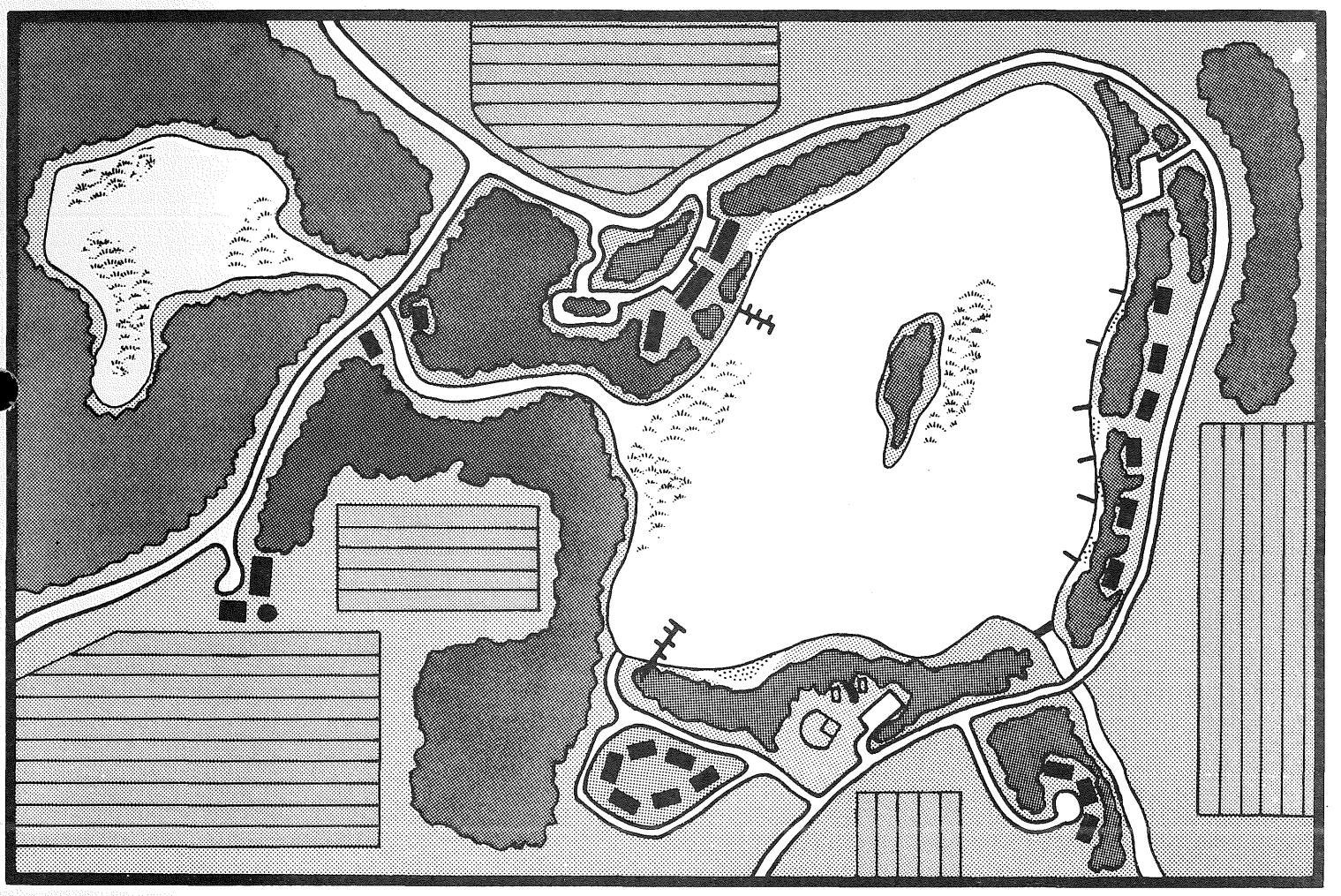
SHORELAND UPDATE

Report Number 1

SHORELAND MANAGEMENT EFFECTIVENESS: A QUESTIONNAIRE SURVEY of SHORELAND MANAGERS



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

1984

UPDATE PROJECT REPORTS

REPORT NUMBER	TITLE
1	Shoreland Management Effectiveness: A Questionnaire Survey of Shoreland Managers
2	Evaluation of Shoreland Management Based On Sample Counties and Townships
3	Local Official Recommendations for Shoreland Program Improvements
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SHORELAND UPDATE PROJECT

Report No.1

SHORELAND MANAGEMENT EFFECTIVENESS: A QUESTIONNAIRE SURVEY of SHORELAND MANAGERS

by

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1984

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Minnesota Department of Natural Resources

Division of Waters

Flood Plain/Shoreland Management Section

ABSTRACT

A questionnaire survey of state, county, municipal, and township shoreland managers concludes the Shoreland Program has been generally successful, but still needs improvements to address several persistent problems. These include non-conforming sewage systems, agricultural impacts, sub-standard lots of record, variances, enforcement, and some lot size and setback standards. Additional staffing and training needs are also identified.

ACKNOWLEDGEMENTS

Minnesota's Shoreland Management Program was conceived by the Legislature as a cooperative effort by the State's Department of Natural Resources and local units of government. After more than a decade of implementation efforts, the Legislature determined it was time to undertake a comprehensive effort to evaluate the Program and make improvements for the future. Since local government officials handle the great bulk of the day-to-day administration of the Program, they are probably one of the best sources of information about it.

This report presents the results of a detailed questionnaire survey of all local governments with shoreland management programs and DNR field personnel who assist them. The very high return rate for the survey attests to the capabilities and interest of numerous local government and DNR officials. They have been and will continue to be primarily responsible for determining whether the Shoreland Management Program meets its goals over the long run. Their contributions are appreciated by all who value the surface water resources of the State.

The report is the first in a series of products of the Shoreland Update Project, conducted by the Department of Natural Resources, Division of Waters and Office of Planning. Funding was provided by the Legislative Commission on Minnesota Resources.

Word processing of several drafts of the report was performed by Jan Lassen. Steve Prestin edited the document. Thanks are extended to Philippe S. Cohen for his assistance in designing the questionnaire.

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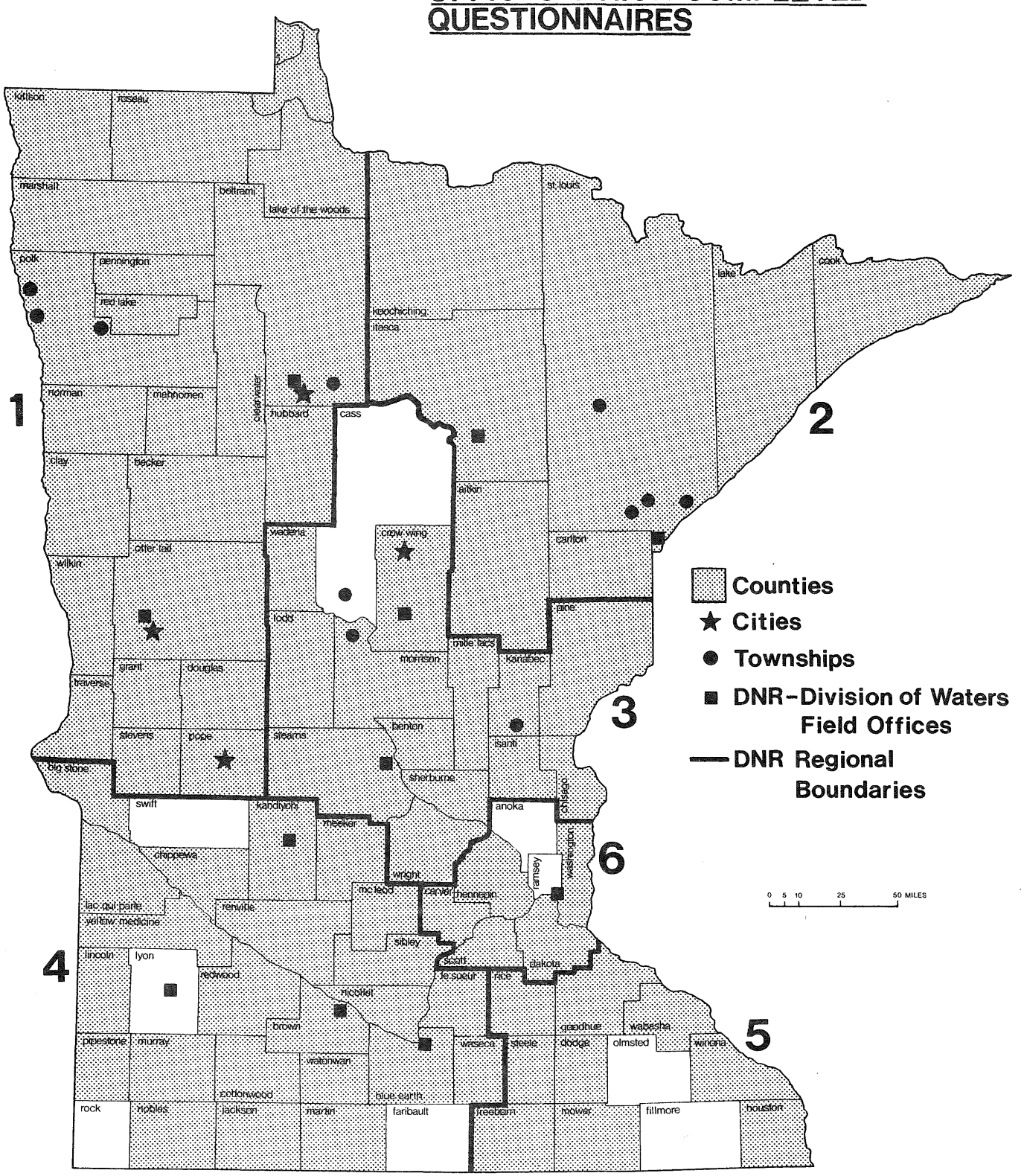

