake*** (Waukesha)	1977	506	Dredging	995,000	190,000	4,110,000	5,295,000
9.	Lake Decorah**** (Juneau)	1977	150	Dredging	252,000	151,200	100,800	504,000
10.	Angelo Pond (Monroe)	1979	35	Dredging	-0-	215,000	53,750	268,750
11.	Perch Lake (Monroe)	1979	34	Dredging (95%), streambank work (5%)	-0-	215,000**	50,000	317,000
12.	Lake Martha (Trempealeau)	1979	13	Dredging	-0-	162,520	40,630	203,150
13.	Big Cedar Lake (Washington)	1979	932	Watershed work	-0-	215,000	52,500	267,500
14.	Lake Marinuka (Trempealeau)	1979	80	Dredging (75%), streambank and watershed work (25%)	515,000	215,000	300,000	1,030,000
15.	Lake Emery (Marquette)	1979	34	Dredging	-0-	208,034	51,360	259,394
16.	Chilton Millpond (Calumet)	1979	9	Dredging	-0-	64,000	16,000	80,000
17.	Upper Willow Flowage (St. Croix)	1979	220	Dredging (64%) and streambank work (36%)	344,000	215,000	129,000	688,000
18.	Harford Millpond (Washington)	1981	8	Construct bulkhead (66%) and dredging (34%)	-0-	212,000	100,000	312,000
19.	Elk Creek Lake (Dunn & Eau Claire)	1981	54	Dredging (92%) and streambank work (8%)	300,000	212,000	88,000	600,000
20.	Lilly Lake (Marathon)	1981	88	Dredging	-0-	44,000	11,000	55,000
21.	Mayflower Lake (Marathon)	1981	98	Aeration	-0-	6,040	1,510	7,550
22.	Staples Lake (Barron)	1981	305	Watershed work	-0-	110,045	27,511	137,556
23.	Horsehead Lake (Onieda)	1981	366	Aeration	-0-	35,760	8,940	44,700
24.	Lazy Lake (Columbia)	1981	161	Dredging	-0-	212,000	540,000	752,000
25.	Comus Lake (Walworth)	1981	117	Dredging	-0-	212,000	688,000	900,000
	Total				$4,178,074	$3,883,729	$7,183,111	$15,296,914

*Funds and cost figures represent the latest cost estimates available.

**An additional $52,000 of state flood disaster relief funds were used to pay for the project.

***Project plan voted down by lake district membership in July, 1981.

****Lake District declared to be illegally formed by courts, 1981. Encumbered funds returned to the State.

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APPENDIX III
LAKE PROJECT STANDARDS

As part of our study, we evaluated the twenty-five lake projects according to five evaluation standards. Four of the standards--addressing the source of lake problems, term of improvement, recreational benefit and improvement, and public benefit--were based on project criteria listed in Chapter 33. The fifth evaluation standard--lake district need for financial aid--was not based on a specific statutory criteron.

We considered a number of factors as indicators of whether a lake project met a particular standard. We usually weighed each factor equally in order to determine if a project met a standard. There were instances, however, in which one factor may have had more weighting than others due to circumstances of the particular lake project. Within each standard, a lake project did not have to "pass" on every factor in order to "pass" on that particular standard.

In the chart that follows, 21 of the 25 lake projects failed on at least one standard. Failure on one standard does not necessarily mean a total project failure, but it does indicate that an important element of the project failed to meet one of our evaluation standards.

Of the four that passed all criteria, three were protection projects and one an experimental project. Two of the protection projects, White Clay and Mirror & Shadow, were started as demonstrations prior to the Inland Lake Renewal program. The third, Big Cedar Lake, was started in 1979.

The factors which we considered for each standard are listed below:

1. Source of Lake Problem Addressed

   a. Were sedimentation controls used?

   b. Were nutrient controls used?

   c. Was the source of the lake problem addressed by methods other than watershed controls?

