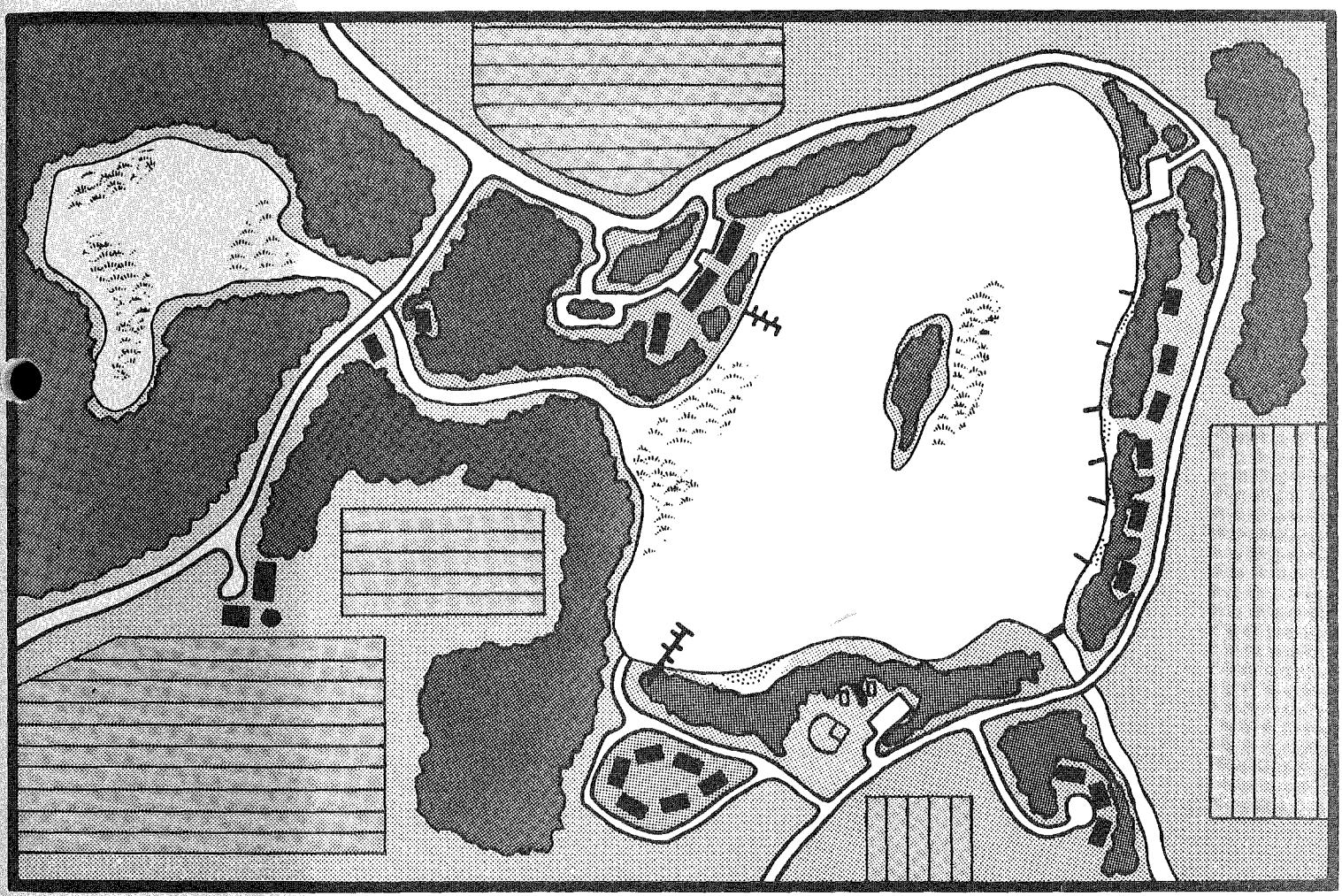
SHORELAND UPDATE

Report Number 2

EVALUATION of SHORELAND MANAGEMENT BASED ON SAMPLE COUNTIES and TOWNSHIPS



MINNESOTA DEPARTMENT OF NATURAL RESOURCES
Division of Waters
FLOOD PLAIN/SHORELAND MANAGEMENT SECTION

1984

UPDATE PROJECT REPORTS

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SHORELAND UPDATE PROJECT

Report No.2

EVALUATION of SHORELAND MANAGEMENT BASED ON SAMPLE COUNTIES and TOWNSHIPS

by

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1984

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ABSTRACT

State shoreland management has been successful in providing protection for shoreland resources. Despite this success, problems still exist and they threaten to become more acute in the coming years as pressure builds for more and new types of development. The Shoreland Management Program (SMP) must become more flexible and increase the flow and dissemination of information to appropriate sources if the program is to continue providing adequate management of shoreland resources. The SMP must include a concerted effort to provide increased training/education targeted at local officials and regional DNR staff directly involved in the management of shoreland resources. This also means that the staffing level allocated to these activities needs to be increased. Even without an expansion of the training and education efforts within the SMP, current staffing is insufficient for maintaining adequate administrative oversight of state shoreland management in the coming years.

ACKNOWLEDGEMENTS

The effective evaluation of any administrative program requires the open cooperation of those responsible for administering the program. The Shoreland Management Program is a statewide program that reaches into all levels of government, from the state, through counties, and into townships and municipalities. The findings of this report would not have been possible without the generous time, energy, and frankness of numerous local officials. These include members of Boards of Adjustment and Planning Commissions. We want to give special thanks to the effort and time of local zoning administrators (ZA). No matter what the question, ZAs provided information and assistance, and took seriously the requirements for a frank, critical appraisal of the issues and problems facing shoreland management.

Many DNR area hydrologists also helped to provide important insights into identifying problems and issues in shoreland management. Special thanks is given to Steve Prestin, Land Use (Shoreland) Hydrologist for the DNR, without whose experience and expertise, many avenues of information would have remained hidden and unavailable for a balanced appraisal of the problems facing shoreland management.

A special thanks is also given to the numerous individuals that provided editorial comments on the contents of this report, especially Ron Harnack and Steve Prestin. While DNR personnel provided valuable assistance, the conclusions and recommendations of this report are not necessarily endorsed by the DNR or the local units of government that took part in this evaluation. Responsibility for the content and quality of this report rests squarely on the shoulders of the authors. One must never overlook the essential contribution of the secretaries, Darcy Pepper and Jan Lassen, whose patience and perseverance with the sometimes fickle changes asked of them, helped produce this report.

Funding for the Shoreland Update Project, of which this report is a component, was provided by the Legislative Commission on Minnesota Resources.

CONTENTS

I. INTRODUCTION

This report represents an important part of a larger project, the Shoreland Update Project (SUP). This project, funded by the Legislative Commission on Minnesota Resources, began in August, 1981, and was designed to update current data on shoreland development, and identify and evaluate problems in the Shoreland Management Program. This is the second of nine reports that reflect the information, analysis, and conclusions of the SUP.

The SUP was comprised of two components. First there was the update and expansion of the state's inventory of shoreland development data. This inventory included data collection on new development in shoreland areas since 1967 and expanding development data to include lakes smaller than 150 acres (but larger than 10 acres) and rivers throughout the state. The second component was the evaluation of the effectiveness of shoreland management efforts, of which this report is one part. The initial step in this evaluation was the development and distribution of a questionnaire to shoreland managers throughout the state. This questionnaire was designed to acquire detailed information about what shoreland managers perceive to be the main stumbling blocks in the current Shoreland Management Program. This report represents a phase of the evaluation process that included a series of in-depth assessments of shoreland programs in counties and townships around the state. The objective was to determine first hand, the strengths, weaknesses and problems associated with shoreland management at the point of actual implementation. This effort was not intended to stand alone as an evaluation of the entire Shoreland Program. Rather, it was one part of a comprehensive evaluation effort. Other aspects of that evaluation included the following:

-- A questionnaire of all shoreland managers at the county, township, municipal, and DNR area hydrologist level. The intent was to solicit their impressions regarding program strengths, weaknesses and suggestions for changes.

-- An assessment of shoreland ordinances in the state. The intent was to determine the level of compliance with state regulations and to see how various counties have addressed issues with novel or creative approaches. Information about the latter will be useful to jurisdictions throughout the state.

-- Five advisory committees were established. The committees were made up of county, township and municipal and DNR shoreland managers. They evaluated weaknesses of the Shoreland Program and developed specific recommendations for changes.

The assessments of select jurisdictions were conducted to gain a more comprehensive understanding of how the shoreland management program functions. The following methods were used to accomplish this objective:

-- Interviews: The shoreland manager (zoning administrator), the area DNR hydrologist, boards of adjustment members, planning commission members, and occasionally members of the governing body were all included in the interviews. Interviews were tailored to the specific situation/problems facing shoreland managers in that jurisdiction. Interviewers were asked to indicate their concerns with the Program and identify shortcomings and make recommendations for changes.

-- Inspection of Records: Building permit and variance records were inspected by the evaluator. The intent was to determine how closely procedures and policies established in state standards and the local ordinance were followed. In many cases, the results of this effort were inconclusive because records and documentation on the rationale for decisions were not always sufficiently clear to evaluate how effectively policies and standards were being implemented.

-- Attend Meetings: The evaluator attempted to attend meetings of planning commissions and boards of adjustment. The intent was to understand how these bodies deliberated and reached decisions on shoreland matters. Because of scheduling constraints, meetings were not attended in all jurisdictions.

-- Field Checking Surveys: To the extent possible, the evaluator examined shoreland areas in each jurisdiction. Of particular interest were areas that posed difficult management problems that had been the subject of controversial or difficult management decisions. The intent of these surveys was to better understand the nature of the management problems and to see how well management decisions were actually implemented in the field.

-- Review Ordinances: The evaluator reviewed the shoreland, sewage treatment and subdivision regulations, and comprehensive plans or other ordinances relevant to shoreland management. The purposes of the review was to determine compliance as well as to understand approaches used by the jurisdictions to address difficult issues in that area. Ordinances were reviewed for most of the important lake counties in addition to those counties which received complete program evaluations.

Throughout the evaluation, the assistance of DNR area hydrologists was actively sought. When possible, they accompanied the evaluator on interviews and field surveys. Their perspectives were also solicited since they have first-hand knowledge of the strengths, weaknesses and constraints of the shoreland management in their areas.

In the early stages of the evaluation process, an attempt was made to allow each jurisdiction an opportunity to review the draft report of their evaluation. This effort was de-emphasized due to time constraints.

A number of criteria were used in selection of jurisdictions for evaluation. These criteria include:

-- Geographic Distribution: Jurisdictions were selected in all of the major lake regions of the state. This was to ensure that problems of a purely regional nature would be identified.

-- Level of Government: Both counties and townships were selected for evaluation. Counties were selected for the obvious reason that most of the lakes in the state are managed by county shoreland programs. Townships were evaluated because there are a growing number of townships that manage shoreland programs. If the trend continues, the strengths and weaknesses of township management will need to be better understood. Municipalities were not evaluated because too few of them have been managing programs for a sufficient period to merit an evaluation effort.

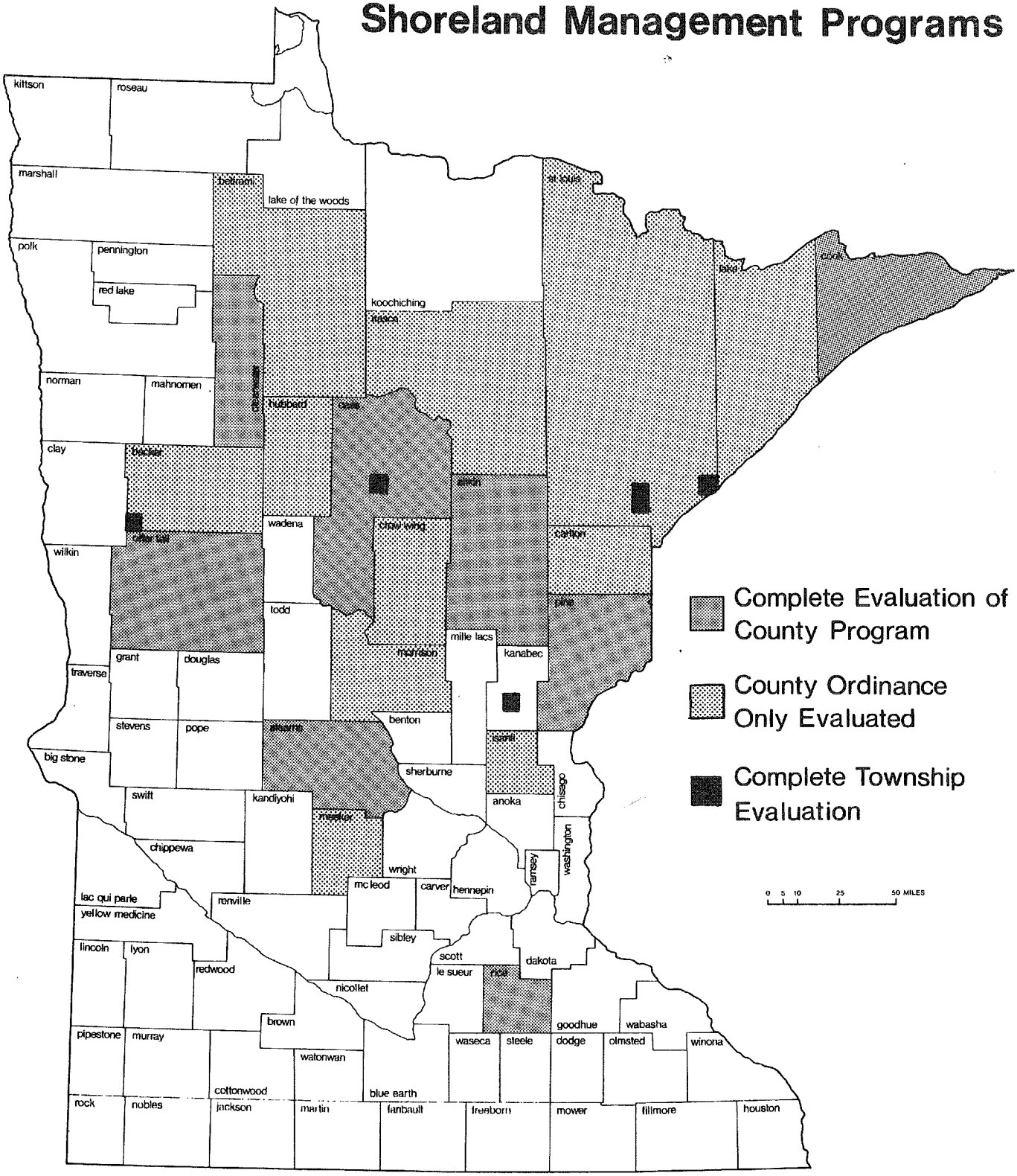
-- Shorelands and Development Variation: Jurisdictions were selected with both heavy and light development pressures and with large and small amounts of shorelands to manage. Variations can pose unique constraints for shoreland management and it was deemed important to minimize the risk of overlooking a significant trend or management problem.