I. INTRODUCTION

The Shoreland Update Project had two primary objectives. One was to update and expand the state inventory on shorelands development. The second was to evaluate the effectiveness of shoreland management efforts. The second objective was addressed in five parts: 1) A series of interviews with shoreland managers was made throughout the state; 2) In-depth assessments of shoreland management programs were done in selected counties and townships; 3) An advisory committee process developed recommendations on numerous issues and problems; 4) Shoreland ordinances were reviewed for selected counties; 5) A shoreland managers questionnaire survey was conducted. The survey results are the topic of this report.

The questionnaire was mailed to zoning administrators in every county of the state. In addition, municipalities with shoreland management programs, townships with shoreland controls and DNR regional staff responsible for shoreland management were mailed questionnaires. The questionnaire for each level of government was very similar. A few modifications were made to address unique shoreland concerns at different jurisdictional levels of management.

The questionnaire return rate was highest for counties (more than 90%) and lowest for municipalities (see Figure 1). In total, more than 120 returns were received, and 112 were computerized for this evaluation. Some of the returns were received too late to be included.

Findings from this survey were used to identify issues which were addressed by local official advisory committees. Recommendations of the advisory committees are presented in another report.*

Several terms used in this report are footnoted and explained in more detail in Appendix I. The questionnaire used for counties is in Appendix II.

* See Report #3, LOCAL OFFICIAL RECOMMENDATIONS for SHORELAND PROGRAM IMPROVEMENTS, Shoreland Update Project, 1983.

A. The Shoreland Program

This report is primarily directed toward persons already familiar with the Shoreland Program. The Program is relatively large and complex. It addresses a variety of issues via legislation, state regulations and administrative policies and procedures. Since it is not feasible to fully explain the Program in this report, the following brief summary is presented for those with limited familiarity with shoreland management in Minnesota.

In 1969, legislation was enacted requiring the Department of Natural Resources to establish minimum shoreland development standards and for counties to adopt those standards into a management program. Subsequently, the DNR in 1970 promulgated the Statewide Standards and Criteria for Management of Shoreland Areas of Minnesota. Counties were required to adopt controls meeting or exceeding the standards by July of 1972. After amendment of the legislation in 1973 to include cities, the DNR promulgated Standards and Criteria for the Management of Municipal Shoreland Areas of Minnesota. Municipalities are required to adopt these standards within a year after the DNR completes a comprehensive review of their ordinances, shoreland development and management needs. Approximately 70 municipalities have adopted DNR-approved programs.

The municipal and county standards are similar. They both establish minimum lot sizes, widths and other dimensional standards which vary according to a classification system. Both rivers and lakes are included in the system. There are three classes, Natural Environment (NE), Recreational Development (RD) and General Development (GD). The classification system utilizes data on existing development and physical characteristics such as size, shape, depth and ecological type.* The standards vary, with NE being the most restrictive, and GD the least.

* 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.

Counties, municipalities and townships implement the standards. The DNR role is mostly one of reviewing and ensuring that adequate standards are adopted and administered. The DNR does retain approval jurisdiction for all planned unit developments, but for the most part the program is administered at the local level. The DNR, in its review function, often provides comments on a variety of actions (i.e. variance requests), but local governments are not required to follow DNR suggestions.

State standards do not address all issues nor do they dictate in great detail how certain issues are to be addressed. For example, local governments may develop standards for agricultural activities and shoreland alterations even though they are not required to do so. Many jurisdictions have structured standards to address a variety of issues which are especially troublesome in their area; most, however, do not. Jurisdictions are also given considerable latitude in the policies they establish with respect to certain aspects of the state standards. For example, each jurisdiction establishes its own policies for addressing sub-standard lots of record and non-conforming sewage systems. The DNR monitors to ensure local government policies produce effective management of shoreland resources.

B. Summary

Despite several troublesome shortcomings, the Shoreland Management Program is a significant success. Judging from the response by shoreland managers at all levels of government, the Shoreland Program has been an effective instrument for the protection of the state's lake and river resources. Radical overhaul of the program is inappropriate. Rather, the program needs fine-tuning to address several problems which have risen.

Success should not blind shoreland managers to the significance of problems that remain. These problems are potentially serious and merit immediate attention. From the survey of shoreland managers, the following six problems emerge as most significant:

-- non-conforming sewage systems
-- agricultural activity in shorelands
-- sub-standard lots of record
-- variance granting procedures
-- enforcement of shoreland violations
-- lot size and setback standards

Non-conforming sewage systems pose a threat to water quality and public health. Yet, in the face of that threat, inadequate attention is paid to the concern. In three-fourths of the counties, fewer than one third of the non-conforming sewage systems in shorelands have been upgraded. Most local governments apparently inspect sewage systems when problems are suspected. Few, however, have developed ongoing programs to systematically inspect all existing systems.

Erosion from fields and runoff from feedlots contributes silt and contaminants to lakes and rivers. This affects water quality, flooding, public health, recreation and fish and wildlife habitat. The DNR does not have specific standards in its Shoreland Program to address agricultural activity. The problem, though complex, has been partially addressed by some counties without the benefit of state assistance. But in most counties, no policies or standards address the situation.

Sub-standard lots of record pose a variety of problems. Often, multiple structures on such lots produce a visual impression of shoreland crowding and deterioration. Small lot sizes often preclude meeting necessary setbacks between the lake, structures, wells and sewage systems. This can pose a threat to public health and water quality. Many sub-standard lots are still undeveloped, holding potential for further deterioration of the problem. The counties use a variety of approaches to address existing substandard lots of record. Some have virtually no standards in their ordinances, but most, especially those with significant shoreland resources, have various dimension and peformance requirements. Even with standards, however, variances are necessary when literal application of shoreland standards causes unnecessary hardship or prevents reasonable use of shoreland property. But there are both valid and not so valid justifications for granting variances. Shoreland managers indicated that 30% of Boards of Adjustment grant variances to ensure a view of the lake, 27% to prevent an economic hardship and 7% for reasons relating to political ties and linkages. None of these alone are valid reasons for granting a variance. However, between 70 and 80% of respondents felt their Boards would grant variances for commonly accepted, legitimate reasons.

Enforcement is the weak link in the chain of shoreland management administration. Respondents indicated that neither the enforcment process nor the penalties rendered are effective as deterrents to shoreland violations. The problems are complex. The public often is unaware of standards, judges and prosecuting attorneys place low priority on shoreland violations, and enforcement is not uniform.

Although most respondents indicated satisfaction with existing standards on lot size and setback, a significant minority see the need for some changes. In general, the responses indicate standards for general development lakes and rivers may be too lenient, while those for natural environment lakes may be too stringent.

One other finding merits discussion. Planning and zoning officials indicate the need for greater DNR assistance in a variety of areas. The primary need is for educational materials, especially those which would identify appropriate reasons for granting variances.

The findings from this questionnaire include most but not all of the pressing issues facing the shoreland program. Some issues, such as the slow pace of municipal shoreland management program adoption are not easily addressed by the questionnaire approach. Others, such as central/regional office relations and coordination, are internal DNR issues which were addressed in the questionnaire, but will be evaluated further in other forums.

II. PROGRAM EFFECTIVENESS

The shoreland manager questionnaire's objective was to determine how shoreland managers perceive the effectiveness of the program they administer. Questions were initially general but became more specific as respondents progressed through the questionnaire. Respondents tended to be more positive in their answers to general questions. The impression received is that the Shoreland Program has been effective and has adequately protected the lake and river shoreland resources of the state. As shoreland managers addressed more specific concerns, their responses tended to be more critical, identifying a number of weaknesses and shortcomings in the program.