2. Long-Term Improvements

   a. Was the project scope sufficient to address the source of the lake problem?

   b. Is the watershed-to-lake size ratio less than 20 to 1?

   c. Does the watershed have extensive agricultural or urban use?

3. Recreational Benefits

   a. Did the project improve or protect swimming, boating or fishing?

   b. Are there other lake resources within fifteen miles?

   c. Is the lake large enough to support multiple recreational uses?

4. Private or Public Benefits

   a. Is the shoreline 75% or more private ownership?

   b. Is the public access in good condition and accessible?

   c. Is the lake less than 15 acres?

5. Need for State Financial Aid

   a. Did the local lake group already have plans to undertake and complete a similar project?

   b. Have other lake groups done similar projects without state aid?

   c. Could the project have been done for less than three mills on a one-year basis without a state grant?

ANALYSIS OF WHETHER LAKE PROJECTS MEET EVALUATION STANDARDS

(An "X" Indicates a Project Did Not Meet the Standard)

		Source of Lake Problem Addressed	Long-term Improvement	Recreational Improvement	General Public Benefit	Need for State Financial Aid
1.	Half Moon Lake					X
2.	White Clay Lake					
3.	Lilly Lake (Kenosha County)				X	X
4.	Mirror & Shadow Lakes					
5.	Bugle Lake		X			
6.	Lake Henry		X			
7.	Lake Noquebay	(Effects uncertain, an experimental project)				
8.	Little Muskego Lake	X	X			
9.	Lake Decorah		X			
10.	Angelo Pond	X	X	X	X	
11.	Perch Lake			X		
12.	Lake Martha	X		X	X	
13.	Big Cedar Lake					
14.	Lake Marinuka		X			
15.	Lake Emery	X	X	X	X	
16.	Chilton Millpond	X	X	X	X	X
17.	Upper Willow Flowage			X		
18.	Hartford Millpond	X		X	X	X
19.	Elk Creek Lake		X		X	
20.	Lilly Lake (Marathon County)	X	X			X
21.	Mayflower Lake	X	X			X
22.	Staples Lake			X		
23.	Horsehead Lake	X	X			
24.	Lazy Lake	X	X			
25.	Comus Lake	X	X	X		

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APPENDIX IV
COMPARISON OF COST-SHARING LIMITATIONS BY DIFFERENT PROGRAMS

Practices	Cost-sharing Limitations		
	Inland Lake Renewal*	Nonpoint Source**	ASCS***
Aeration	80%	Not Eligible	Not Eligible
Dredging	80%	Not Eligible	Not Eligible
Contour Cropping	Not Eligible	50%	Up to 75%
Strip Cropping	Not Eligible	50%	Up to 75%
Diversions	80%	70%	Up to 75%
Terraces	80%	70%	Up to 75%
Waterways	80%	70%	Up to 75%
Minimum Tillage	Not Eligible	50%	Up to 75%
Soil Stabilization	80%	70%	Up to 75%
Shoreline Protection	90%	70%	No riprapping; will fund sloping and seeding
Settling Basins	80%	70%	Up to 75%
Barnyard Runoff Controls	80%	70%	Up to 75%
Manure Storage	80%****	70%****	Up to 50%, but no more than $40 per animal
Streambank Fencing	80%	70%	Up to 75%
Cattle Crossings	80-90%	70%	Up to 75%

*Total project funding is subject to 10% of biennial appropriation.

**Funding may be increased to 80% for certain practices if the county agrees to provide 10% cost-sharing.

***Each county committee sets its own cost-share rate per practice, up to a maximum of 75%, and $3,500 per individual per fiscal year (pooling agreements can go to $10,000 per farm).