-- Management Effectiveness: Jurisdictions were selected that were known to have implemented new or innovative approaches to address various problems or that were regarded to have very effective management programs. Jurisdictions were also selected that were known

to have serious problems with their shoreland programs; either they had not allocated sufficient resources to effectively manage the programs or they lacked commitment to protecting shorelands. As an aside, even some jurisdictions selected for their reputation for effective management were discovered to have serious management problems. Conversely, jurisdictions that were thought to have very severe management problems were often found to have a much higher commitment to resource protection than was first suspected.

The counties and townships evaluated for this report are identified on the map which follows.

Evaluated County and Township Shoreland Management Programs



SUMMARY

The Shoreland Management Program has been extraordinarily successful. It has addressed some of the most serious problems of shoreland development. It has also put in motion resource management and planning programs that have directly benefited other related environmental concerns. The most noteworthy shoreland management accomplishments include:

-- Establishment of uniform shoreland development standards and consistent administrative procedures across the state.

-- Creation of larger lot sizes. This has reduced crowding from levels that would have occurred had the program not been in effect and this, in turn, has improved the appearance of developed shoreland areas.

-- Upgrading of thousands of poorly functioning on-site sewage treatment systems along with well water quality. For the thousands of new shoreland developments, sewage treatment systems have been installed to meet modern design standards.

-- Protection of sensitive resource areas. These include wetlands, steep slopes, important habitat areas, etc.

While not all of these accomplishments are easily measured, they nevertheless are real and significant. One intangible measure of the success of the program is the manner in which many local government shoreland managers have come to identify closely with the program. Most are genuinely concerned about protection of the resource and seriously attempt to implement shoreland standards equitably and effectively.

While the program has been successful there is still room for improvement. The following are the most significant shortcomings of the program:

-- Non-Conforming On-Site Sewage Treatment Systems: While thousands of systems have been upgraded, many thousands still are in operation. This represents a major and direct threat to lake resources and human health. Many jurisdictions lack the resources or commitment to effectively address this concern.

-- Attitudes: While most jurisdictions are genuinely committed to the concept of resource protection, some are not. At their worst, some elected officials are outwardly hostile toward shoreland protection, while in other cases they simply place a very low priority on the program. The result is insufficient resources committed to shoreland management in some jurisdictions. Often, these attitudes foster conditions that create serious violations of shoreland standards. Complicating this problem are the attitudes of a few shoreland residents and developers who are also critical of shoreland management.

-- Township and Municipal Management: The practice of "government functioning closest to the governed" does not always operate effectively with complex programs such as shoreland management. There is little doubt that some townships and municipalities can and do manage their programs in an effective manner. But most townships and small municipalities lack the resources and commitment to effectively manage a shoreland program. Since townships are larger in area than most municipalities, the problem is potentially much larger at this jurisdictional level. As the number of townships managing their own shoreland programs increases, the problem will probably increase in scope.

-- Variances: In jurisdictions that otherwise manage their programs effectively, variances pose numerous problems. Often, boards of adjustment grant variances with insufficient cause. Occasionally variances are granted after-the-fact. In other cases, variances have been granted with insufficient documentation. In some cases, variances pose a threat to the resource or human health. Two problems account for this situation. One is a generally sympathetic attitude toward the needs of applicants that overrides concern for resource protection. The other is a widespread lack of information on proper variance administration. An education program geared to the needs of local shoreland management plus regular monitoring could address this problem effectively if sufficient resources were allocated to the effort. This effort would need to be ongoing in view of the high turnover rate of board of adjustment members.

-- Enforcement: Enforcement of shoreland violations is often ineffective. In many cases prosecuting attorneys place a low priority on shoreland violations. When violations are prosecuted, convictions often are punished with insignificant penalties. The net result is that the enforcement process provides little or no deterrence to shoreland violations.

-- DNR Staff Allocation to Shoreland Management: Additional emphasis and staffing needs to be allocated to shoreland management to adequately address unique problem issues; provide training and education opportunities for local officials; and assist local government and lake interests in addressing lake specific problems.

Apart from a wide number of minor adjustments in the Shoreland Program, several new directions should be considered. These include:

-- Performance Standards: When the program was initiated, standards were given little flexibility. This strategy was appropriate given the novelty of the program and lack of familiarity many jurisdictions had with land use management. Greater flexibility may now be appropriate. Shoreland development patterns have become more complex. New development trends are occurring that were not envisioned when standards were first developed. These trends include resort conversions, time share concepts and condominiums. Shoreland managers are more sophisticated and knowledgeable today than when the program was first developed. They understand the concepts of shoreland protection, are committed to protecting the resource and most have the capability to effectively work with flexible approaches. An advisory committee of shoreland managers should be created to delineate suitable areas for shoreland performance standards.

-- Development Limits: Shoreland standards prescribe minimum design and density features for shoreland development. The standards were not intended to address the specific needs of an individual lake resource. As a result some shoreland managers and shoreland residents believe that development is exceeding the resource limits of many lakes. Resource limits include several considerations. They may be the limit of the lake to accommodate heavy water surface use. They may also be the capacity of the resource to accommodate effluent seeping into surface water from sewage treatment systems. Whatever the concern, when the limit is exceeded, resource quality declines. Methodologies exist for identifying various components of resource limits. But these need to be applied primarily on a lake by lake basis. These approaches are relatively complex and may be beyond the expertise of most county shoreland management staffs. Special efforts by the DNR to explore development limits or lake carrying capacity criteria would be very timely and beneficial in future shoreland management strategies. Numerous counties have requested such assistance and there is every reason to believe that such a service would find a ready market. There are numerous specifics of such a proposal that need to be developed. Initially such a program could be funded on experimental basis for one or two years.

-- Education: Many shoreland problems are a function of inadequate information about shoreland objectives, standards and procedures. This could be corrected by an educational program targeted at shoreland managers (boards of adjustment members, planning commissioners, zoning administrators, etc.), the public, and non-shoreland professionals (realtors, land planners, engineers, surveyors, etc.) whose actions affect shoreland development. This education effort should be a cooperative one and include such agencies as the PCA, State Planning Agency, Minn. Assoc. of County Planning and Zoning Administrators, and others. The DNR should take the lead in planning this initiative.

-- Program Evaluation: The Shoreland Program should develop an evaluation process as a permanent feature of the program. That evaluation should include assessment of the management effectiveness of jurisdictions on a regular basis, and an evaluation of the DNR's role, priorities, program standards, and policies. These evaluations should be integrated with other land use programs (Wild and Scenic Rivers Program, Flood Plain Management, etc.) to reduce duplication of effort. This process should be augmented by an advisory committee composed of regional DNR and county shoreland managers.

II. PROGRAM ACCOMPLISHMENTS

Accomplishments of the Shoreland Management Program can be appreciated by reviewing conditions prior to its implementation. A report completed in 1970* noted the following problems:

-- Excessively small lot sizes giving rise to shoreland crowding.

-- Developed lots with soils unsuited to the functioning of on-site sewage treatment systems.

-- Development inconsistent with the physical ammenities of the site.

-- Wide variability in standards governing shoreland development.

-- Lake contamination caused by municipal outfalls, agricultural run-off or home sewage system operation.

-- Development on lake beds.

While not all these conditions have been entirely corrected, considerable progress has been made. The Shoreland Program can point to the following successes:

-- Larger Lot Sizes: The worst examples of excessively small building lots are a problem of the past. (Except for existing lots of record which are not yet developed.)

-- Upgrading of Non-Conforming Sewage Systems: Although much remains to be accomplished, questionnaire returns from shoreland managers indicate that over 18,000 non-conforming shoreland sewage treatment systems have been upgraded. Although numerous systems are still in need of upgrading, current management practices suggest that someday this pollution source will be a minor concern.

*Borchert, John R., George W. Orning, Joseph Stinchfield, Les Maki, Minnesota's Lakeshore: Resources, Development, Policy Needs, Summary Report of the Minnesota Lakeshore Development Study, University of Minnesota, 1970.

-- Resource Protection: A degree of protection has been provided to lake and river resources that would not have occurred without the shoreland program. A glimpse of the scope of this protection is available when one considers the amount of development that has occurred in Crow Wing County. In this county, there has been a 99% increase in development since 1967. While it is difficult to measure the impact of shoreland management, many areas have been protected as a result of shoreland standards. This is readily apparent if areas developed before the Program are compared to those developed under it.

-- Uniformity in Standards: The existence of statewide minimum standards creates considerable uniformity from one county to the next. Although standards vary and some counties occasionally differ in the way they apply standards, there are now commonly accepted guidelines to which developers, citizens, and shoreland managers can refer.

-- Public Protection: Shoreland standards have benefitted public health. Clearly, some areas subdivided prior to the Shoreland Program pose public health threats due to inadequately functioning sewage treatment systems in close proximity to shallow wells. Shoreland standards have also protected thousands of new structures from future flooding as lake levels rise during wet climatic cycles.

There is little doubt that adoption of shoreland regulations has reduced lake pollution and kept the shorelands less crowded than would otherwise be the case. While aesthetic standards are subject to considerable debate, the development which has occurred has had less impact on the natural appearance than would be the case without shoreland standards.

There are several spin-off accomplishments that can be credited to the shoreland program. These include:

-- Land Use Planning Programs: Land use planning programs have been established in many counties as a result of Shoreland Program requirements. This has had a positive impact on a variety of other county concerns. The planning staff, for which shoreland management is the nucleus, addresses a wide range of issues in shoreland and non-shoreland areas. These benefits include general land use planning, park and recreation planning, economic development, airport planning, public facilities planning, waste management, and sanitary standards.

-- DNR/Local Relationships: A dialogue has been established between the DNR and local governments. The rapport that now exists between many DNR hydrologists and local government officials has probably benefitted non-shoreland DNR programs. The current working relationship should also benefit future DNR land use programs at the local level.

-- Environmental Awareness: Many shoreland managers have commented that the program has increased awareness for the need to protect sensitive shoreland and non-shoreland resource areas. This growing awareness includes the public, developers, and elected officials.

III. PROGRAM SHORTCOMINGS

The existence of shortcomings in an otherwise successful program does not seriously detract from its value. Shortcomings are to be expected given the changing nature of society and technology. Constantly changing resource demands suggest that programs be regularly evaluated to ensure that management matches social and environmental needs. Shortcomings in shoreland management fall into 2 categories: administrative and specific problems.

A. Administrative Considerations

As a rule, administrative problems are difficult to assess and address. This is especially the case in local jurisdictions, where management is strongly influenced by the contingencies of local politics and individual personalities. Many administrative problems affecting shoreland management are outside the domain of the DNR. This is most readily seen in problems concerning enforcement. What follows is a description of the range of administrative problems that influence shoreland issues.

Attitudes Toward Land Use Management

Government should be close to the governed. That philosophy is one of the fundamental tenets influencing the organization of government in Minnesota. It suggests that land use management programs should be implemented at the lowest feasible level of government. The Shoreland Program attempts to continue this tradition by giving jurisdictional authority to counties, municipalities and townships.

There are numerous examples of how anti-land use management attitudes have hurt the Shoreland Program. In one township, the town board has often undermined the decisions of the zoning administrator by advising individuals to ignore citations for shoreland violations. In one county a loosely structured administration procedure is significantly hindering adequate shoreland ordinance implementation. This particular case is addressed later in this section. In many townships hostile public attitudes toward shoreland controls have created significant pressures on zoning administrators. Such pressures are less easily resisted at the township level where neighbor is regulating neighbor. While the sample for this evaluation is small, it does appear that anti-land use management attitudes are more common and create the greatest problems at the township level.

In other cases, negative or hostile attitudes of key individuals toward resource management in general and the Shoreland Program in particular have undermined the program. Often these are elected officials or their appointees to planning commissions or boards of adjustment. Such attitudes hamper effective shoreland management.

RECOMMENDATION: In the short term, there may be little that can be done to modify shoreland management attitudes. In the long term, these attitudes may be modified through a well targeted training and education effort. This should be part of a broader educational effort which will be addressed later in this evaluation.