A. Achieving Objectives

The Shoreland Program was designed to meet a number of objectives. Some of these were articultated in the enabling legislation, some were identified in the subsequently adopted DNR standards, and some were implicit in the policies that evolved. These objectives were identified and program managers asked to evaluate effectiveness in meeting the objectives. A five point Likert scale was used for these and other effectiveness evaluations.

For most objectives, significantly more responses indicated the program to be effective than ineffective. (Effective was measured by a '1' or '2' response on the Likert scale; ineffective was measured by a '4' or '5' on the Likert scale). Response is indicated in Figure 2.

The program has been most effective in minimizing shoreland crowding and least effective in minimizing water surface crowding. While the two are related, it is obvious that controlling shoreland development alone will not be successful in addressing water surface concerns. There are too many other factors such as presence of public accesses, resorts, and marinas that can affect surface crowding.

Figure 2: EFFECTIVENESS IN MEETING SHORELAND PROGRAM OBJECTIVES

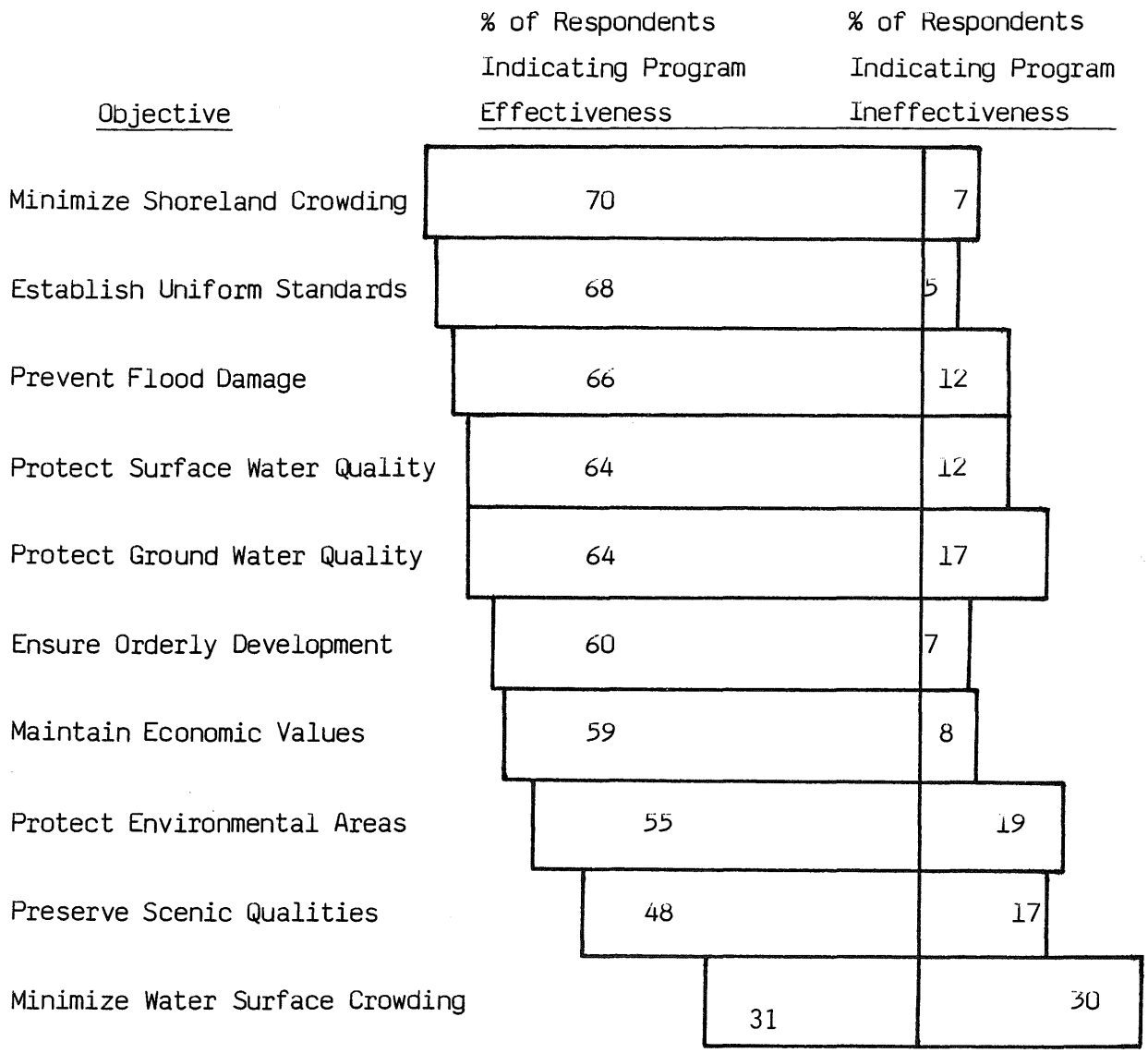

Table 1: REGIONAL VARIATION IN EVALUATION OF PROGRAM EFFECITVENESS

Objective	% of Respondents in Each DNR Region Indicating Program Effectiveness					
	1	2	3	4	5	6
Protecting ground water quality	67	47	55	46	70	50
Protecting surface water quality	64	53	75	38	60	40
Maintaining economic values	55	60	45	46	30	20

Respondents were asked to list the most significant successes and weaknesses of the Shoreland Management Program. There is little concensus on the shortcomings. Only five concerns were cited by more than two respondents with no program area being identified by more than five respondents. The problem mentioned most often is enforcement. This problem also emerges elsewehere in the questionnaire. Other shortcomings are listed below in descending frequency of their being cited:

-- inadequacies in the training, staffing and commitment of local governments to shoreland protection
-- standards that are not strict enough to effectively protect the resource
-- failure to effectively eliminate non-conforming sewage systems
-- problems generated by resorts, campgrounds, recreation vehicle parks, mobile homes, etc.

Concensus on shoreland successes is more pronounced. Three items emerge as important successes of the program. They are:

-- prevention of crowding in shoreland areas
-- development of uniform standards and, associated with that, numerous specific comments on the value of certain standards such as lot size and setbacks
-- improvement in design of sewage systems and the elimination of non-conforming sewage systems both of which are associated with numerous comments relating to improvements in water quality

Although these emerge as the most often mentioned successes of the program, numerous additional positive comments were made.

The program has not been uniformly successful in all regions of the state. Using DNR administrative regions to group responses, there is a significant regional difference in evaluation of three objectives (see Table 1). These are protecting ground and surface water quality and maintaining economic values. The lowest effectiveness ratings on protection of ground water quality occur in the heavily agricultural Region 4 and the heavily urban Region 6. Maintaining economic values receives the lowest effectiveness rating in Region 6.

B. Specific Problem Areas

Initial contacts with program managers indicated concerns regarding a number of potential problem areas. Twenty-four of these were listed and respondents requested to evaluate the significance of each as a problem. In only five did more respondents indicate the concern was a 'major problem' than those who indicated it was 'no problem'. All five relate directly or indirectly to environmental concerns, further emphasizing potential problems in this area (see Table 2).

Many problem areas are very regional or local in their significance. This is reflected in the evaluation. Significant regional variation exists in evaluation of nine problem areas (see Table 3). For example, as one might expect, field erosion and runoff from feedlots emerge as more significant problems in the agricultural regions of the state. Also, decks and docks emerge as far more significant problems in the metropolitan area than in the rest of the state. This regional variation should be useful in targeting management efforts. It perhaps suggests that certain standards should be developed on a regional rather than statewide basis.

Table 2: EVALUATION OF SPECIFIC PROBLEM AREAS BY SHORELAND MANAGERS

Specific Problem Area	% of Respondents who Indicate Problem is a Major Concern
Non-Conforming Sewage Systems[1]	55
Sub-Standard Lots of Record[2]	52
Sub-Standard Sewage Systems[3]	44
Agricultural Erosion[4]	41
Feedlot Seepage, Runoff[5]	35
Shoreland Alterations	32
Vegetation Cutting and Clearing	31
Damage to Environmental Areas	29
Seasonal to Permanent Conversion[6]	28
Decks[7]	27
Well Contamination	24
Boathouses	23
Garages, Other Accessory Structures[8]	22
Resort Conversions	21
Condominium, Townhouses	21
Individual Mobile Homes	21
Time Share Developments	20
Recreation Vehicle Parks	19
Access of Back Lots to Water[9]	19
Campgrounds	18
Mobile Home Parks	16
Industrial Development	16
Commercial Development	15

Table 3: REGIONAL VARIATION IN EVALUATION OF SPECIFIC PROBLEM AREAS

Specific Problem Area	% of Respondents in Each DNR Region Indicating a Major Problem					
	1	2	3	4	5	6
Feedlot seepage & runoff	30	13	25	46	40	30
Agricultural Erosion	27	20	30	46	50	70
Condominums & townhouses	45	27	25	4	10	40
Timeshare developments	15	27	30	0	10	10
Decks	15	20	30	21	20	60
Garages, other auxilary structures	15	20	20	17	20	40
Docks[10]	0	13	0	4	0	20
Conversion of seasonal dwellings to year round residences	6	40	55	13	20	40
Access of back lots to lake	18	20	15	0	10	50

III. POLICIES AND STANDARDS

Respondents addressed the need for change in standards relating to lot size and setback. They were also asked to review the effectiveness of policies relating to variances, sub-standard lots of record, and non-conforming sewage systems. Despite a general satisfaction with the program as a whole, respondents see the need to consider changes in each of these program areas.