****Maximum state cost-sharing for this practice is $6,000 (effective 1981 for Inland Lake Renewal).

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APPENDIX V

UNIVERSITY OF WISCONSIN-EXTENSION

432 NORTH LAKE STREET MADISON, WISCONSIN 53706 AREA CODE 608 262-7965

Division of Economic and Environmental Development

September 2, 1981

Senator Gary George and
Representative Philip Tuczynski, Co-Chairpersons
Joint Legislative Audit Committee
State Capitol
Madison, WI

Dear Senator George and Representative Tuczynski:

We received a preliminary copy of the Inland Lake Protection and Rehabilitation Program audit report from the Legislative Audit Bureau during the week of August 24. We expressed several concerns and were given an opportunity to respond to the report.

We believe that the report contains much that is useful and constructive, but it is seriously deficient in its principal recommendation. Total elimination of the Inland Lake Program would be short-sighted and not in the best interests of a wide variety of citizen groups in the state. Indeed, we believe that the recommendation for total elimination of the program is not justified by the findings in the report or by other facts not contained in the report.

Our initial response to the audit report is contained in the following seven points; given more time we can, of course, address more specific aspects of the Inland Lake Protection and Rehabilitation Program and implications of the audit report.

1. Lakes are an important natural resource with significant effects on the economy of Wisconsin. The need to manage and protect this resource will intensify in future years.

Recreation--the state's third largest industry--is heavily dependent on high-quality lakes. Two out of three citizens from the state of Wisconsin report using lakes every year. With escalating fuel prices, Wisconsinites are more likely to use local lake resources rather than travel to distant states.

Eutrophication and sedimentation of lakes have developed over decades and even centuries. Many years of effort will be required to slow and reverse the rate of degradation. Moreover, the turnover of those in a position to take constructive action (lake users, local government officials, lake district commissioners, members of lake associations, lake property owners, and others) requires continuing, uninterrupted state encouragement of those groups.

(continued...)

2. The audit has served a useful purpose by focusing attention on a number of problems that must be dealt with.

The recommendations for program improvement on pages 62-63 contain much that is constructive. While the report concludes that it will be difficult to design a program that would include all those elements, we believe that the people of Wisconsin would prefer an inland lake management program with appropriate modifications rather than the extreme alternative of ignoring the lake resource. Some modifications would be easy to implement, for example, (a) to provide for larger cost-sharing ratios for higher priority (e.g., protection) work and smaller cost-sharing ratios for lower priority (e.g., dredging) work, and (b) to "improve" the lake selection process by enabling general purpose governments to participate in the program. We also agree that it would be desireable to establish mechanisms to assure that the most worthy projects are funded and evaluated. These efforts, however, must recognize the individual characteristics of each lake and must be done carefully by an interdisciplinary team.

3. The audit failed to fully capture the significance of Chapter 33 as legislation created to provide local communities with the option of accepting responsibility for lake management, aided but not directed by the state.

The legislature did not intend, nor did they create a state mandated and directed program. The declaration of intent of Chapter 33 states, in part:

> "...the legislature declares that it is necessary...to authorize a conjunctive state and local program of lake protection and rehabilitation..."

and

> "...The legislature finds that a state effort of research, analysis, planning and financing, and a local effort...of planning and plan implementation is necessary and desireable and that local districts should be formed by persons directly affected by the deteriorated condition of inland water and willing to assist financially, or through other means, in remedying lake problems. The legislature further finds that state efforts are needed to aid and assist local efforts."

By failing to recognize this central objective of Chapter 33, the audit failed to assess the effectiveness of the program in promoting local initiative and developing local leadership to deal with lake problems.

The validity of this approach is demonstrated by the fact that within 7 years, 130 communities have decided to accept formal responsibility for a public inland lake by forming a lake district. Even in a period of high taxes, the citizens of these communities have been willing to commit their time and tax dollars to saving these lakes. While only a few districts were formed in 1980 due to uncertainty regarding the statewide referendum on lake district voting, formations in 1981 (6) are already double the number formed in all of 1980 (3).

4. The lake district concept is an innovative approach for dealing with the management of some lakes, but was not meant to be a panacea or to apply to all lakes.