Communication and Coordination Between DNR and Local Jurisdictions

Communication between the DNR and local government jurisdictions varies from extremely good to adversarial in character. Most shoreland administrators know who their area hydrologist is and are in regular contact with them. This is not always the case. One township, for instance, was unaware the DNR had area hydrologists to assist in shoreland matters. One area hydrologist was unaware a township with a significant amount of shoreland had been managing its own program for several years.

Certain townships have expressed dissatisfaction due to the lack of support and assistance from the DNR. One factor in this situation is the increasing expectations that many shoreland managers have for DNR assistance. The level of assistance expected (and provided) varies widely. Some jurisdictions desire written response on most variances, subdivisions, conditional use permits, and other matters. This exceeds the original concept of the DNR's role in shoreland management. Expectations of that role have increased as difficult management issues have arisen. Shoreland managers often look to the DNR for support when a particular decision is likely to elicit local opposition. Such requests, even when outside the purview of the DNR's role, are difficult to ignore. Although the DNR often takes the "heat" for what should be local decisions, the end result is greater consistency in shoreland management decisions.

There are also jurisdictions that err in other directions. They fail to notify the DNR of certain significant actions as required by state regulations (i.e., variance and conditional use permit hearings).

Even where contact between the DNR and jurisdictions is frequent, many shoreland managers have identified a need for increased contact and communication with DNR hydrologists to effectively deal with shoreland management issues.

RECOMMENDATIONS: Clarification is needed to guide DNR involvement in local shoreland management. The following guidelines should govern this involvement:

-- Area hydros should continue to rely on their own judgment and existing DNR policy in deciding when review comments of local shoreland matters are appropriate. This suggests that comments be rendered on actions: 1) that have a significant bearing on the water resource; 2) where the managing jurisdiction is likely or has been known to make poor management decisions; 3) when the action is innovative, complex, or likely to set a precedent which the DNR needs to influence; 4) where the effect of many minor incorrect actions will have a major cummulative impact on the resource.

-- When a local government has established a record of poor administration of its shoreland program, corrective measures should be taken. These measures should include a regular review of the management actions of that jurisdiction with documentation of deficiencies and initiation of appropriate legal action.

-- Periodic visits of area hydrologists to all major jurisdictions managing shoreland should be conducted. These visits should enhance communication, develop mutual understandings and working relationships and identify problems each jurisdiction is facing in its shoreland and related management efforts. In addition, occassional meetings between area hydrologists and all local shoreland managers within the area as a group would be useful. These meetings could be formalized by having the area hydrologists attend all district meetings of the Minnesota Association of County Planning and Zoning Administrators. Hydrologists also need to communicate with jurisdictions that are not part of that organization.

-- The Central Office could assist by developing written policies on DNR assistance and services appropriate for shoreland management. These should be given to local shoreland management jurisdictions to provide them with more realistic expectations for DNR assistance.

Staffing Problems

Generally, DNR and local government Staff personnel who work with the Shoreland Management Program throughout the state are dedicated professionals who have a thorough knowledge of the program. With few exceptions, they have high regards for each other's capabilities. However, the evaluations of local shoreland management programs covered by this report revealed some problems at both levels. Examples include:

- In one county, no variances were denied over a three year period. The DNR did little to improve the board of adjustment's review of variances.

- In another county, an administrative system utilizing a deputy zoning administrator for each township has led to serious deterioration of shoreland management effectiveness. The situation has existed for several years, but the DNR has done little to improve the situation.

- A township adopted its own shoreland ordinance and administered it for several years before the DNR became aware of the situation. This meant no assistance was provided and no monitoring was conducted.

- Some county shoreland managers have complained about the excessive time it often takes to get policy decisions from the DNR.

- Of the 20 county ordinances reviewed for this evaluation, 42 percent were determined to be noncompliant with minimum state standards. This reveals a need to improve DNR review of local shoreland controls when initially adopted and when amended.

- Although many local government staff people have received various types of training related to shoreland management, those citizens serving on planning commissions, boards of adjustment, county boards, and town boards usually have little or no training in this area. Additional DNR effort in this area is needed.

Several of the above problems are related to a gradual decline in the level of DNR staffing for statewide Shoreland Program needs such as policy development and training. Although several positions were allocated to these functions during the early years of the program, only one position currently has these responsibilities. The current staffing level appears particularly meager for a program which affects millions of dollars worth of development each year. Comparison of this staffing level with those of numerous other resource management programs administered by state agencies reveals an amazing lack of staff and budget commitment for shoreland management.

In field offices throughout the state, DNR staffing levels do not appear as serious a constraint as are inadequate supervision and training. Turnovers of personnel create a continuing need for training of new people. Emerging trends in development concepts (condominiums, time-sharing) and in various technologies, particularly sewage treatment, create additional needs for training. However, more significant problems involve the need to improve allocation of staffing, establishment of priorities, and accountability for meeting goals.

Since field staff have numerous other responsibilities in addition to shoreland management, decisions have to be made regarding allocation of their efforts.

Until quite recently, such decisions have usually been left to the discretion of each field staff person. This approach often means shoreland management matters receive less than appropriate effort.

Staffing at the local government level for administration of shoreland management controls also needs some improvement, particularly at the township level. Counties, which handle the overwhelming bulk of local shoreland administration in the state, appear to have fewer staffing problems than either townships or cities. Adequate training has been a substantial problem in the past, but in the last several years programs have been developed to address this need. In a recent questionnaire survey, only about 17% of these officials felt their staffing and budget levels were inadequate. One lingering problem is the large number of non-shoreland responsibilities assigned to many county zoning administrators. Townships which establish their own shoreland programs have serious and numerous staffing problems. More complete descriptions of local government staffing problems may be found elsewhere in this report and in Report #1.

RECOMMENDATIONS:

- the DNR should seek additional staffing and funds for the following:

    a) to develop and conduct a comprehensive training program for DNR field staff and for local government officials, including zoning administrators, boards of adjustment, planning commissions, county and town boards, and city councils.

    b) to improve statewide monitoring of the administration of local government shoreland management programs.

- local governments should recognize the long-term importance of proper administration of shoreland management programs and provide staffing which reflects that importance.

- the DNR should develop and use work plans which establish priorities between programs, set realistic goals, and provide for accountability for meeting the goals.

Shoreland Educational Needs

A major source of problems cited thus far is a lack of understanding and awareness of the basic objectives, standards and procedures of shoreland management. These problems could be addressed with an enhanced educational effort.

RECOMMENDATION: The DNR should develop and staff a multi-faceted educational effort initially directed at shoreland managers. The effort should include boards of adjustment and planning commission members as well as zoning administrators. The focus of this program would be the basics of shoreland management: the standards, variance review procedures, subdivision review, sewage treatment system design and inspection, sources of assistance.

A second focus of the education program should be the public which uses or resides in shoreland areas. The objective would be to communicate how the Shoreland Program seeks to protect resources, property values, and the public health. General purpose materials could be developed describing the lake and river resources along with the objectives of shoreland resource management. The long term significance of resource protection should be emphasized. Materials that assist the public in complying with shoreland standards, e.g. when to seek permits, how to select a shoreland property, etc., could also be provided in such a program.

A third focus of the education program should be professionals not directly involved in shoreland management but whose decisions bear directly on resource protection. This would include professionals involved in enforcement and development of shoreland areas such as county attorneys, developers, land planners, surveyors, engineers, realtors, etc. All of these groups need to be aware of how their decisions directly or indirectly relate to the resource. Many private interests (such as developers) are not adverse to land use management per se, but are concerned when they are unable to predict probable outcomes of development investments. An educational strategy that improves their ability to anticipate likely problems or issues concerning development in shoreland areas would probably be well received.

Considering the range of target groups for the education effort, the materials developed and their dissemination should employ diverse strategies. Education efforts targeted at shoreland managers can be developed as conference or seminar courses. Those targeted to the public could be in the form of media releases, articles in popular forums, plus material suitable for radio or t.v. public service programming. These materials could also be distributed through homeowner associations, recreational clubs and organizations, and government offices. Materials targeted at professionals could be disseminated through professional organizations and publications.

These educational objectives serve more than the particular needs of the Shoreland Program. All land management and planning activities benefit from this effort. It is appropriate, therefore, to develop the program cooperatively with other organizations. These include state agencies such as the PCA, county organizations such as the Minnesota Association of County Planning and Zoning Administrators, and educational groups such as the Agricultural Extension Service.

Such a program will require considerable planning and preparation. Since the Division of Waters has much to gain from this effort, it should take the initiative to start the process. Assistance should be sought from regional staff, DNR Information and Education Bureau, county shoreland managers, and other appropriate organizations and individuals. A regular newsletter distributed by the DNR Division of Waters would also help spearhead such an effort.

Shoreland Management Skills

To effectively manage a complex land use program, a variety of technical skills are required. Access is needed to legal, administrative, land use planning, engineering and other skills. Access to such skills varies widely among shoreland jurisdictions. Jurisdictions best equipped to address complex shoreland issues tend to be the northern counties with the major lake

resources and counties in or near the Twin Cities Metro area. Jurisdictions least equipped to effectively manage shoreland programs are counties with small amounts of lakeshore, townships and small municipalities.

The growing number of townships and small municipalities managing shoreland programs is a source of concern. Some of these jurisdictions have significant shoreland resources with considerable development pressures.

The municipal shoreland legislation requires all municipalities with shoreland to eventually adopt management programs. Townships are not required to do so. Many, however, establish shoreland programs to have a more direct influence on development in their townships. When townships adopt shoreland ordinances, county jurisdiction is replaced (though township ordinances must meet the minimum standards established by the state and the county).

Several townships are effectively managing their programs, while many are not. Based on the small sample of jurisdictions surveyed in this evaluation, it is difficult to make absolute statements regarding townships statewide. But it does appear that townships in general are not managing their shoreland programs as effectively as counties. The reasons for the ineffective management include the following:

-- Townships do not always have sufficient access to professional assistance. Their small tax base severely limits the budgets they can allocate to professional assistance.

-- Townships often engage in parochial approaches to management. While it is difficult to prove, there are indications that some townships are more restrictive in the application of shoreland standards in the case of non-residents in their area. This kind of procedure is inequitable since it unfairly restricts access to shoreland resources. However, this does not pose a direct threat to resources. There is a legitimate concern that township shoreland managers may be allowing inappropriate development to township residents simply because local and direct pressures are exerted.

-- DNR involvement with townships has been minimal. Therefore, townships in need of assistance or monitoring are generally neglected.

-- The increased likelihood that lakes will cross jurisdictional boundaries at the township level can often create unusual administrative problems in the management of shoreland resources. This problem has been noted at the county level, but given the small size of townships, lakes crossing political boundaries could prove to be a significant administrative problem.

-- As previously noted, some townships are hostile to land use management in general and shoreland management in particular. Ineffectiveness in such cases is no accident.

There are not yet enough municipalities implementing shoreland programs for clear conclusions to be reached. Experience to date, however, suggests that larger municipalities are effectively managing the programs. Small municipalities probably will pose the same management concerns as townships.

There may be positive aspects of resource management by townships and small municipalities that should not be overlooked. Officials in townships and small municipalities may be closer to activities that occur in their jurisdictions and therefore may be better able to monitor development activity and violations. Closer contact with the electorate may allow managers to better understand the interests and perspectives of the community. Given a township or small municipality with committed and trained officials, an excellent level of resource protection may result.

The long term interests of resource protection are a significant concern in evaluating municipal and township management programs. The anticipated increase in shoreland development coupled with the increasing complexity of development proposals (time shares, condominiums, PUDs) suggest that even the best efforts of management by townships and small municipalities may be inadequate. The increasing numbers of townships and small municipalities managing shoreland programs could make effective monitoring and assistance by regional DNR staff problematic at best. A comparison between the number of townships vs. counties in the state makes explicit the logistical problems faced by the DNR in attempting to monitor and assist such a large number of jurisdictions. A further complication is that several managing a single lake resource poses significant problems of consistency and equity in administration and enforcement.

The prospect of monitoring the activities of 50 townships as opposed to one county presents an administrative nightmare.

RECOMMENDATIONS: For townships, the following alternatives need to be considered:

-- Explicit guidelines for sharing shoreland management duties between counties and townships could be developed for those townships choosing to manage their own program. It is possible that certain responsibilities can be adequately administered at the township level while others need to be carried out by counties. These guidelines might also indicate how townships can play a more active role in shoreland management without assuming regulatory responsibilities.

-- Any township may manage a shoreland program provided it can demonstrate the capability to effectively administer the program.

-- Townships could be prohibited from managing shoreland programs. For such a proposal to move forward, there would have to be changes in several laws that could lead to difficult political battles. This would include changes in the original shoreland management act, which acknowledges township zoning authority in shoreland areas.

-- Existing townships may continue to manage shoreland programs, provided they can demonstrate capability and effectiveness. No additional townships may adopt shoreland controls. In effect, those currently managing programs are grandfathered in. Like the previous option, this requires changes in legislation.

It is not clear that townships can provide the necessary fiscal and administrative resources for managing a shoreland program. Although counties are not always successful in managing such programs, they generally can provide the necessary revenues and expertise. Any jurisdiction attempting to engage in land use management should strive to meet certain objectives. If a township intends to manage its shorelands, it should seriously consider whether it can meet those objectives. These include:

-- Comprehensive plan: local jurisdictions should develop a comprehensive plan. That plan should include the entire jurisdiction and relate shoreland with non-shoreland components. The plan should also identify shoreland management objectives and approaches for meeting those objectives. It should include a recognition and identification of sensitive shoreland areas with measures for protecting those areas.