A. Lot Area, Setback Standards[11]

The majority of respondents believe that no change is needed in existing lot area and setback standards. This could indicate either satisfaction with the protection provided by these standards or a generally conservative approach to any modification in a program that has functioned well.

Despite that, there is a significant minority of shoreland managers who see a need to increase certain standards. In Table 4, standards are listed that had a larger number of shoreland managers recommending an increase as compared to those who recommended a decrease.

Table 4: SHORELAND DIMENSIONAL STANDARDS FOR WHICH A SIGNIFICANT NUMBER OF MANAGERS RECOMMENDED AN INCREASE

Standards	Respondents Recommending Increase	
	Number	% of Total
First tier lot area-GD lakes	29	26
Second tier lot area-GD lakes	31	28
First tier lot area-GD rivers	34	30
Second tier lot area-GD rivers	33	29
Sewage system setback-GD lakes	44	40
Sewage system setback-GD rivers	40	36

There are also certain standards for which shoreland managers felt a decrease is appropriate (see Table 5).

Table 5: SHORELAND DIMENSIONAL STANDARDS FOR WHICH A SIGNIFICANT NUMBER OF MANAGERS RECOMMENDED A DECREASE

Standard	Respondents Recommending Decrease	
	Number	% of Total
Structure setbacks-NE lakes	25	22
Structure setbacks-NE rivers	22	20
Sewage system setbacks-NE lakes	20	18
Sewage system setbacks-NE rivers	19	17

This response indicates a significant number of shoreland managers believe that GD standards provide insufficient protection to the resource and, conversely, that more protection than needed is being provided to NE lakes and rivers. Some of the county officials who participated in this survey have in the past expressed concerns about "crowding" which they feel accompanies development of shoreland at GD densities. They have mentioned problems such as trespassing, noise, stray pets, and a generally "cluttered" appearance. It is interesting that in a similar questionnaire survey of shoreland residents over one third of the respondents on GD lakes felt their area had "packed conditions"*.

County officials, particularly those in Region 2, have also indicated their dissatisfaction with NE structure setbacks. They feel the current structure setback (200 feet) from the shore often places structures over ridges or within dense, mature stands of trees. Both situations virtually eliminate any views of the water and encourage variance applications, clear-cutting of trees, and drastic topographic alterations.

Regions vary in their perspectives on changes needed in the shoreland standards. Respondents in the lake regions (2 and 3) expressed the greatest interest in changing standards (see Tables 6 & 7). Conversely, in regions with fewer lakes, shoreland managers indicated greater satisfaction with the status-quo. Counties currently have legal authority to establish standards stricter than DNR standards and many counties have done so. Many others, however, only have the minimums and their shoreland managers may be reluctant to support stricter standards in view of likely public and political response. This may suggest the need for a state initiative to encourage stricter standards and thus remove the burden of that effort from county shoreland managers.

*See Report #8, SHORELAND RESIDENTS - A QUESTIONNAIRE SURVEY, Shoreland Update Project, 1983.

Table 6: REGIONAL VARIATION IN EVALUATING NEED TO INCREASE SHORELAND STANDARDS

% of Respondents in Each DNR Region Recommending an Increase in the Standard

Lot Area	DNR Region 1	2	3	4	5	6
GD lake, 1st tier	9	60	45	17	30	10
GD lake, back lots	18	47	45	21	30	10
RD lake, 1st tier	3	33	15	4	0	10
GD rivers, back lots	27	40	50	13	40	10
NE rivers, 1st tier	3	33	10	8	0	10

Table 7: REGIONAL VARIATION IN EVALUATING NEED TO DECREASE SHORELAND STANDARDS

% of Respondents in Each DNR Region Recommending a Decrease in the Standard

Standard	DNR Region 1	2	3	4	5	6
Structure setback						
NE lakes	15	47	20	25	20	10
NE rivers	12	40	15	25	20	10
Sewage system setback						
NE lakes	12	33	10	29	20	0
NE rivers	12	33	15	21	20	0

B. Variances[12]

Excessive leniency in granting variances has long been recognized as a possible shortcoming of shoreland management. Shoreland managers were asked to indicate reasons for which their Boards of Adjustment would be very likely to grant a variance. They responded that 30% would grant a variance to ensure view of a lake, 27% would grant the variance to prevent economic loss to the landowner and 7% would grant the variance for political reasons (see Table 8). None of these reasons are sufficient in themselves for the granting of a variance. However, managers also indicated their Boards of Adjustment would very often grant variances for generally accepted, legitimate reasons. Over 80% felt their Boards would grant variances to ensure reasonable use of property and nearly 70% felt they would also grant variances to render sites buildable or to allow compatibility with adjacent development. Since variances are often granted for multiple reasons, the overall variance granting situation, at least as preceived by local officials, does not seem particularly alarming.

Table 8: RESPONSE ON VARIANCE GRANTING POLICY

Condition for Granting a Variance	% of Respondents Indicating Variance Would Be Granted for This Reason
Ensure view of a lake	30
To render site buildable	67
To prevent economic loss	27
Political linkages	7
Aesthetic considerations (preserve a treeline)	44
Ensure reasonable use	81
Allow compatability with adjacent development	67

This suggests a need to better communicate conditions under which a variance request can be legally granted. It also suggests the need to better monitor variance approval processes.

C. Sub-standard Lots of Record[13]

Respondents were asked to evaluate the effectiveness of approaches they use to administer sub-standard lots of record. Most approaches used were rated to be fairly effective. Table 9 indicates the percent of jurisdictions that use each approach and the effectivness ratings of those approaches. (Again, a Likert scale was used with a '1' indicating a high degree of effectiveness; '5' indicating ineffectiveness).

Table 9: EVALUATION OF APPROACHES USED TO ADMINISTER SUB-STANDARD LOTS OF RECORD

Approach	% of Respondents That Use Approach	Average Effectiveness Rating
Merging sub-standard lots in same ownership	52	2.1
Decided on a case-by-case basis	52	2.0
Minimum size established for buildable lot	22	1.8
Prohibit sale of a single lot where two adjacent sub-standard lots are in the same ownership	17	2.1
Replat sub-standard lots	15	2.2
No development allowed on sub-standard lots	12	1.2
Permits only for primary structures, no secondary structures allowed	3	2.7
Other	13	2.0

While most respondents did not comment on the need for state assistance vis-a-vis sub-standard lots of record, those that did mostly suggested the need for a common state policy. Some suggested the need for stricter standards than those currently enforced by the counties, with some suggesting the standards should be mandatory, while others saw only a need for state guidelines. Some even advocated specific policy such as allowing only residences (no accessory buildings) on these lots.

Non-conforming Sewage Systems

There has been considerable progress in the upgrading of non-conforming sewage systems. In one county, 5,000 systems have been upgraded, while statewide an estimated 18,000 systems have been brought up to standard. Without doubt, in the absence of shoreland controls these systems or at least most of them would not have been upgraded. New systems that are installed are designed to a better standard than would be the case otherwise. The difference between what exists today and what would exist without the Shoreland Program is significant. That difference translates into individual lakes that are healthier from an ecologic as well as human health perspective. Clearly, the upgrading of old sewage systems and improved design standards for new systems stand out as significant achievements of the Shoreland Program.

It is ironic, therefore, that one of the most important accomplishments of the Shoreland Program is likewise its greatest problem area. Despite thousands of nonconforming sewage systems having been upgraded, many more thousands still exist with little effort being made in many counties to correct the situation. Of the counties which responded to the survey, three-fourths have upgraded a third or fewer of their non-conforming systems.

Table 10: POLICY FOR SEWAGE SYSTEM INSPECTIONS

Sewage System Inspections	% of Respondents Applicable To
Only when installed	69
When complaints are received	64
When a problem is suspected despite complaints	57
When building permits are applied for	36
All have been inspected, future checks as needed	6
When a property is sold	6
On a regular basis	1

Even though the Shoreland Program has been in effect for 10 years, only 6% of the jurisdictions have been able to inspect all shoreland sewage systems (See Table 10). While almost all jurisdictions inspect sewage systems when installed or when a problem is suspected, almost none perform inspections on a regular basis without evidence of problems. Since well and lake contamination can occur without surface evidence of failure, many problems will continue with no effort at correction.