The lake district mechanism cannot deal with all lake problems (e.g., those of Lake Mendota or Lake Winnebago). However, it is a vehicle to address a variety of lake problems not dealt with adequately by other mechanisms.

In recognition that other institutions would continue to play important roles in lake and watershed management, University of Wisconsin-Extension has not confined its efforts to lake districts, but has also provided education assistance to general purpose government (towns, villages, cities, counties), voluntary associations, and resource management professionals.

5. As a result of the lake protection and rehabilitation program, many lake districts are undertaking local projects without state assistance. Apparently, no effort was made to evaluate such districts.

The audit concentrated on 25 state-funded projects. While not as expensive as state-funded projects, lake district activities that are entirely locally-supported are much more numerous. While these lakes receive no financial assistance from the state, they do receive technical and educational support from DNR and UWEX. A few examples are: dam maintenance at Mt. Morris Lake, aeration at Largon Lake, weed control at Okauchee Lake, algae control at Balsam Lake, carp control at Lake Puckaway, and a sanitary survey at Bear Lake.

Some of these efforts may result in long-term improvement, some may not. However, even where they do not, they keep the lake useable for both property owners and public access site users on an annual basis. Without the lake district mechanism, most such efforts would not continue.

6. The audit has not evaluated the substantial impact of the modest investment made in education assistance.

Though the audit briefly acknowledges that UWEX performs a role in the program, there was no effort to evaluate its effectiveness and certainly no evidence to support the recommendation that its contribution to the solution of lake problems be terminated.

The University of Wisconsin-Extension (UWEX) has performed a major role in the development and implementation of Wisconsin's overall Inland Lake Management Program. The program has been a model of cooperation between state agencies and between the state and local communities. For six years, UWEX and DNR cooperated in a demonstration project which led to the creation of the Chapter 33 Inland Lake Protection and Rehabilitation Program. In the past seven years since the enactment of Chapter 33, two state specialists and dozens of county-based UWEX staff have helped communities understand this law, and have provided educational assistance to the 130 communities who have decided to form formal lake districts and hundreds of other communities interested in understanding "their" lakes. That assistance was supplied on request and has been positively received. In addition to lake management information,

UWEX specialists have provided educational opportunities to the citizens of Wisconsin regarding drinking water quality and acid rain.

We believe that the systematic development of a long-range comprehensive educational program including conferences, workshops, newsletters, bulletins, local presentations and other modes of educational delivery have been a worthy investment in the long-term future of Wisconsin water resources.

The local and statewide impact of the educational program should be carefully studied before making any recommendations regarding redirection, discontinuation, reduction or expansion of the educational program.

7. Elimination of the Inland Lake Program would have widespread impact on the people of the state, therefore, it is imperative that any substantial changes or reduction of the program be carefully and fully considered.

Elimination would have impacts far beyond the 25 projects evaluated, or even the 130 lake district communities.

If the program were eliminated, the thousands of people living in lake districts who know that their commitment of time and money is now being matched by the state would feel let down. The lake district commissions would especially feel betrayed.

Also affected, by elimination, would be those who depend upon quality lake resources for their livelihoods and for rest, relaxation and recreation--business people, local government officials, sportsmen and women, boaters, urban and rural recreationists, to name some.

In the long-run, most of the citizens of the state would suffer if interest in maintaining and improving lakes diminishes because the fiscal incentive for local involvement is curtailed or because educational support and encouragement has evaporated.

I would be delighted to discuss this response further with you and the members of your Committee.

Sincerely yours,

Robert E. Rieck

Robert E. Rieck, Dean
Division of Economic & Environmental Development
UW-Extension

cc: Members of the Joint Legislative Audit Committee
Dale Cattanach
Chancellor Jean Evans
Wally Lemon
C. D. Besadny
Dallas Peterson
P. Boyle
J. C. Roberts

RER/kb