-- Staff capability: A jurisdiction must be able to demonstrate professional expertise in managing a complex shoreland management program. Jurisdictions should have access to planning, legal and sanitarian assistance. That assistance need not be provided by full time staff. Consulting assistance or a formal arrangement with other governmental bodies would suffice.

-- Ordinance approval: All shoreland ordinances should be reviewed and approved by the DNR documenting they are substantially compliant with state minimum standards.

-- Management training and certification: Shoreland managers should be trained and perhaps certified prior to assuming responsibility for a shoreland program. The training should be required of the shoreland zoning administrator as well as board of adjustment and planning commission members. The training should include basic shoreland management concepts with emphasis on such problem areas as variance administration and sewage treatment system design.

-- Periodic review: local jurisdictions such as townships and municipalities may continue managing a shoreland program subject to periodic DNR and county review. That review will evaluate the program to ensure compliance with shoreland management objectives. If deficiencies are noted in the program, the DNR should have the option of either requiring improvements within a set time period or disqualifying that jurisdiction from further shoreland management.

The DNR should establish clear criteria for these review efforts. Besides specific compliance with the shoreland objectives, other factors may also be considered. Among these is the need to record and document all shoreland management decisions, including reasons for approval or denial decisions. Counties should have a role in both determining policy for township management as well as in reviewing township management efforts.

It is important to keep in mind that counties have been given the basic responsibility, by the legislature, to administer shoreland ordinances. However, it is not clear what oversite authority or obligation counties have over townships when townships adopt equal or more restrictive shoreland ordinances. This issue needs further discussion and should include the Minnesota Association of Counties and the Minnesota Association of Townships.

Legislative action will be needed to implement some of these changes.

Municipal Shoreland Management

There are three salient municipal shoreland management issues. One is the effectiveness of management in small municipalities, which was addressed in the previous section. A second is the slow pace of municipal shoreland ordinance adoption. A third is that municipal standards are not always well suited to resource management needs.

There are more than 600 municipalities with shoreland areas. About half of these municipalities contain river shorelands only, with the other half affecting some 900 lakes. In comparison, counties exercise jurisdiction over more than 9000 lakes. All municipalities are required to enact shoreland ordinances after the DNR has reviewed their current land use management and need for shoreland standards. To date, only about 10% of the municipalities have enacted shoreland ordinances. Part of the problem is related to the reluctance of some municipalities to act on this issue. But the major source of delay has been the inability of the DNR to conduct land use control reviews for municipalities. Without that review, municipalities are not currently required to enact shoreland controls.

The lack of progress is related to competition for available staff time and the significance of the city's shorelands. Staff time is allocated between permit activities, county shoreland and floodplain activities, special problems, etc. Cities with significant shoreland need appropriate or equal attention while cities with little or no lakes and small rivers should remain low priorities or dropped from the program.

Municipal officials often lack familiarity with the flexibility in the shoreland program, and this often creates difficult problems when implementing ordinances. As a result, those municipalities that have been most conscientious in protecting shoreland resources experience some of the most difficult problems. One municipality, for example, very diligently identified

most small creeks and wetlands as shoreland. A large share of the municipality now falls within the shoreland district. As a result, that municipality spends an inordinate amount of time on variances and other minor actions that have little bearing on resource protection. A lack of awareness of the ways in which shoreland management might be altered or changed has led to real administrative problems for the city.

RECOMMENDATIONS: The DNR should seek changes in the municipal shoreland legislation. Those changes should require high priority municipalities to enact shoreland ordinances in a similar time frame to counties regardless of DNR initiatives to review their existing land use programs. The high priority municipalities should be the same as those currently designated by the DNR for early action on municipal adoption.

Municipalities with little shoreland or development pressure pose a minor threat to the resource even with a low level of resource management. The resource protection gained does not justify the time invested. Instead, other options such as allowing counties to manage the shoreland activities in small municipalities should be considered. If these cities insist on managing their own shoreland programs, they should meet the same performance standards recommended for townships.

Rivers Management

Rivers are not lakes, yet they are managed as if they were. Rivers pose significantly different management challenges. Since their waters flow, recovery rates are higher, but pollution rates are not always lower. Rivers often receive higher pollution loadings than lakes. Some rivers such as the Mississippi offer a broad range of water quality depending upon the specific stretch of river in question.

Rivers are also used differently than lakes. To a greater extent, rivers are used for transportation, water supply and a variety of industrial and commercial purposes. Both the intensity and nature of river recreation

differs markedly from lakes. With notable exceptions such as the lower St. Croix, most rivers are used less intensively than lakes. Differences in the nature of river recreation uses are obvious and need not be detailed here. Because of their influence on power generation and transportation, rivers have been major determinants in the state's historical settlement patterns. As a result, many major urban areas are situated on rivers. For the most part, rivers have not been the major focus of recreation shoreland settlement. This appears to be changing. As lake resources in many regions become congested, development focus is shifting to river shorelands. Because of these changes in both historical and present river settlement patterns, the nature of residential development on rivers differs from that on lakes.

Most resource managers appreciate the unique characteristics of rivers. They also appreciate the need for management approaches tailored to the specific problems facing rivers. Such management approaches have not been developed through the Shoreland Program for a variety of reasons. A major factor is that the DNR has not provided sufficient leadership to insure better rivers management. In fact, by structuring zoning classes and standards that are identical for rivers and lakes, the DNR may be inadvertently discouraging approaches tailored to rivers management. However, the use of the zoning classes developed for lakes in managing rivers is preferable to the more likely alternative - no management. In some instances, the adoption of this classification scheme has inspired some attempts to manage river resources.

RECOMMENDATIONS: The DNR should place higher priority on developing more sophisticated approaches for rivers management. As a first step, the Division of Waters should develop a more refined classification system for rivers. That system should be based on the natural characteristics and existing development on the rivers with the use of the recently inventoried data on river resources.

Standards for shoreland development should be attached to the river management classifications. The active input from county and other shoreland managers should be solicited in developing these standards. The standards should be compatible with existing standards from flood plain and wild and scenic rivers programs. Report #5, A River Classification System, provides a suggested strategy for enhancing the river component of the Shoreland Management Program.* The adoption and implementation of the report in part or in whole deserves serious consideration by the DNR in its efforts towards effective river resource management.

Legal Aspects of Shoreland Management

Generally, jurisdictions that manage shoreland programs have adhered to the spirit if not the letter of the law. There are notable exceptions, however. These include:

-- One county has consistently attempted to undermine (abolish) key aspects of the shoreland standards. This included an effort to eliminate rivers from the Shoreland Program. The Shoreland Management Program currently does not require DNR approval prior to adoption of amendments.

-- In one township, building permits are required both from the county and the township. According to a recent Attorney General's opinion, such a double permit requirement may be inappropriate.

-- In many townships shoreland ordinances have not been reviewed by the DNR. State law requires the DNR to review municipal and county ordinances but does not mention township shoreland ordinances. It could be interpreted that the legislature intended all ordinances to be reviewed by the DNR irrespective of jurisdiction. It could also be interpreted that the county is responsible for township oversite.

*See Report #5, A RIVER CLASSIFICATION SYSTEM, Shoreland Update Project, 1983.

RECOMMENDATIONS:

-- The DNR should interpret that it has authority to review all township shoreland ordinances. The DNR should review all existing shoreland ordinances of townships now managing their programs and of any additional townships that propose to assume management responsibilities. Townships choosing to adopt shoreland management ordinances should be required to do so comprehensively or the ordinance should not be approved.

-- The DNR should pursue legal challenges in jurisdictions that are consistently violating shoreland standards and procedures.

--The legislative authority granted to cities, counties and townships are in several instances conflicting, confusing and inconsistent. The legislature should review these authorities and consider one basic planning and zoning authorization for all the jurisdictions.

--The DNR should seek legislation to require that all ordinances be approved by the Commissioner prior to adoption or amendment by local governments. This approach has proven very effective and beneficial in the Flood Plain Management Program.

Deputy Zoning Officers

The majority of counties administer the shoreland ordinance from a centralized planning and zoning office staffed by a zoning administrator and assistants. Two counties have a more decentralized administrative philosophy. The assessment of these two jurisdictions reveals that the process works reasonably well in one county and leaves much to be desired in the other. Although the DNR approved both ordinances there are serious concerns revealed by the assessment that the one county is significantly deficient in several phases of ordinance administration and enforcement. It would not be surprising that lake resource deterioration is occurring as a result.

The Deputy Zoning Officer (DZO) concept in this county was devised to provide townships an opportunity for participation in the county shoreland management program. The specifics of the arrangement are as follows:

-- DZO's are appointed by township boards. Due to its large size, the county has approximately 50 DZO's.

-- Each DZO has authority to issue building permits and sewage treatment permits and make recommendations on variances and special use permits.

-- Each DZO is responsible for inspection of buildings and sewer systems.

-- DZO's are compensated for administration through retention by the township of 80% of fees collected in permit processing.

-- The county zoning administrator has the responsibility of supervising this arrangement as well as being expected to conduct development inspections, serve as staff to the board of adjustment, planning commission and county board.

This kind of arrangement functions poorly for the following reasons:

-- DZOs often have no special training in land use management, sewage treatment system installation, or the Shoreland Program standards in particular. As a result, their decisions are often inconsistent with sound concepts of shoreland management.

-- Many DZOs may intend to properly administer shoreland controls, but because of pressures from public and elected officials, standards are not always enforced.

-- By compensating DZOs by the number of permits issued, incentives are created for an overly liberal application of shoreland standards.

-- The county zoning office is seriously understaffed. The one full time professional cannot hope to oversee and inspect all of the shoreland activity occurring in the county. In 1982, an estimated 800 permits were processed.

-- The county attorney staff has been reluctant to pursue shoreland violations.

This organizational structure and its associated administrative problems have existed for a number of years. Unfortunately, neither the county nor the DNR sufficiently recognized the problems to initiate corrective measures. Since this county has very significant shoreland resources, it is important the county acknowledge the implications of the administrative problems and begin resolving them. The DNR should also recognize the importance of improving the management of this county's valuable shoreland resources and adjust staffing and work priorities to provide improved monitoring and more assistance for this county.

RECOMMENDATIONS:

- The DNR should immediately address this situation by notifying the county of deficiencies and concerns found in its program and indicate expected improvements and assist the county in addressing the issues in a timely manner.

- The DNR should encourage the county to give serious consideration to re-evaluating the DZO system. Most counties have successfully implemented shoreland programs without such an inwieldly administrative structure. Practical alternatives exist.

- The DNR should seriously consider establishing minimum skill standards where this type of organizational structure is used. These skill requirements should be similar to the recommendations for township shoreland administration. At a minimum DZO's should be thoroughly familiar with the county ordinance and the rationale behind the standards and be trained to adequately administer the sewage treatment provisions. The requirements are not difficult to achieve with proper guidance from the zoning administrator and attendance at applicable zoning and sewage workshops conducted by various state agencies and universities.

- The county should give serious consideration to hiring a sanitarian to oversee the sewage treatment provisions of the ordinance.

Department of Health

The Department of Health has jurisdiction over a number of shoreland activities. One is the inspection of sewage treatment systems for commercial facilities such as resorts. Another is the licensing of well contractors and the establishment of standards for well construction. Those standards include design and placement. Some county and regional DNR shoreland managers have expressed some dissatisfaction with the Department of Health and the manner in which it discharges its responsibilities in shoreland areas. This dissatisfaction appears to be the result of confusion and misinformation about the Health Department's responsibilities and how it carries them out.

For instance, one point of dissatisfaction has been the inspection of resort sewage treatment systems. Shoreland managers allege that non-conforming resort sewage treatment systems pass Department of Health inspection year

after year. But, according to Health Department officials, they do not inspect new resort systems and only inspect existing systems on a complaint basis, because this is viewed as the responsibility of local officials that enforce shoreland ordinances. The Department of Health claims it has insufficient resources to adequately inspect all such systems and therefore limits its activities to plan reviews or inspection of reported system failures.

State shoreland regulations give counties authority to inspect sewage treatment systems and to require upgrading of non-conforming systems. Some counties exercise this authority for resorts, but most do not and leave this task to the Department of Health. Even with the legislation, many shoreland managers remain unclear about their authority with regard to the inspection of resort sewage treatment systems. The reasons for this confusion are unclear, but may be related to poor coordination between the DNR and the Department of Health in disseminating such information and making clear the responsibilities of shoreland managers.

Some counties have complained of a lack of responsiveness on the part of the Department of Health on questions concerning well code variances. Shoreland managers have reported that correspondence to the Department on well variances have not been answered. Although there may have been substance to this allegation in the past, there currently is no evidence the Department of Health is not responding to variance requests. In this instance, the problem may be a function of the difficult circumstances faced by shoreland managers with regard to well code setbacks. Generally, these problems arise when owners of substandard lots of record want to upgrade sewage treatment systems but are unable to meet setback requirements from existing wells. For obvious health reasons, the Health Department is reluctant to give variances. However, shoreland managers then face the dilemma of having to work for the upgrading of sewage treatment systems to prevent deterioration of surface and groundwater quality, but find meeting those objectives impossible if well code setbacks are to be adhered to.

Clearly, there are problems in communication and coordination of activities between the DNR, Department of Health, and shoreland managers. Currently, there are too many conflicting claims about jurisdictional responsibility and the objectives of shoreland management.

RECOMMENDATION: Several measures should be taken to improve this situation. These include:

-- Statewide shoreland regulations should be ammended to clarify shoreland management responsibilities. The regulations should identify the responsibilities of the DNR, Department of Health, and counties concerning the inspection and permitting of resort sewage treatment systems. Counties should consider using Community Health Service funds for inspecting resort sewage treatment systems.