At least two counties have developed agressive programs to correct such deficiencies. Both Otter Tail and Aitkin counties have targeted problem lakes and conducted inspections of all systems on those lakes. Those found to be deficient were required to upgrade. Unfortunately, few jurisdictions have been able to implement such effective programs.

Most shoreland managers support a restrictive policy for upgrading sewage systems. Two-thirds would require upgrading whenever a system is found to be non-conforming. Table 11 indicates conditions under which zoning administrators believe that upgrading should be required.

Table 11: POLICIES FOR REQUIRING UPGRADING OF NON-CONFORMING SEWAGE SYSTEMS

Policy for Upgrading	% of Respondents Who Implement Policy
When threat to lake or ground water quality is likely	70
Whenever it is evident that a system is non-conforming	65
When owner applies for permits	56
Only when a public health threat is likely	41
When property ownership is transferred	28

Respondents were asked to indicate approaches used for detecting non-conforming sewage systems and to evaluate effectiveness of the approaches. The most effective approaches are soil probes and evidences of surface discharge. The least effective are dye tests, location of inspection pipes and the estimation of ground water level from lake surface level. The approaches are listed in Table 12.

Table 12: EVALUATION OF METHODS USED TO INSPECT SEWAGE SYSTEMS

Method	% of Counties that Use Method	Effectiveness Rating
Soil borings	30	2.0
Soils probes	18	1.7
Dye tests	48	2.6
Well water tests	50	2.3
Installation records	45	2.2
Inspection pipes	25	2.5
Surface discharge evidence	83	1.7
Estimate ground water from lake level	42	2.5

IV. MANAGEMENT

Certain management concerns were believed to pose substantial problems (i.e., agricultural preservation efforts) yet the response indicates little concern by local officials. The response indicates significant concern in only three of the resource management areas: rivers management, development limits, and the need for a problem lakes research program.

A. Rivers Management[14]

Although half the respondents did not address this concern, two-thirds of those who did indicated greater emphasis should be placed on rivers management. The major concern appears to be related to resource threats posed by agricultural and residential development. The largest number of comments were related to problems caused by access of livestock to rivers, runoff from feedlots and fields, and drainage. But there were also a number of general comments relating to concerns of pollution and sewage. Many expressed a concern about the growing rate of residential development. One commented that as lakes are developed more development pressure is focusing on rivers. Two commented that Project River Bend has been useful in improving river management. All of this emphasizes the need to carefully evaluate river management needs and to strengthen aspects of the Shoreland Program to address those needs. Report #5, A River Classification System, covers additional aspects of this concern in more detail.

B. Resource Limits[15]

No clear concensus emerges regarding the extent to which the resource capacity of lakes is being reached. About as many responded that reaching such limits is a concern (31%) as those who indicated it is not (36%). Respondents were asked to indicate which concerns would be affected as lake development reaches resource capacity. Two concerns emerge as being most significant. They are potential damage to scenic resources and shoreland crowding (see Table 13).

Table 13: EVALUATION OF RESOURCE CAPACITY LIMITS TO SHORELAND DEVELOPMENT

Resource Capacity Limit	Percent of Respondents Indicating Concern that Limit is Being Reached
Shoreland crowding	47
Damage to scenic resources	40
Habitat loss	34
Surface water contamination	31
Water surface crowding	30
Ground water contamination	30
Fisn depletion	20

It is likely these concerns are most relevant for GD lakes. As mentioned earlier a significant number of shoreland managers feel the standards for GD lakes are not strict enough.

Shoreland managers would support a strong response in situations where resource limits are being reached (see Table 14). Respondents were requested to indicate which of 14 options would be appropriate when resource capacity is reached.

Options in the 'Most Preferred' category either directly limit development (prohibit further shoreland subdivision) or directly address problems resulting from over-development (establish a central sewer system). The options which fall into the 'Somewhat Preferred' category tend to be weaker, less effective actions such as to establish a property owners association or a lake improvement district. The 'Least Preferred' category includes actions that treat symptons not problems (chemically treat the lakes, remove weed growth).

Table 14: OPTIONS FOR ADDRESSING LAKE LIMITS

Most Preferred Options	Weighted Score* For Options
Prohibit further shoreland subdivision	3.1
Require upgrading of all non-conforming sewer systems	3.0
Explore feasibility of central sewer system	2.5
Prohibit further second tier development	2.3
Somewhat Preferred Options	
Encourage establishment of lake property owners assn.	1.6
Establish a sanitary sewer district	1.3
Establish a lake improvement district	1.1
Require further development to have improved sewer systems	0.9
Prohibit further conversions from seasonal to permanent	0.8
Establish water surface use controls	0.7
Least Preferred Options	
Require a watershed district	0.2
Chemical treatment of lake water	0.2
Removal of aquatic growth	0.1
Do nothing	0.0

* Weighted scores were developed by assigning a '4' each time an option was listed as the first most effective action, a '3' for each time an option was listed as the second most desireable action, etc. The values were summed and divided by the total number of persons who responded to this section. That result is the weighted score.

C. Special Lake Studies

Zoning administrators support the concept of a special lake study program for lakes experiencing severe problems from over-development, agricultural activity, or other factors. While 43% responded that such a program is needed, only 9% concluded it is unneeded. While most conclude study lakes should be identified by counties, they are willing to share the cost, research and implementation with the state. Table 15 indicates the share of respondents that favor each option.

Table 15: EVALUATION OF SPECIAL STUDY LAKE OPTIONS

Option	% of Respondents Favoring Each Option*
Study lakes identified by:	
county	56
state	28
petition	22
Study conducted by:	
state	27
college or university	18
county	7
state and county	46
Study funded by:	
property assessment	12
county	3
state	30
state and county	36
Study implemented by:	
county	5
state and county	49

*Respondents were allowed to check more than one option in each category.

D. Agricultural Preservation[16]

Shoreland managers are uncertain about effects agricultural preservation is having on shoreland development pressures. Only 1% responded that agricultural preservation is increasing development pressure on shorelands. Half (49%) responded the relationship is uncertain and 37% stated agricultural preservation is clearly not affecting shoreland trends. The distribution of responses was mapped to see if there is any grouping to the response distribution. Counties in the Red River Valley uniformly responded that agricultural preservation was not affecting shoreland trends. Elsewhere no trend emerges.

E. Wetlands - Small Lakes

Most shoreland managers are apparently satisfied with the size of the shoreland protection district (1,000 feet) for wetlands and small lakes. Only 23% conclude the jurisdictional area is too large, while most either did not respond or indicated the current size is acceptable. For communities which responded that the district is too large, more flexibility in the standard may be appropriate. Smaller districts may be one approach, while another would be overlay districts for the shoreland area.

As might be expected, there were widely varying comments on the Protected Waters Inventory Program. Some were simple and to the point. One suggested the DNR "back off and don't push". Another suggested that water bodies entirely surrounded by agriculture not be included. At the other end of the spectrum, one suggested the need for control measures to prevent draining and filling. Another suggested the need to better control field run-off. No clear direction is forthcoming from such widely varying replies. Considering the sensitivity of the issues here, it is apparent the DNR will need to carefully address changes in the Shoreland Program associated with the Protected Waters Inventory.

F. Program Overlap[17]

Despite some indications that program overlaps have caused confusion, apparently the problem is insignificant. Only 11% of respondents indicated overlap to be a major problem in their community. A third, however, indicated a need for more DNR guidance specifying when and under what conditions various standards apply.

G. Taxation of Seasonal Residences[18]

Shoreland managers do not attach much significance to complaints from seasonal homeowners who claim they receive little in return for the relatively high taxes they pay. About 28% of respondents indicated there are a considerable number of complaints but only 15% felt such complaints have much merit.

H. Lake Classification[19]

Most respondents were basically satisfied with the lake classification system. A total of 55% responded the present system is adequate, with another 30% indicating need for minor changes. Only 5% indicated the system is inadequate. Ten percent did not comment.

While most shoreland managers are satisfied with the present classifications, several improvements were suggested. Several noted that protection was extended to too many small rivers with no development potential. Others commented that the area of jurisdiction was too large, especially on small lakes. Several commented there was a need to study lakes individually and tailor standards to the needs of the specific lake.

I. State Leased Lots[20]

Statewide, only 4% of respondents indicated the state leasing of lakeshore poses any problem in their region or county. That is not surprising, considering the regional nature of that problem. In Region 2, where most of the state leases are concentrated, one-third of the respondents conclude the leasing program is a problem (see Table 16).

Table 16: PERCENT OF RESPONDENTS IN DNR REGIONS INDICATING THE STATE LEASE LOT PROGRAM TO BE A PROBLEM

Region	Percent
1	0
2	33
3	5
4	0
5	0
6	0

Sub-standard lots and structures are the primary problem. One DNR hydrologist suggested the state is providing a very poor example of adherance to standards. A county zoning administrator mentioned the state takes a very weak stance in enforcing leases.