-- The DNR and the Department of Health need to closely coordinate activities and objectives in shoreland areas. The two departments work against each other when one pushes for upgrading of sewage treatment systems in areas where small lot sizes make the meeting of well setback requirements difficult. It may be possible to identify strategies for meeting the goals of protecting well water quality while still permitting the upgrading of sewage treatment systems.

-- Until statewide regulations are amended, the DNR and Department of Health should distribute a joint statement outlining what their respective responsibilities entail and what they expect of shoreland managers.

Subdivision Review

Many jurisdictions continue to experience difficulty in reviewing proposed subdivisions. Although many counties have a suitability clause addressing subdivision review, this clause appears inadequate because it is easily circumvented. In other cases problems may result from a lack of familiarity with sound land use planning concepts, a heavy work load, or pressure from developers and elected officials that compromise planning decisions. The net result is approval of subdivisions with lots unsuited for development. The implications are varied. Buyers attain title to land with severe development limitations. They in turn expect variances or grading and filling permits. This often leads to administrative and resource difficulties years after the original subdivision approval.

Some planning commissions routinely request comments by DNR field hydrologists and county soil and water conservation districts. This proves

beneficial when these requests can be accommodated. This staff time however may be more efficiently used in assisting local governments to incorporate more detailed performance standards for subdivisions into their ordinances.

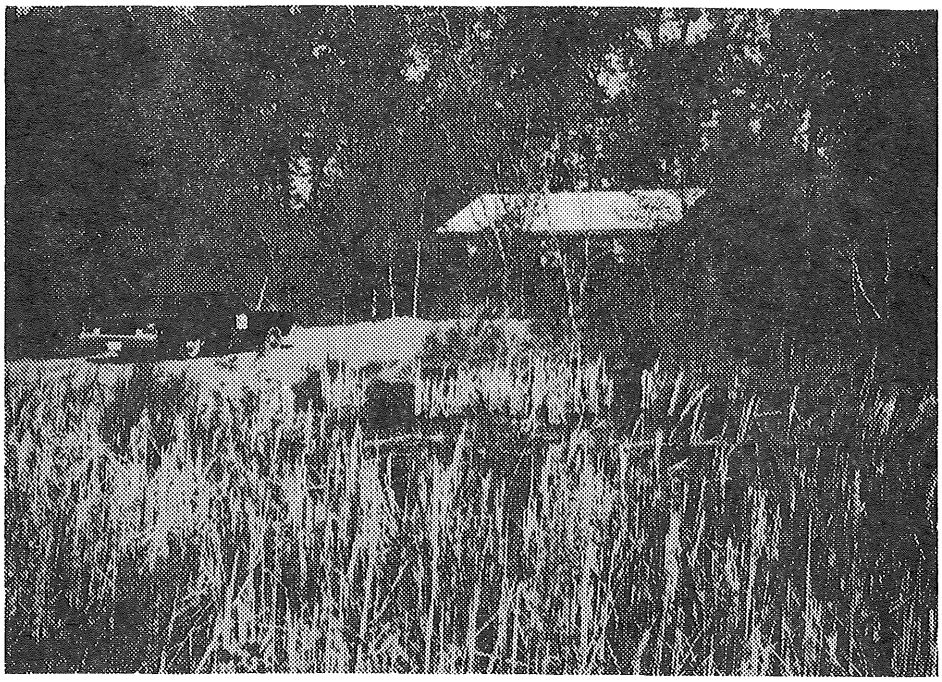
RECOMMENDATION: Problems in subdivision review can be partially addressed by the educational effort proposed earlier in this evaluation. The DNR should also consider development of mandatory statewide subdivision design standards. These standards would include specific criteria for proposed subdivisions, such as:

-- Minimum amounts of land for public dedication to be used for open space, public recreational use preservation of fragile or unique natural features, and others.

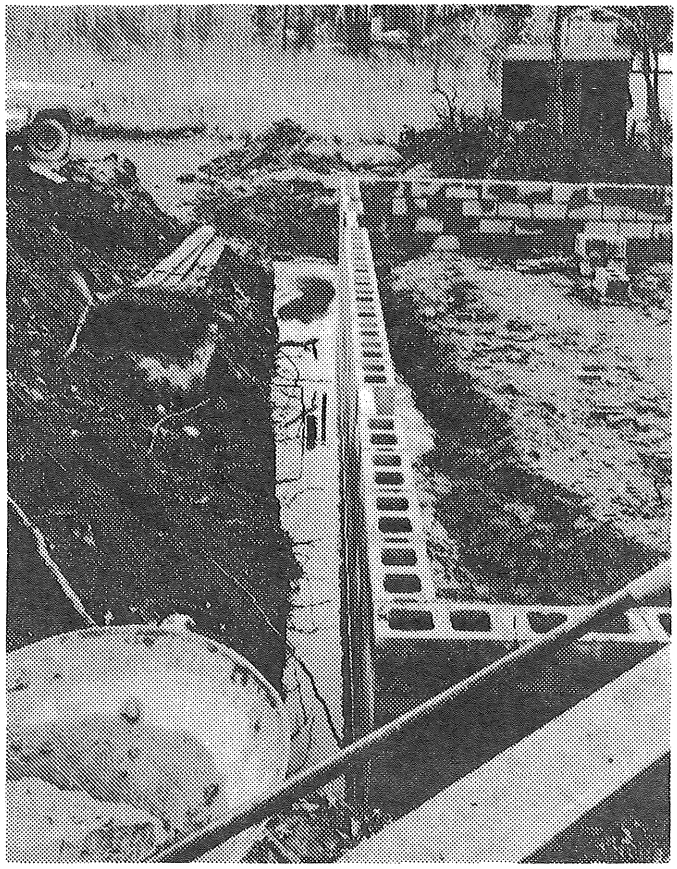
-- Delineation of areas unsuited for development - standards would identify soil types, slopes, rock outcrops, wetlands, flowages, etc. not suited for development.

-- The standards should indicate when soil borings and percolation tests are to be required. Areas which are unsuitable in their natural state for on-site sewage systems should not be allowed to be subdivided unless adequate alternative sewage treatment facilities are installed by the subdivider.

-- The capability of the subdivision design to adequately handle stormwater runoff without serious erosion or flooding should be evaluated. If necessary, drainage easements, ponding areas, or other measures should be required.



This photo shows filling and development occurring on a site unsuitable for development. Note the vegetation indicating that water is at or near the surface (Douglas County).



Note the water level around the foundation of the home (Aitkin County).

Record Keeping

Shortcomings in record keeping severly hampered evaluation of management effectiveness in many jurisdictions. Many records did not clearly indicate the reasons for granting or denying certain actions. On one occasion it was even difficult to document what decision was actually reached by the deliberating body. Minutes for planning commissions and boards of adjustment were often non- existent.

Better record maintenance is needed so that past decisions can be documented for future reference when current administrative officials are no longer part of the shoreland management program. These records also assist in monitoring for noncompliance and help establish defendable positions against legal challenges. Better record keeping may even improve the decision making process. The documentation of actions may produce decisions which are more consistent.

RECOMMENDATION: Minimum standards should be established for recording of shoreland decisions and actions. These should include:

-- The nature of the action taken
-- Rationale supporting the action taken
-- Information that describes mitigating and other circumstances
-- Conditions placed on all permits, variances, etc.
-- The content of minutes of all official meetings
-- Cross-referencing standards to provide information for future decisions

Jurisdictions managing shorelands should incorporate in their ordinances provisions for annual reviews of shoreland management decisions and program evaluations.

B. Specific Problem Areas

Most of the specific problem areas have been addressed already by local official advisory committees. To avoid duplication, many of the areas covered by the advisory committees are only touched on briefly. Five specific problem areas are addressed below. Three are issues addressed by advisory committees (variances, non-conforming sewage treatment systems and agricultural activity). Because of their significance, these issues are covered here, including proposed recommendations. Two others, summer storage of ice fishing houses and conveyance of property by meets and bounds description, were not addressed by the advisory committees and, therefore, are included in this report.

Variances

It appears from the sample of jurisdictions evaluated, that townships and counties are often too lenient in granting variances. They do not always adhere to criteria in state law, and, as a result, allow development which is detrimental to the resource. Some illustrations include:

-- In one county, the board of adjustment has not denied a variance request in three years.

-- In another county, the board of adjustment has adopted the attitude that a variance will be granted unless the county can prove that it will be detrimental.

-- One township does not require variances in situations where alterations are installed on substandard lots bringing sewage treatment systems too close to wells, structures, etc.

-- In many townships, variance records are too obscure to determine the exact patterns and tendencies of variance procedures.

Reasons for these failings are multiple. They include:

-- Board of adjustment members who are not adequately informed or trained with respect to the legalities of variance review procedures.

-- Zoning administrators who are more receptive to modification of standards than is necessary. This is not always the case. Many zoning administrators express concern over the fact that their boards of adjustment grant inappropriate variances.

-- A live and let live philosophy that is especially prevalent in townships where applicants and board members are often friends or neighbors.

-- A large number of sub-standard lots of record which require variances if they are to be developed.

-- The lack of clearly defined DNR policy indicating conditions under which DNR field staff will monitor, review, and comment on variance proceedings.

-- The part-time nature of management staff in township situations. This decreases the likelihood that records will be adequately kept and that staff will be sufficiently experienced to effectively address complex variance situations.

-- Boards of adjustment often feel most variances do not significantly harm the resource.

Landowner equity is a concern in developing better variance review standards. Since many variances do not represent a threat to the resource and do greatly enhance property use, a balance needs to be struck between enforcing the letter of the law and allowing reasonable property use. It is clear that many jurisdictions have been able to enforce very strict variance standards. In other jurisdictions such restrictiveness produces significant opposition which impairs other aspects of shoreland management. At this point, however, it appears too many jurisdictions are erring on the side of excessive leniency in variance administration.

RECOMMENDATIONS: Variance administration should be one of the primary topics of the educational efforts proposed earlier in this report. All boards

of adjustment members should be encouraged to enroll in such a course prior to assuming their duties. The educational program should be widely available around the state and held at different times so all persons interested will have ample opportunity to attend. DNR field staff should also be encouraged to attend on a periodic basis.

All units of government administering shoreland controls should be required to file an annual report with the DNR documenting variance, building permits, subdivision, conditional use actions during the year. This information should be considered for computerization and made available to the local units to assist them in future decisions. The DNR should develop a format for accomplishing this effort.

If staff constraints limit widespread monitoring of variances, the DNR should target efforts on jurisdictions which appear to be excessively lenient in granting variances. Monitoring, along with frequent written comments to variance proposals, may be sufficient to produce improvements. If not, legal action on carefully selected cases should be considered. Throughout, the DNR should strive to carefully identify its objectives so voluntary and amicable improvement is encouraged.

Agricultural Activity in Shorelands

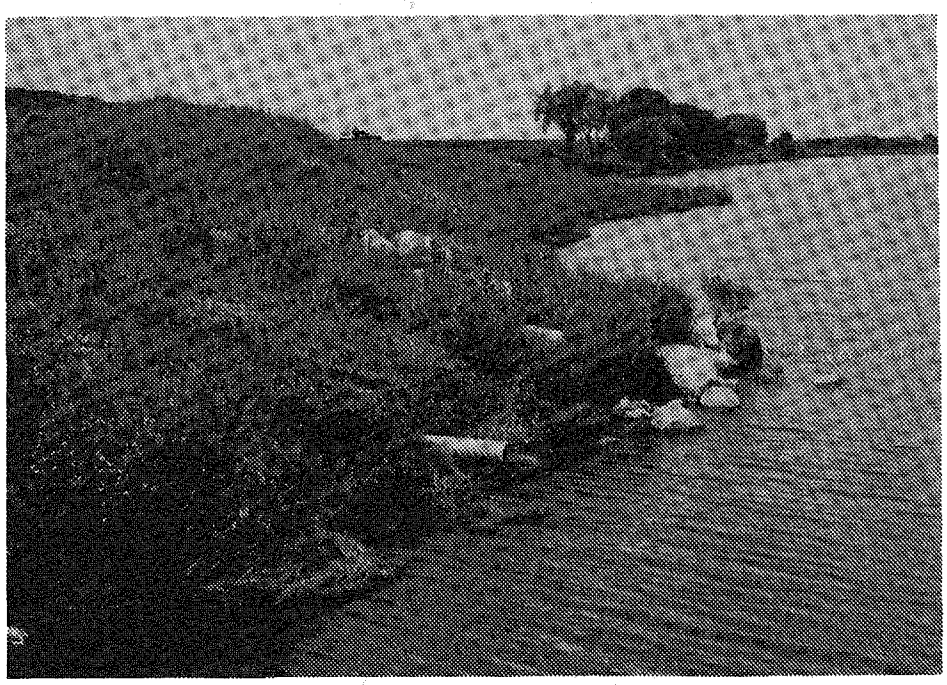
Agricultural activity (cultivation, pasturing, feedlots) in shorelands can significantly affect lake and river resources. Siltation can deteriorate habitat and restrict stream flows, contributing to flood levels. Contaminants introduced into water resources from agricultural run-off can significantly enrich nutrient levels causing serious problems with weed growth and algal blooms. In extreme cases, human health threats may result. In an unknown number of lakes, the nutrient load introduced from agricultural activities far outweighs that from on-site sewage treatment systems and other non-agricultural sources. Failure to address agricultural pollution problems renders other shoreland controls ineffective and inequitable.