V. ADMINISTRATION

The existence of well structured standards and policies for shoreland management are a prerequisite for an effective program. But policies and standards alone are not sufficient. If the program is to be effective, DNR and local governments must develop an administrative infrastructure capable of carrying out the policies and enforcing the standards. In general, this infrastructure is barely up to the task facing it. Substantial improvements could be made and are needed. Several potential problem areas need to be addressed. These are:

-- enforcement inadequacies
-- staffing needs at all levels (DNR, County & Township)
-- communication/state assistance/information needs

A. Enforcement[21]

A significant number of shoreland managers believe enforcement efforts need to be improved. Of those who responded, about half stated the enforcement process in general and the misdemeanor penalty in particular are ineffective deterrents.

Shoreland managers offered numerous suggestions for improving the enforcement process. Those which were suggested by more than one manager are listed below. They are ordered in the frequency with which they were suggested.

-- more severe penalties
-- better education of judges and prosecuting attorneys
-- more enforcement manpower
-- better public education (Many violations probably occur due to ignorance of shoreland regulations. If that ignorance could be corrected, violations would be reduced.)
-- the prosecution process needs to be simplified
-- zoning administrators should have authority to issue citations

B. State Assistance

State agencies have a mixed reputation for the quality of assistance provided to local governments. The DNR faired better in this survey than many would have expected. Only 5% of respondents gave the DNR negative grades for their local assistance. Along with the Soil Conservation Service and Agriculture Extension, the DNR received the highest rankings for assistance. At the other end of the spectrum, the Environmental Quality Board and the Minnesota Securities Division received very poor ratings. The showings of the Pollution Control Agency, Department of Health and Watershed Districts were likewise low (see Table 17).

Table 17: EVALUATION OF TECHNICAL ASSISTANCE PROVIDED BY STATE AND FEDERAL AGENCIES TO SHORELAND MANAGERS

Agency	% of Response in Each Category		
	Positive	Neutral	Negative
Department of Natural Resources	68	27	5
Soil Conservation Service	73	18	9
Agricultural Extension Service	69	29	2
Department of Health	39	34	27
Pollution Control Agency	46	30	24
Environmental Quality Board	20	39	41
Minnesota Securities Division	11	47	42
Soil & Water Conservation Districts	60	32	8
Watershed Districts	45	33	22

Zoning adminstrators were requested to explain the nature of problems they had experienced with state agencies and offer specific suggestions on how the DNR assistance could be improved. Their responses were quite candid.

Many of the comments were not especially helpful in identifying needed changes. For example, one commented that the DNR is not qualified to give anything but advice. Another criticized the DNR for buck passing. Another noted the DNR does not practice what it preaches in the education seminars. The DNR was not alone in being singled out for criticism. Of the MPCA, one disgruntled manager noted "they are basically hopeless". Not all comments were so negative. One commented that the DNR and PCA are excellent and hoped their staffs would not be cut.

Not all comments were so general, however. Some offered thoughtful and helpful suggestions on needed improvements. For example, one zoning administrator noted that when counties do well, it wouldn't hurt for the DNR to give some positive feedback. Several commented on the need for more rapid turn-around on review comments. Several also commented on the need for the DNR to more closely monitor the activities of local shoreland management. One suggested DNR staff should better acquaint themselves with county zoning regulations. Another suggested area hydrologists should meet yearly with county planning commissions and boards of adjustment. Several suggested the DNR should play a larger role in education and training.

For what they are worth, there are numerous comments that could be useful to other agencies. One noted the Securities Division needs to do a better job enforcing the Subdivided Lands Act. Many noted the Department of Health needs to do a better job with respect to inspecting resorts.

Respondents were requested to evaluate the need for additional DNR assistance. Their response (see Table 18) indicates several areas where the DNR can be of greater service to local shoreland management efforts.

Table 18: EVALUATION OF DNR ASSISTANCE

Category of DNR Assistance:	% of Respondents Indicating Need for Improvement
Better coordination on clusters and PUDs	22
More frequent DNR comments on shoreland actions	36
Closer relationship with DNR staff	21
Training sessions on shoreland management	46
Better Information On:	
Variance hardship criteria	44
Location of sensitive environmental areas	30
Land use management tools	19
Recent court decisions	48
Ground water systems	25
Resource implications of development trends	26
Basics of shoreland regulation	14

C. Staffing

Adequacy of management staff emerges as a significant concern in improving shoreland management efforts. Inadequate DNR staff levels was cited by many DNR staffers as a primary problem within the Department. The DNR staff was asked to evalute the effectiveness of county and township shoreland management staffing. Two-thirds of DNR area and regional staff who have townships in their regions and who responded to the question, indicated township level staffing is inadequate. One-third indicated county staffing is likewise inadequate. Only 17% of county respondents, however, indicated their staffing and budget is inadequate.

There is a significant difference between counties and townships in the staffing that can be allocated to shoreland management. Townships are mostly staffed by officials who serve on a part-time status. Because of that, township shoreland managers are more likely than those at the county level to be without significant experience or training in land use management. Townships also seldom have full-time staff persons in needed support positions (legal, engineering, etc.). That support is either not available or provided from other sources. Townships that manage shorelands were requested to indicate the source of their professional assistance. Their response is indicated below.

Table 19: TOWNSHIP ACCESS TO PROFESSIONAL ASSISTANCE

Area of Assistance	Townships with Assistance		Source of Assistance			
	Yes	No	Consultant	Retainer	Staff	Other
Sanitarian	8	4	3		1	2
Land Use Planner	8	3	2			3
Surveyor	8	2	2	1		3
Attorney	12	1	2	5	1	2
Civil Engineer	6	4	2	1		1

Only about half of the townships that responded have access to assistance from a sanitarian, land use planner, surveyor or civil engineer. It is very likely those which responded to this questionnaire have better planning programs than those which did not. It is likely, therefore, that most townships that manage shoreland programs do not have access to needed professional assistance. This is a measure of their potential problems in managing complex shoreland issues.

DNR staff were requested to evaluate the extent to which certain factors are constraints to effective township shoreland management. The response (see Table 20) further indicates lack of full-time staff and access to professional assistance are the primary constraints.

Table 20: DNR STAFF EVALUATION OF TOWNSHIP MANAGEMENT CONSTRAINTS

Potential Constraint	% of DNR Staff Indicating Constraint is a Factor
Lack of professional staff	75
Lack of access to professional assistance	75
Inadequate budget	69
Inadequate awareness of resource concerns	63
Parochial enforcement	50
Inadequate committment to resource protection	44

Adequate staffing may also be a concern at the county level. Only 19 counties have one or more full-time employees assigned to shoreland management. Several counties have experienced actual reductions in shoreland staff levels within the last year. In many, if not most, counties shoreland managers wear many hats. Their time is often devoted to tasks that are related to shoreland management (i.e., local assistance, park planning, etc.). Many tasks, however, seem to be totally unrelated to shoreland management (i.e., weed inspection, airport planning, civil defense, tax assessment, etc.). This suggests that many county shoreland managers may also be lacking in land use management experience.

[1]Non-conforming Sewage Systems

A sewage system with serious design or operational flaws is non-conforming. For example, a system with effluent surfacing above ground is a seriously non-conforming system. But many concerns that qualify a system as non-conforming are not readily visible. A non-conforming system may contaminate ground water and wells with no surface evidence of problems.

The DNR shoreland regulations directed all counties to eliminate non-conforming sewage systems within five years of the date they adopted their shoreland standards. Very few counties have been able to accomplish that objective. Economics account for much of the problem. Many counties have been reluctant to allocate funds needed to support an agressive correction program. They may also be sensitive to the costs that compliance programs imply for the shoreland homeowner.

[2]Sub-standard Lots of Record

Lots created and recorded with counties prior to the enactment of shoreland ordinances that do not meet the required standards for size or width are regarded as sub-standard lots of record. Conditions under which development on such lots will be allowed varies considerably from one jurisdiction to the next. Because of their sub-standard size, development of such lots is not always desireable. If setbacks are not maintained for sewage systems and wells, possible health hazards are a concern. Also, the small size of such lots can lead to situations of shoreland crowding, especially when numerous secondary structures are allowed. Inadequate upkeep of property and structures is a greater concern on smaller lots since a concentration of dilapidated structures presents a greater visual impact.

[3]Sub-standard Sewage Systems

Sewage systems that do not meet required setbacks from lakes or rivers are sub-standard. Past and current DNR policy does not require such systems to be replaced if this is the only deficiency.

[4]Agricultural Erosion

Wherever the land surface is laid bare by agricultural activities soils become subject to wind and water erosion. With growing trends to fall plowing and large equipment, erosion risks have increased in recent years. Erosion introduces sediments and chemicals from agricultural operations into waterways. Sediments can damage habitat and increase flooding while chemicals can contaminate water quality.

[5]Feedlot Seepage and Runoff

Animal feedlots generate waste products that often find their way into lakes and rivers. The path is not always direct. Often, the wastes travel through drainage ditches or natural drainage-ways before reaching the water body. Once the wastes reach the water body, the high nutrient content may significantly increase lake eutrophication.

[6]Seasonal to Permanent Conversion

Surveys indicate that many owners of seasonal shoreland cabins hope to convert those cabins for year round habitation. This poses a variety of problems. Frequently, the on-site sewage system is inadequate to handle the demands placed on it by heavier usage. Often, local services such as road maintenance, police and fire protection, etc., are designed for summer occupancy. Year-round habitation places strains on the service delivery systems at the local level. Also, the heavier use which lakes receive may exceed what they can accommodate without serious degradation.

[7]Decks

Decks are becoming increasingly popular as additions to shoreland residences. Most people seem to prefer adding decks to the lake or stream side of existing structures. Since most dwellings are either at or closer than the required setback, adding a deck usually requires issuance of a setback variance. In some instances, decks gradually are altered into enclosed additions to dwellings. Normal construction practices for decks, however, appear to have quite minor detrimental impacts. Decks on the lake or stream side of structures can actually help make many existing structures less conspicuous from the water.

[8]Garages and Other Auxilliary Structures

On sub-standard lots, garages and other auxilliary structures increase the visual impression of shoreland crowding. In some counties, there is very little control over the proliferation of garages, fish houses, saunas, storage sheds, etc., causing the density of structures to exceed that of many urban areas. The visual impact of this is increased when such structures are not well maintained.

[9]Access of Back Lots to Water

In many lake regions of the state, second and third tiers of development are occurring. Many purchasers of second tier lots expect access to the resource. This may present conflicts with first tier lot owners. Also, multiple tiers of development pose the potential of much heavier resource use. Many are concerned the resource cannot accommodate such pressure. Therefore, many counties are looking for approaches to limit second tier development.

[10]Docks

Located directly on the surface of lakes or rivers, docks and marinas have high potential for visual impact. An excessive number of docks can detract from the aesthetics of these resources. Insensitive placement of docks or marinas can damage habitat value by routing boat traffic through spawning beds and other sensitive environmental sites.

[11]Lot Size and Setback Standards

There are three basic classes of lakes and rivers. These are Natural Environment, Recreation Development and General Development. The classification is based on lake size, shape, ecology, existing development levels, etc. Specific standards for lot size, width and structure setbacks exist for each class. The following standards have been developed for each lake class.

Resource	Lot Area Standards	Structure Setback From Shore	Sewage System Setback From Shore
NE	80,000 sq. ft.	200 ft.	150 ft.
RD	40,000 sq. ft.	100 ft.	75 ft.
GD	20,000 sq. ft.	75 ft.	50 ft.

[12]Variances

A variance permits a development condition that does not meet one or more of the various shoreland standards. In most cases variances are needed to allow development on lots too small to accommodate needed setbacks. Such lots usually were created prior to the passage of shoreland standards and are thus substandard in size. Excessive leniency defeats the purpose of shoreland standards and in extreme cases may present hazards to health (when sewage systems are allowed too close to wells or structures).

[13]Sub-standard Lots of Record

Sub-standard lots of record are lots which do not meet one or more of the shoreland dimensional standards but which were created and recorded with the local government prior to the passage of shoreland regulations.

[14]River Management

According to a recent inventory, there are about 22,000 miles of shore along 157 of the state's most outstanding rivers. This frontage is roughly equivalent to the 20,000 miles of shore on the most important lakes in the state (those larger than 150 acres). Yet, despite the significance of the state's river resources, the Shoreland Management Program does not currently include standards designed for rivers. They are managed using a classification system and standards designed for lakes. This is inappropriate because river use and development patterns are different and problems which arise are often not adequately addressed by the standards and approaches established for lakes.

[15]Resource Limits

The concept of resource limits implies that at a certain point of development some aspect of the resource reaches a limit. Development beyond that point causes resource deterioration. The limits have been variously defined to include water quality, shoreland aesthetics, water surface or shoreland crowding, and others.

The concern related to such limits is that current shoreland standards may allow development which exceeds them. Thus, the very standards designed to protect resources may lead to their demise.

Intuitively, the resource user may recognize these limits or at least that limits must somewhere exist. Evidence of those limits are often painfully obvious. They include weed choked lakes, crowded, poorly maintained shoreland development, declining fishing success, among others.

Unfortunately, clearly defined resource limits are not easily identified. Recent research in Canada suggests that sophisticated models can be constructed to identify certain water quality limits on a lake by lake basis. It is likely this approach could be transferred to Minnesota, since the characteristics of the lakes in the two regions are similar. To apply the approach would require a considerable volume of data on each lake plus a technical staff to interpret and apply the data to the methodology. Resource limits established without the benefit of supportive data and methodology may not be scientifically sound enough to sustain legal challenge.

The challenge facing resource managers is to develop and apply a simple and accurate approach to defining resource limits. Even a simple approach will reguire substantial resources if applied on a widescale basis.

[16]Agricultural Preservation

Concern for loss of prime farmland to non-farm uses has prompted many counties to protect prime farmland. Protection approaches vary as widely as definitions of land to be protected. Prime farmland is variously defined as all land in cultivation, all land in farms or land in the top 3 or 4 categories of the Soil Conservation Service soils capability ratings. Protection approaches mostly rely on large lot zoning to discourage development. Shoreland minimum lot size standards are considerably less restrictive than those in most protected agricultural zones. As a result, many are concerned that efforts to protect farmland focus too much development pressure on shoreland resources.

Concentration of development to shoreland areas may have both positive and negative results. By concentrating development, services may be provided more efficiently. On the other hand, the lake or river resource may not be able to accommodate the added use pressure without serious problems (such as deterioration of water quality and development of shoreland or water surface use crowding).

[17]Program Overlap

Any given river may be subject to the standards of three different DNR land use programs; Shoreland, Flood Plain and Wild and Scenic Rivers. The objectives and standards of these programs vary markedly. The Shoreland objective is to protect shoreland resources while facilitating orderly development. The Flood Plain Program is concerned with the prevention of flood damage. The Wild and Scenic Rivers Program is designed, among other objectives, to preserve the wild and scenic character of rivers and streams. When two or more of these programs apply to the same river, the public and shoreland managers are often confused about the guiding management philosophy as well the specific standards that apply to shoreland actions. Such confusion can hinder effective administration of land use management programs.

[18]Taxation of Shoreland Residents

In Minnesota, the homestead credit granted to permanent residences significantly reduces the real estate tax on shoreland (as well as other) residences. As a result, seasonal homeowners pay significantly higher taxes than permanent shoreland residents for comparably valued property. The preception of inequity caused by this policy is heightened when seasonal homeowners realize they use fewer of the tax supported services than their permanent neighbors. Not being permanent residents of the community disenfranchises seasonal homeowners from decisions related to tax levies and expenditures. Many seasonal homeowners feel this represents a subsidy which is disproportionate and inequitable.

[19]Lake Classification

In the early 1970's, all lakes in the state were classified by the DNR into three groupings: Natural Environment, Recreation Development and General Development. The classes were based on lake size, ecology, shape and existing development. Minimum standards were established for each of these classes for lot size, structure setbacks, and other dimensional features.

Counties were given the option of developing more refined classification systems. A few counties have developed lake classifications with a larger number of groupings. Many counties have also developed standards more restrictive than the state minimums. Most counties, however, have retained the basic three class system. Apparently, this system has stood the test of time since there have been relatively few requests for reclassifications and little resistance to the standards attached to each.

Nevertheless, there seems to be a growing sense that a more sophisticated classification system is needed. While counties have the authority to structure their own, there seems to be general preception that any such broad scale changes should be developed at the state level first. Preference for a more sophisticated approach may be the result of increasing complexities in shoreland development. New types of development, higher densities, and more intensive use all create a need for more effective management if the resource is to be adequately protected.

[20]State Leased Lots

The state leases public lands for use as shoreland building sites. The purpose is to generate revenue. The administration of this program has not been consistent with shoreland management objectives. Part of the problem is that leased lots were subdivided and developed long before shoreland regulations were in place. But the problem also is due to those who administer the program often being unfamiliar with shoreland standards. The leased lots thus pose a variety of problems including the following: sub-standard lots, non-conforming sewage systems, clutter in shoreland areas, dilapidated buildings, bank alterations, erosion, vegetative clear cutting, excessive density and permanent use of sites intended only for seasonal dwelling.

The development might be better managed if the lease holders were subject to county shoreland management programs. The state intent is for the lease holder to meet all county standards, but the intent is not always born out in practice. Because of uncertainty regarding local authority, many counties do little to manage development on state leases. As a result, the problem awaits a clearer delineation of policy and allocation of authority.