The problem is widespread in large parts of the state and is probably increasing in scope. In recent years, economic pressures have forced

intensification of cultivation, often onto marginal production areas. Such areas, because of their steep slope characteristics, are often prone to severe erosion.

Long term solutions are needed. There are no standards in the shoreland program to address agricultural activities. Some counties, such as Rice and Fillmore, have developed their own standards. For example, Rice County has established Special Protection Shoreland Districts in sensitive areas and only allows minimum tillage and pasture uses in such areas.

There are numerous other approaches that can be considered, however. There is currently a citizen participation effort underway by a private organization looking at agriculture and water quality concerns and issues. The objective is a more informed public and identification of practical strategies to address problems.



Agricultural drainage outlet into Lake Shetek in Murray County

RECOMMENDATION: At the earliest possible date standards should be developed to address agricultural activity in shorelands. The standards and the process for creating them should have the following characteristics:

-- To the extent feasible, the standards should recognize the difficult economic plight of many farmers. Ideally, such standards should be structured to achieve a measure of resource protection without seriously affecting the economics of farming.

-- The standards should be coordinated with the Soil and Water Conservation District (SWCD) cost share program which assists farmers in the cost of building erosion control structures.

-- Other state or federal programs which address erosion control or other water resources planning should be recognized in developing standards. Compatibility between the standards and these programs should be developed to the extent feasible.

-- Other agencies and institutions with an interest in erosion control should participate in the structuring of standards. These may include the Pollution Control Agency, the Minnesota Department of Agriculture, the State Soil and Water Conservation Board, the Center for Urban and Regional Affairs, the Agricultural Extension Service, and farm organizations such as the Farm Bureau and the Farmers Union. The support of these organizations should be solicited not just to improve the nature of the standards developed but also to broaden support for the standards.

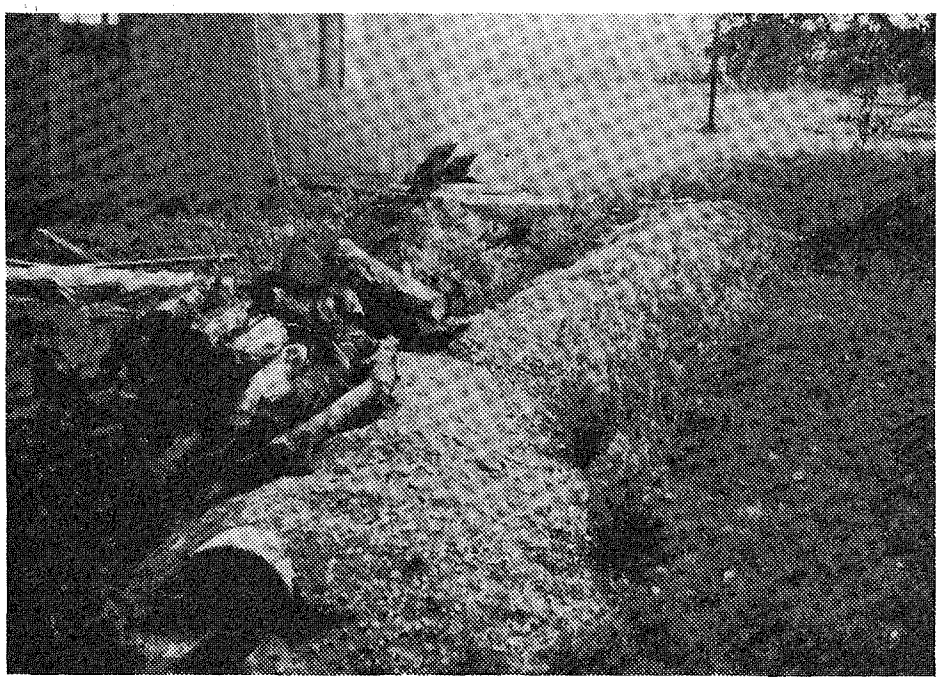
-- If feasible, the assistance of an unrelated but neutral organization should be sought to facilitate the process. This would ensure fairness in the structuring of standards and maintain the integrity of the whole process.

-- Foundation funding should be sought for a broader effort than normally accompanies the development of standards. The objective would be to solicit public input into the process. That input should be structured to reflect statewide attitudes and perspectives and should be from an informed and interested citizenry. That implies a relatively ambitious effort that would have elements of education and fact finding from a carefully selected panel of citizens.

Non-Conforming Sewage Treatment Systems

Insufficient progress is being made in eliminating non-conforming sewage treatment systems in shoreland areas. State regulations require the upgrading of all such systems within five years of the passage of a shoreland ordinance. That five year period is long past for all the counties with few having been able to achieve 100% upgrading.

Several counties, however, have developed very effective programs. Otter Tail County, for instance, has purchased sophisticated equipment to detect sewage plumes in water and to identify ground water flow on land. That technology, combined with determined inspection and abatement efforts has resulted in almost full compliance in targeted areas.



Surface built drainage line for a sewage treatment system.

Funding need not be an unresolvable constraint. In Aitkin County, Community Health Services funds were dedicated over a five year period to inspect sewage treatment systems in the County. Shoreland administrators in Aitkin County have documented how their efforts to ensure upgrading have spurred a local growth industry in sewage treatment system construction. That industry brings dollars in from seasonal homeowners, and creates significant secondary effects on employment and tax generation. Sewage treatment system upgrading has been a net plus to the county's economy and the protection of its water resources.

These success stories can be matched by equally unsuccessful efforts. In at least one county it appears likely the number of non-conforming sewage treatment systems has increased rather than decreased. In many counties, there is no effort being made to even inspect failing sewage treatment systems.

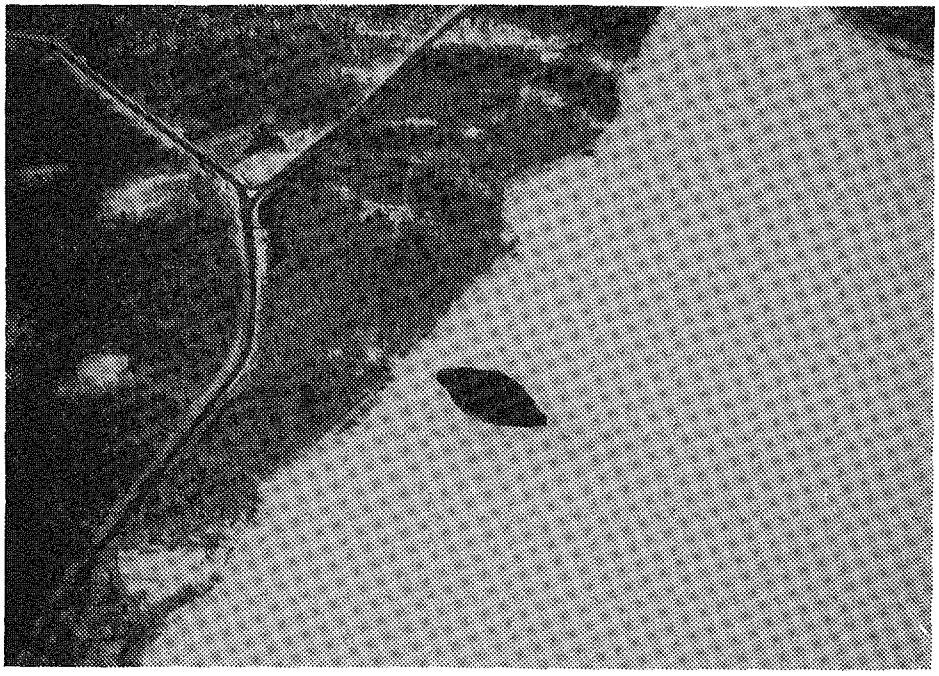
Evidence of a collapsing holding tank.

RECOMMENDATIONS:

- The DNR should promote incentive programs to encourage upgrading of sewage systems. One strategy is development of tax credits for installing upgraded sewer systems. Another would be a grant program administered by counties for upgrading sewer systems. Wisconsin has a grant program that has been quite successful.

- The DNR should establish more specific performance standards to guide county initiatives for eliminating nonconforming sewer systems. Amended regulations should require specific actions by counties to identify or inventory systems. Options being used by some counties include: requiring inspection and upgrading of systems prior to sale or transfer of shoreland property and requiring inspection and upgrading prior to issuance of any additional permits for property improvement.

- Application of the concept of Truth in Housing to shorelands would instill greater accountability on real estate agents and sellers regarding the conformance of the property with ordinance provisions. If the buyer is aware of deficiencies he'll be likely to demand upgrading before purchase.

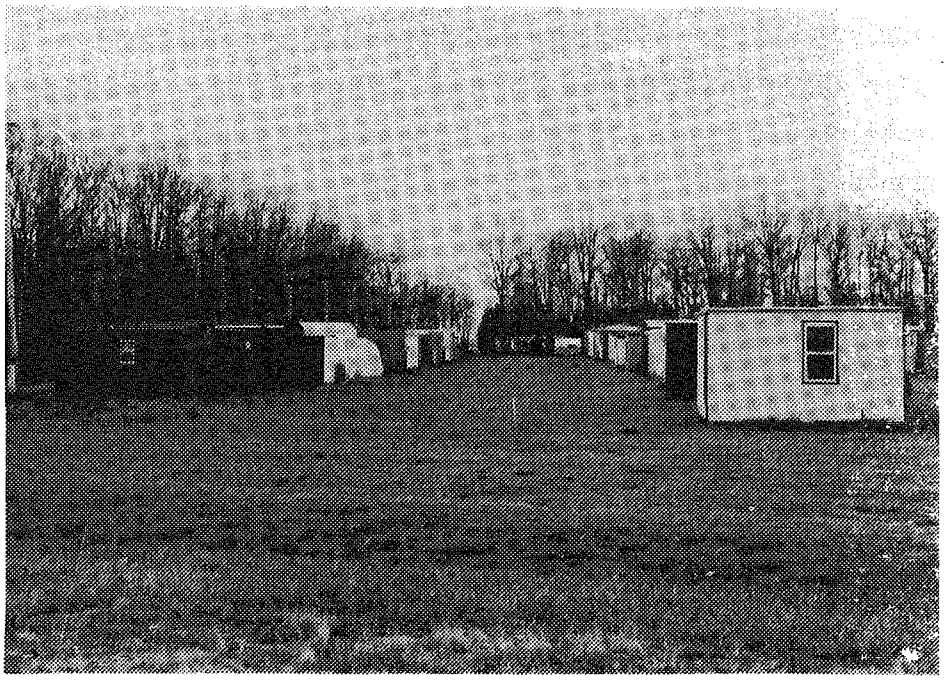


Open ice in front of this lakeshore cabin is probably from a straight pipe from a sewage treatment system.

Fish House Summer Storage

In the summer, near some lakes, fish houses are often stored in dense concentrations in shoreland areas. Some are used as dwellings. This is a violation of shoreland standards if sewage treatment and other standards are not met. Often, these structures are dilapidated and an eyesore that can seriously affect shoreland property values.

RECOMMENDATION: Although few counties currently see this issue as a significant problem there is a need to develop workable policies and strategies which have statewide application. The DNR should coordinate with the local governments around Mille Lacs Lake in addressing this issue.



Near Mille Lacs Lake.

Metes and Bounds Property Conveyance

Property in some shoreland areas is still being conveyed by metes and bounds property description. This is not prohibited in law or DNR shoreland regulations. Official subdivision review is required by DNR standards when at least three parcels of less than five acres each are created within a five year period. Sales can be planned to avoid subdivision review requirements. By doing so, development would not incur subdivision review costs. Areas subdivided without benefit of subdivision review may contain lots which do not meet shoreland standards or may have insufficient buildable area. The result may be that variances are needed or that on-site sewage treatment systems may not function properly. While such situations may pose serious local problems, and detract from the objectives of the Shoreland Program they do not currently pose a serious problem statewide. Nevertheless, it does suggest a need for action.

RECOMMENDATION: Counties and townships should require that all subdivisions in shoreland areas be platted in accordance with M.S. 505. Also, the state should develop a more comprehensive subdivision definition. The rules should be amended to require that creation of new lots in shoreland areas can only occur through a platting process.

State Lease Lots

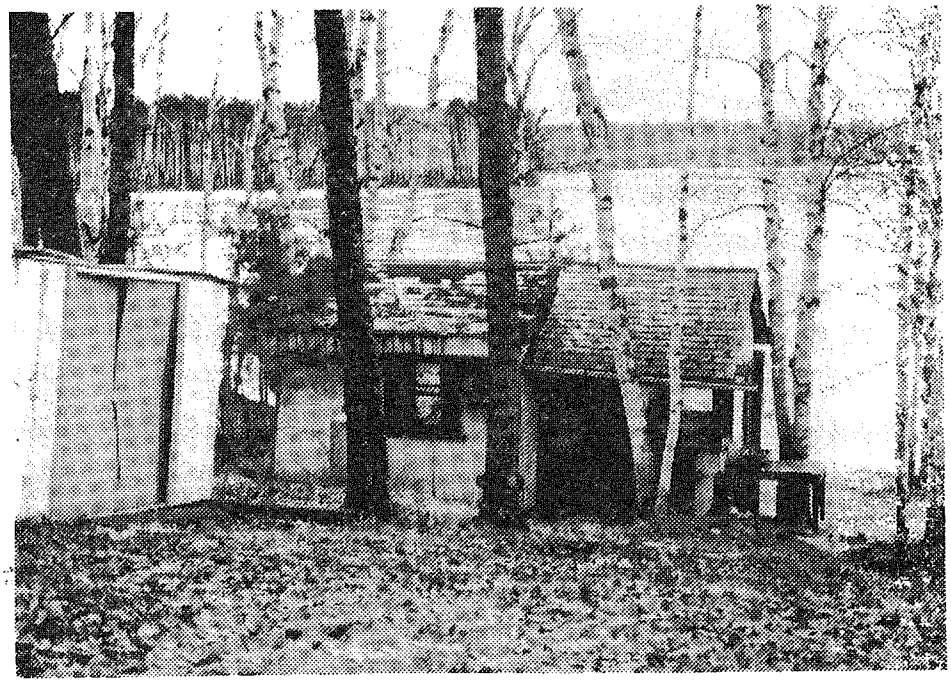
Another problem facing shoreland management is the leasing of shoreland lots by the state.* Currently the Land Bureau and the Division of Forestry administer 1,785 lakeshore cabin leases. These leases are generally very desirable sites on some 90 lakes in 11 counties, primarily in the northern half of the state. Almost three-fourths of the leases are located in Cass, Cook, Itasca, and St. Louis counties alone. As the following table indicates, lakes with lease lots are disproportionately represented in those land use categories that tend to have more remote lakes with forested shorelines, and clearer waters.

* Most of the information used comes from a report (1983) done by Stephanie Warne, Land Bureau Senior Realty Specialist. This report focused on the problem of state lease lots in shoreland areas.

Land Use Lake Class	% of lease lakes in class	% of total lakes in class
Primitive/Semi-Primitive	30	20
Natural in Forest	57	27
Forest in Agricultural	3	11
Agricultural	0	35
Urban	10	7

Most leases are on School Trust Fund lands (90%). The impacts of these lease lots is virtually identical to those found in private development. The range of impacts include evidence of shoreland erosion due to vegetation removal, degradation of surface/groundwater quality, and aesthetic conditions inconsistent with the goals of shoreland management. These impacts are magnified on lease lots because many of the lots were created long before minimum standards were established, and the majority of the lots, therefore, are substandard in size.

Currently, state lease lots pose four types of problems. First, as in private shoreland development, there has been an increasing trend toward year-round residential use. Secondly, the aesthetic condition of these lots is often one of dilapidated structures painted in bright, ostentatious colors. This is particularly significant because most lease lots are generally found on lakes that would otherwise appear to be in a relatively undisturbed state. Third, many of the lease lots contain nonconforming sewage treatment systems. Finally, there is a lack of enforcement of state minimum shoreland standards since, according to Minnesota Statutes, state owned lands may not be directly subject to county zoning regulations. The state lease lots present a very poor example of shoreland development to counties. This can be particularly frustrating when the DNR is critical of local decisions, yet permits substandard development to continue on land the DNR controls.



Note condition of buildings on this lease lot.

RECOMMENDATIONS: Recommendations and strategies for addressing problems posed by state lease lots can be found in the report cited earlier. Because that report reflects a more detailed analysis of the problem, it can more adequately address this issue. However, given the nature of the problem, it may be advisable for the state to consider the possibility of drafting legislation which specifically permits county zoning administrators to inspect and enforce county ordinances pertaining to shoreland areas on state leased lots. Such legislation should be specifically confined to state leased lots in shoreland areas.

The DNR should conduct a detailed inventory of the state lease lots to include: lot size, building locations, sewer system type and location, conformance with lease, conformance with shoreland standards, and dates of construction for improvements. Recommendations should be developed for correcting deficiencies and nonconformities in a timely manner.

Other Problem Areas

The following areas have been addressed by local official advisory committees* and recommendations have been developed. To avoid duplication of effort, they are identified and described without attached recommendations.

Enforcement: Most jurisdictions have experienced considerable difficulty with the enforcement process. County attorneys are often unwilling to prosecute land use violations. When violations are prosecuted, judges often levee small penalties. As a result, the enforcement process provides scant deterrence to violators. If the public at large were aware of the impunity with which most violations are regarded, the effectiveness of the entire Shoreland Program might be threatened. The situation is such a problem in some counties that shoreland managers no longer seek prosecution for violations.

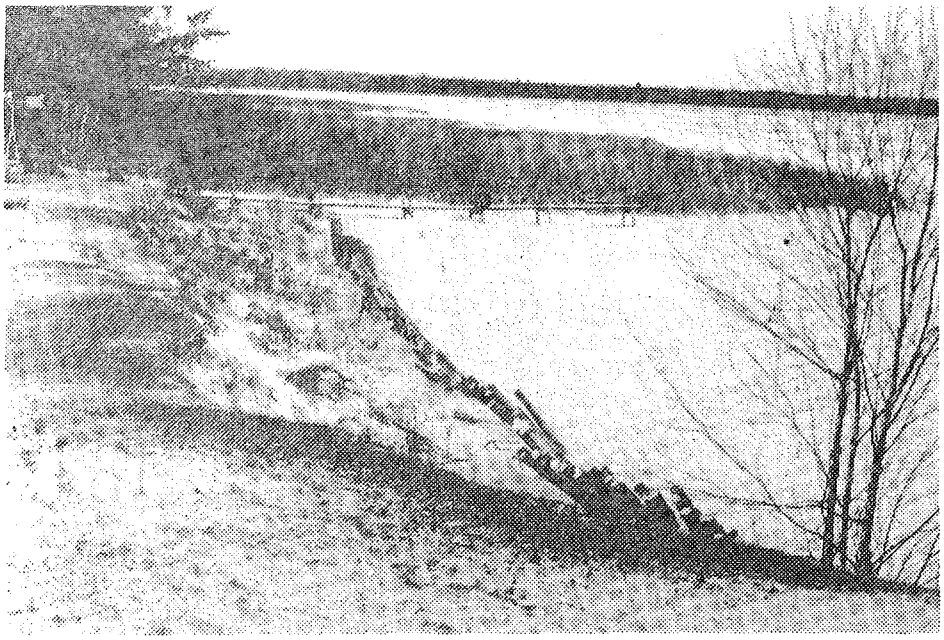
Shoreland Alterations: Shoreland alterations (grading, filling and vegetative clearing) are undertaken by the homeowner to render a lot more buildable or to increase access to or enjoyment of the lake. Such actions are often the result of inadequate suitability evaluations in the subdivision review process.

* For more detailed information see Report No. 3: LOCAL OFFICIAL RECOMMENDATIONS FOR SHORELAND PROGRAM IMPROVEMENTS, Shoreland Update Project, 1983.

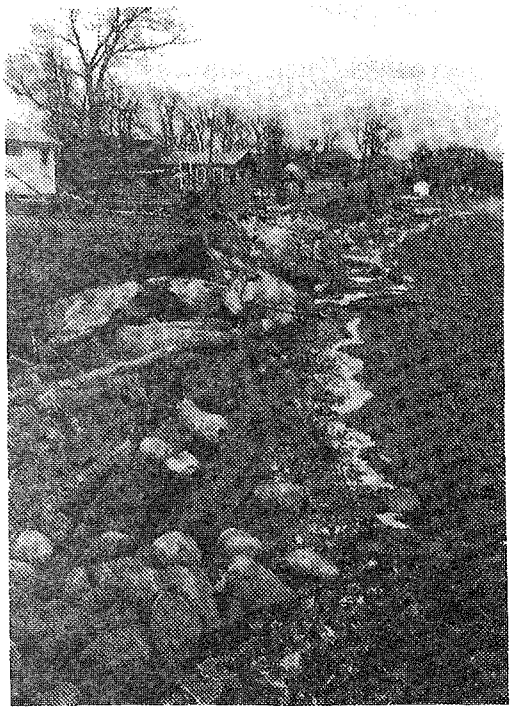
Note shoreline erosion due to light excavation to provide some extra boat moorings. Since the soil is predominantly sandy, the removal of the top few inches led to heavy erosion.

In many cases, homeowners may have valid reasons for shoreland alterations. In other instances, homeowners take actions which surpass what is needed to correct deficiencies. Also, many homeowners assume that property ownership grants them rights to modify the environment to suit their tastes without restriction.

There are no state criteria specifying conditions under which alterations are reasonable and identifying guidelines for reducing adverse impacts on lake or river resources when actions are allowed. As a result, most counties and townships have taken no action to remedy the situation. Those that have established such measures face a variety of implementation problems. These include:



The clearing of weeds and other water vegetation has resulted in increased wave and ice action, which in turn has led to the need for rip-rapping.



Rip-rapping dumped on shore due to wave and ice action resulting from vegetation clearance. Also note the short setbacks for buildings.

-- Most homeowners in shoreland areas may not be aware that permits are needed prior to many shoreland alterations. As a result, many actions are taken before shoreland managers can review them. Also, many shoreland residents often assume that land ownership grants them unlimited rights to modify the landscape.

-- The reasonableness of standards and criteria are subject to considerable interpretation. There are a range of actions that may or may not be acceptable given the lake, the county, the shoreland, and the shoreland managers.

-- It is difficult to design easily enforceable standards.

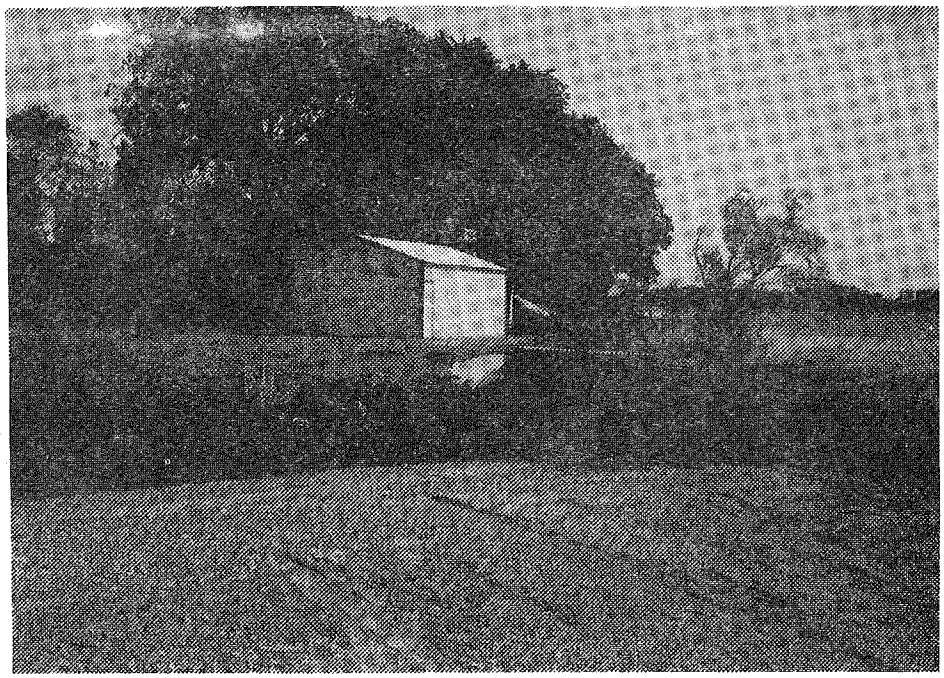
-- When violations have occurred the judicial process has often been ineffective. Either prosecuting attorneys have given violations a low priority or judges have levied minimal penalties.

Multiple Structures on a Single Lot: On many lots there are several structures. Usually the situation does not represent a specific violation of shoreland standards unless there is more than one dwelling unit on a single lot. But the situation may also pose some hazards to water quality if too much of the lot area is covered with impervious surfaces. Runoff may cause erosion and introduce contaminants into the lake or river. Current standards for counties call for a 30% ceiling for structure coverage on a single lot. This does not effectively address how many structures should be placed on lots nor does it adequately limit the amount of other impervious surfaces on lots. Without enforcement of such standards many shoreland areas will continue to be characterized by cluttered development that detracts from the aesthetics of the lake or river setting.

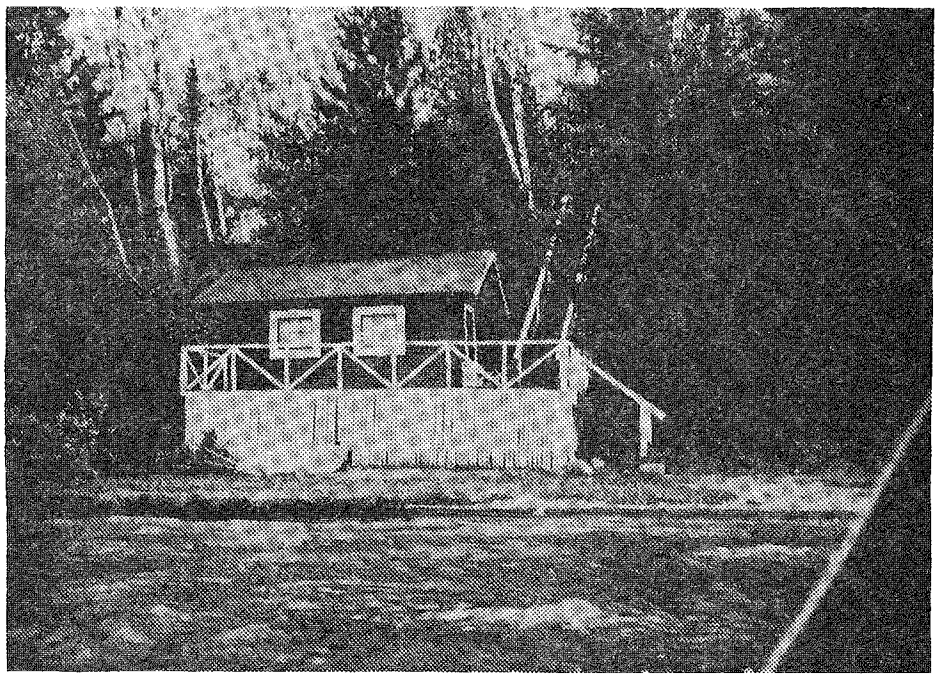
Resort Conversion: Shoreland standards require DNR review of many approaches to resort conversions. There are indications, however, that some conversions occur without DNR review. In some cases this may occur because the local unit of government is also unaware of the conversions. In other cases, the DNR is not informed either by oversight or because of conflicts between the DNR and the county regarding conversion policy. Since conversion of resorts to other uses is a relatively recent trend that appears to be accelerating, there is concern that existing standards may not be adequately guiding the process. New standards consistent with current policy guidelines should be promulgated.

The site in this photo is located in a township that does not permit more than one permanent dwelling on a single lot. So instead, the residents put this "addition" on the lot.

Boat Houses: In many areas boat houses have posed several management problems. Occasionally such shelters are used for purposes other than boat storage, such as for residences. Examples of two story "boathouses" or excessively large boathouses (one was discovered to be 80'x20') are not unusual. Other cases have revealed structures described as boathouses that include wet bars, free- standing fireplaces, kitchen and bathroom facilities, carpeting, and other amenities. Another problem is the unsightly condition of many over-water boathouses. Ice action and weathering often leave them in a dilapidated condition within a few years. Their proximity to the water often also affects view corridors of adjacent residences.



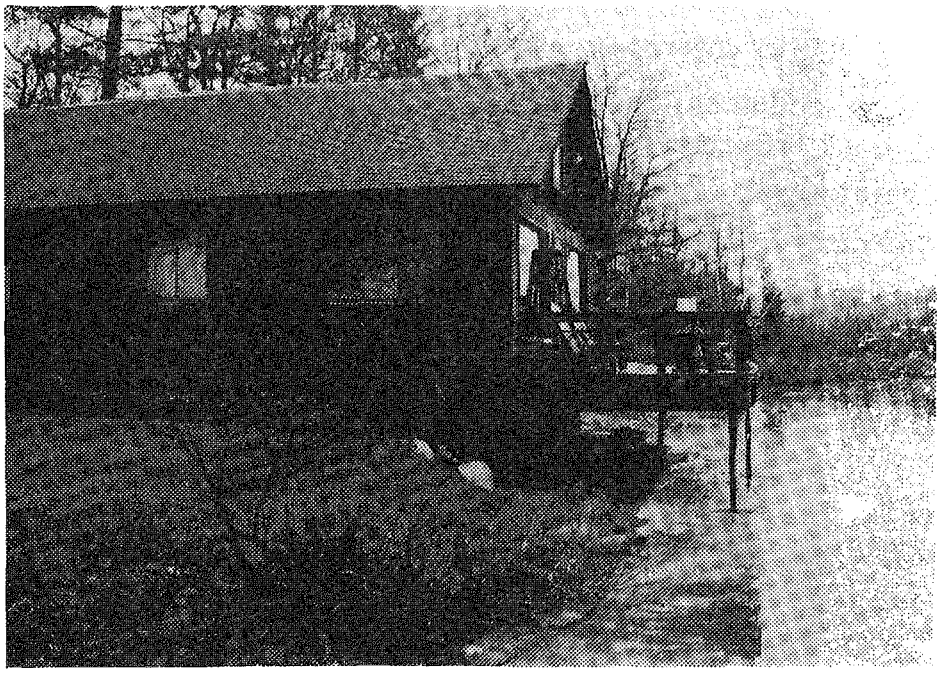
This building in Wright County is permitted a 10 foot setback because it is classified as a boathouse. This boathouse is allegedly used to store a pontoon boat.



Presumably, boathouses are used only for storage. Note that this "boathouse" has no entrance that would permit the storage of a boat.

Some counties prohibit all boat houses. Others address the problem through performance standards, while still others require boat houses to meet all setback standards applied to other structures. A significant number of counties do not address this issue at all. Statewide standards could resolve the problem but may not be well received at the county or township level.

Decks: Variances are often sought to allow decks within the shoreland setback area. Decks often are a precursor for screened porches that later become room additions. Because of the incremental enhancement of the deck structure, deck variances can represent a significant departure from accepted setback standards. Yet, many jurisdictions are not overly strict with such variance proposals. As a result, decks proliferate and infringe on the setback area. This not only creates a heightened impression of shoreland crowding but often affects the viewshed of the lake from adjacent properties. Several jurisdictions, Stearns County and the city of Maple Grove among them, have implemented standards that effectively manage deck construction. These initiatives demonstrate that effective controls are feasible.



This deck is standing in water. Note the chopping around the posts to prevent heaving from ice action.

IV. FUTURE DIRECTIONS

This evaluation has addressed existing shortcomings in the program. In that sense the evaluation has been more reactive than prescriptive. But new trends in shoreland development suggest a need to explore new directions in shoreland management. If the program is to remain effective and capable of addressing new problems (or opportunities), greater flexibility and foresight will be needed. The following are suggestions toward that end.

A. Prescriptive Action

It is the nature of the beast, that most regulatory management programs tend to be reactive in nature and generally inflexible in their implementation. The Shoreland Program is less characterized by this generalization than many programs. In the structuring of ordinances and the implementation of standards, the shoreland program has usually proven to be sufficiently flexible to adapt to unforeseen circumstances and problem areas.

As the Shoreland Program moves into the 1980's, continued emergence of new trends in development will pose new challenges for shoreland managers.Some of these trends are:

-- Continuing redevelopment will occur in shoreland areas. Older development, including resorts, will be removed to accommodate new and denser development.

-- Condominiums, townhouses, clusters, timeshares, cooperatives, etc., will play a larger role in the patterns of shoreland development.

-- Retirement trends will continue to influence the location of growth, the form of that development, and the demand for services.

-- New resource areas, such as small lakes and rivers, will be developed, posing greater environmental constraints to development.

-- Year round recreation use plus increasing conversion of seasonal homes to permanent dwelling will intensify use of the resources.

-- Financial constraints that will likely hamper all jurisdictions in their management efforts.

As these and other trends emerge, there will be a continuing and growing need for innovative and prescriptive approaches to management. The current framework of shoreland standards may not be best suited for needed innovations. New strategies need to be explored.

RECOMMENDATIONS: The DNR should consider modifications which will increase the capacity of the Shoreland Program to address changes in a flexible and prescriptive approach. Two such changes, use of performance standards and exploring the concept of development limits (e.g., carrying capacity) are addressed in the following recommendations. One other recommendation needs to be considered.

A DNR Lakes Management Policy Task Force should be established on an ongoing basis. This committee should include the various divisions within the DNR with jurisdiction for lake or shoreland management. It should also include individuals from other state agencies, from DNR regional offices and from local government shoreland management programs. The charge of this committee should be broad ranging and should include the following:

-- Coordination of lake management between and within DNR divisions, regions, other state agencies, and local governments.

-- Periodic evaluation of development trends and their implications for lake management. This assumes that provisions will be made for a regular update of the shoreland development data.

-- Continuing reappraisal of management approaches to ensure they meet the needs of new development trends.

-- Study and manage lakes in a comprehensive fashion. This implies addressing not just water but also related land issues. The Task Force should ensure that lake management policies of all divisions are coordinated.

The Task Force should meet on a regularly scheduled basis. In addition, a yearly seminar to identify and appraise future trends in shoreland development, lake use, and management approaches should be planned. This would also provide a greater opportunity to more effectively integrate use of

the data now available in the Land Management Information Center (LMIC). Updating, maintaining, and analyzing the information already on hand would provide shoreland managers with a useful means for tracking current trends and exploring new management strategies.*

B. Performance Standards

When shoreland standards were initially structured, specifically delineated minimum standards were needed to ensure resource protection. To date, counties and the DNR have worked with those standards for almost a decade. With the experience of time, most parties have become comfortable with the standards and the need for resource protection in general. During this period, the appropriateness of the standards has been fairly well accepted and born out by the measure of resource protection that has occurred. But, on occasion, inflexibility has hindered creative approaches to resolving resource problems. Part of that inflexibility is the product of the specific nature of those standards. There are other strategies for varying from the standards and still retaining the objectives of shoreland protection. This inflexibility has often occurred because of the reluctance of resource managers to explore other avenues for addressing problems. Such reluctance is understandable. When one approach functions adequately, it is often unwise to experiment with options whose impacts are uncertain. There is also fear that new approaches may set precedents with unforseeable implications.

New types of developments are taking place that justify greater flexibility in addressing development proposals. These developments include cluster designs, townhouses, resort conversions, resort expansions, condominium campgrounds, and others.

* For more information on the data collected by the Shoreland Update Project, see Report No. 4: SHORELAND DEVELOPMENT TRENDS. This report includes some speculation on the possible development of development models for simulating various planning strategies and development trends, see especially the section "Factors Influencing Shoreland Development - Summary."

There are tangible as well as intangible gains which will be realized by increasing flexibility of standards. Some of these gains include:

-- Greater variety in the density and design of shoreland development. This diversity can enhance the aesthetics of shoreland settings.

-- Improved resource protection could result if development proposals are evaluated for the entire lake setting rather than on an individual site basis as is currently encouraged by existing standards.

-- The resource could be available to a larger number of users at a more economical cost.

-- Service costs could be moderated and tax revenues enhanced by concentrating development even further than now allowed under planned unit development and cluster criteria. This again is predicated on the development and implementation of whole lake management plans.

RECOMMENDATIONS:

These approaches would lead to prescriptive management plans. They would be designed to anticipate potential problems and opportunities and designate long-term management goals tailored to the particular lake(s) in question. Such plans should be developed at the local level with assistance from the DNR. Lake associations may play a significant role in that process. Plans developed through such an undertaking should be based on projections of development trends, physical characteristics and management objectives for the lake(s) being studied, along with an appreciation for the problems and opportunities posed by such trends.

Whenever the net result of such planning is likely to be a substantial departure from development standards, the DNR should take an active role in evaluation of the plan.

C. Limits to Development

Many shoreland management decisions are related to limits of the resource to accommodate development. Such limits are not all clearly defined. Often they relate to the capacity of a lake to absorb leechate from on-site sewage treatment systems, the surface capacity to accommodate recreation users, fish production capacity, or other related factors. Many shoreland managers are concerned that current standards allow development densities in excess of

these limits. Lacking data to establish reliable limits, many shoreland managers assume some limits will be exceeded with continued development. With that justification, restrictions have been established on a variety of development trends. Some restrict second tier development, some restrict conversions of seasonal homes for year round residential use, some establish very large lot sizes. Basic assumptions about development reaching resource limits may be accurate, but the inability to document the assumptions with data and appropriate methodologies may render restrictions invalid if challenged in court. Consequently, several shoreland managers have requested assistance in establishing resource limit definitions. If many new restrictions on shoreland development are to be successful, the state will need to develop a sounder approach for establishing resource limits.

RECOMMENDATION: The DNR, with the cooperation of other agencies should establish a lakes study program. That program should prioritize lakes based on the problems posed by development or use. Local governments should participate in establishing the priorities. Once priorities are established, studies could be conducted jointly by state agencies and local governments. The objectives of each study would be to identify lake management strategies, limits to development, and explore strategies to meet those objectives. These strategies could include alternative development restrictions as well as other avenues for managing the resource. Local governments would assist with the research and financing. Most of the recommendations would probably be implemented at the local level. The establishment of an internship program could provide considerable research talent and expand possible funding sources. Existing research programs (e.g., planning, ecology, geography, etc.) at several universities can provide the nucleus for an internship program for gathering the necessary data and developing comprehensive management strategies.*

* There is some precedence for this kind of undertaking when one considers that the Shoreland Program was the result of efforts of faculty and graduate students in the Department of Geography, U. of Minn., and the Center for Urban and Regional Affairs in the form of the Lakeshore Development Study.

Finally, like Wisconsin, Minnesota has legislation authorizing the creation of Lake Improvement Districts with taxing authority by local units of government (M.S. 378). Unlike Wisconsin, this legislation has not been effectively utilized in Minnesota to raise funds for undertakings such as those outlined above. It certainly merits closer attention, with Wisconsin serving as a model for use of this statute.

The lake study and grant program could be initiated with a budget of $100,000 per year. That would provide for one full time water resources professional, support staff (student interns, computer technical assistance and clerical) travel expenses plus some limited funding for data collection and evaluation and grants to cost share local initiatives.

D. Periodic Program Evaluation

The in-depth evaluation of sample jurisdictions proved to be a worthwhile exercise. Substantial information was gathered on various program strengths and weaknesses. The jurisdictions evaluated were exceptionally cooperative and supportive. To some extent the level of cooperation was unexpected. It was anticipated that some jurisdictions would not welcome scrutiny. Instead, all were receptive to comments on perceived shortcomings. Several commented that such evaluations should be institutionalized as a regular feature of the Shoreland Program. They felt the evaluation helped them to manage their resources better and to correct problem areas. In fact, a number of potentially serious problem areas were identified through the evaluation, even in jurisdictions that have otherwise programs. This suggests that numerous

other problems exist in programs throughout the state. Given the current workload, existing DNR staff would be unable to assume a more progressive program evaluation on a regular basis. If other jurisdictions are to be evaluated, enhanced staffing will be needed for that purpose.

RECOMMENDATION: The DNR should incorporate program evaluation as a regular feature of the Shoreland Program. Program evaluations should be carefully integrated with the education program outlined earlier in this report. This would ensure consistency and continuity. The program should be integrated with the annual report recommendations of a previous section. The DNR should seek increased funding to support this effort. If this can be accomplished, the evaluations should be formalized so jurisdictions have accurate expections about the process.

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