21 Enforcement

In most cases, violations of shoreland standards are a misdemeanor. Fines are most often the penalty levied by courts. Often, the fines are small or suspended. While judges may order restoration of whatever conditions preceeded the violation, this is not always practicable and is also rarely applied. The result is that the legal process usually does not yield any significant punishment for violations of standards.

The problem is further complicated by the relatively low priority placed on shoreland violations by county legal staff. With a major backlog of criminal cases, many county attorneys do not attach much importance to shoreland and other land use violations. Their reluctance to prosecute may be further affected by the relatively small fines issued for shoreland violations.

As a result, it often is simply not worth the time and cost of prosecuting shoreland violations. Greater emphasis on voluntary compliance is stressed in many jurisdictions.

COUNTY STAFF AND BUDGET

How many equivalent full time positions are allocated to the shoreland management program in your county? _____. If the director or manager of the shoreland program has responsibilities other than shoreland management, please list those other duties (i.e., civil defense). _____

What is your total annual planning budget? $_____. What portion of this budget is allocated to shoreland management? _____%.

How would you characterize the allocation of staff and budget in terms of the county's ability to effectively manage shorelands development? Circle the appropriate number below.

sufficient — insufficient
1.....2.....3.....4.....5

Do you anticipate changes in the size of your staff allocated to shoreland management in the near future? yes _____ no _____? If yes, will the change be an increase _____ or a decrease _____ and by how many equivalent full time positions _____?

GENERAL PROGRAM EFFECTIVENESS

To what extent do you feel the shoreland management program has been effective with respect to the following concerns? For each concern circle the appropriate number. However, if you have no opinion, circle no number for that concern.

	effective — ineffective
protecting ground water quality	1.....2.....3.....4.....5
protecting surface water quality	1.....2.....3.....4.....5
minimizing shoreland crowding	1.....2.....3.....4.....5
minimizing water surface use crowding	1.....2.....3.....4.....5
preserving scenic qualities	1.....2.....3.....4.....5
insuring orderly development	1.....2.....3.....4.....5
establishing uniform standards	1.....2.....3.....4.....5
protecting sensitive or unique environmental areas	1.....2.....3.....4.....5
maintaining or enhancing economic values	1.....2.....3.....4.....5
preventing flood damage to structures	1.....2.....3.....4.....5
other (explain) _____	1.....2.....3.....4.....5

What would you identify as the most signicant shortcoming of the shorelands management program? Please be as specific as possible. If you also have suggestions regarding how to address those shortcomings, please supply them as well.

What do you preceive to be the most significant successes of the shorelands management program?

POTENTIAL PROBLEM AREAS

In preliminary evaluations of the shoreland management program, county planning and zoning officials have generally concluded that the program functions well and that the lake and river shoreland resources are being protected. They have identified several potential problem areas where additional guidelines or policies may be needed. These are listed below. Before studying the management needs posed by these problems, we would like your perspective on their severity. Please rank the following problem areas based on how serious you perceive each to be for your county. Circle the appropriate number for each problem area. For those that you have no opinion, circle no number.

county

potential problem areas	degree of concern: no problem 1 2 3 4 5 a major problem
commercial development in shoreland areas	1 2 3 4 5
industrial development in shoreland areas	1 2 3 4 5
feedlot seepage and runoff	1 2 3 4 5
erosion and siltation from cultivation	1 2 3 4 5
resort conversions	1 2 3 4 5
condominiums, townhouses	1 2 3 4 5
time share developments	1 2 3 4 5
boathouses	1 2 3 4 5
decks	1 2 3 4 5
garages and other auxiliary structures	1 2 3 4 5
docks	1 2 3 4 5
recreation vehicle parks	1 2 3 4 5
mobile home parks	1 2 3 4 5
campgrounds	1 2 3 4 5
individual mobile homes	1 2 3 4 5
vegetation cutting and clearing	1 2 3 4 5
shoreland alterations (grading and filling)	1 2 3 4 5
sensitive damage to environmental areas (steep slopes, wet soils, etc.)	1 2 3 4 5
conversions of seasonal dwellings to year round residences	1 2 3 4 5
sub-standard sewer systems*	1 2 3 4 5
non-conforming sewer systems**	1 2 3 4 5
sub-standard lots of record	1 2 3 4 5
contamination of shallow wells	1 2 3 4 5
access of back lots to lakes	1 2 3 4 5
other (please explain) _____	1 2 3 4 5
other (please explain) _____	1 2 3 4 5

* Fails to meet lake setback
** Serious design or location deficiency

LOT SIZE, SETBACK STANDARDS

Numerous suggestions have been made regarding the need to modify lot sizes and setback standards. Please indicate with a check mark below where you feel such changes are appropriate. The figures in parentneses indicate the current standards.

Lot Area Standards	larger by 20%+	larger by 0-20%	same	smaller by 0-20%	smaller by 20%-
General Development Lakes					
first tier (20,000 sq. ft.)	____	____	____	____	____
beyond first tier (20,000sq ft)	____	____	____	____	____
Recreation Development Lakes					
first tier (40,000 sq. ft.)	____	____	____	____	____
beyond first tier (40,000sq ft)	____	____	____	____	____
Natural Environment Lakes					
first tier (80,000 sq. ft.)	____	____	____	____	____
beyond first tier (80,000sq ft)	____	____	____	____	____
General Development Rivers					
first tier (20,000 sq. ft.)	____	____	____	____	____
beyond first tier (20,000sq ft)	____	____	____	____	____
Natural Environment Rivers					
first tier (80,000 sq. ft.)	____	____	____	____	____
beyond first tier (80,000sq ft)	____	____	____	____	____
Sewered Areas					
first tier	____	____	____	____	____
beyond first tier	____	____	____	____	____

Structure setback from shore (OHWM)

General Development Lakes (75ft)	____	____	____	____	____
Recreation Development Lakes(100ft)	____	____	____	____	____
Natural Environment Lakes (200ft)	____	____	____	____	____
General Development Rivers (75ft)	____	____	____	____	____
Natural Environment Rivers (200ft)	____	____	____	____	____

Sewer system setback from shore (OHWM)

General Development Lakes (50ft)	____	____	____	____	____
Recreation Development Lakes (75ft)	____	____	____	____	____
Natural Environment Lakes (150ft)	____	____	____	____	____
General Development Rivers (50ft)	____	____	____	____	____
Natural Environment Rivers (150ft)	____	____	____	____	____
Deep well to sewer setback (50ft)	____	____	____	____	____
Shallow well to sewer setback(100ft)	____	____	____	____	____

VARIANCES

On the average, how may variances have been applied for yearly over the last 5 years in shoreland areas of your county? _____.

VARIANCES (CONTINUED)

Under what conditions will your Boards of Adjustment be very likely to grant a variance? Check as many as appropriate.

ensure view of lake or river _____
site would be unbuildable otherwise _____
to prevent economic loss to landowner _____
political linkages and considerations _____
aesthetic considerations (preserve a treeline) _____
without a variance, reasonable use would not be possible _____
to allow compatibility with adjacent development _____
other (please explain) _____

SUB-STANDARD LOTS OF RECORD

Counties have developed a wide variety of approaches for addressing the problems of sub-standard lots of record. Below are the approaches used most commonly in Minnesota.

1. allow no development on sub-standard lots of record.
2. building permits granted for only principal structures, no auxiliary structures allowed
3. where possible, plats with sub-standard lots must be replatted
4. two contiguous sub-standard lots in same ownership must be merged when building permit is issued
5. where there are two adjacent sub-standard lots in the same ownership, the sale of either is prohibited
6. building permit allowed only if the lot has at least a certain percent of the required minimum lot size. That minimum percent is __%
7. building permits decided on a case by case basis (necessary variance obtained)
8. minimum size established for buildable lot size is ____ sq. ft.
9. other (please explain)_____

In the space below, please fill in the number or numbers of tne approaches used in your county. Please also evaluate their effectiveness in dealing with the problems posed by sub-standard lots.

approach number	effective ineffective
_____	1.....2.....3.....4.....5
_____	1.....2.....3.....4.....5
_____	1.....2.....3.....4.....5

What are the problems you have experienced with the approaches used in your county? _____

_____

_____.

Do you feel the need for additional policy or guidelines on sub-standard lots of record from the state? Yes ___ No ___. If you do feel the need for additional assistance, what suggestions would you offer in terms of better identifying the needs? _____

_____

_____.

NON-CONFORMING SEWER SYSTEMS

When are sewer systems inspected in your county. (check those that apply)

only when installed _____
when complaints are received _____
when a problem is suspected despite lack of complaints _____
all have been inspected, future checks as needed _____
on a regular basis _____ how often _____
when a property is sold _____
when structure alteration or addition permits are applied for _____
other _____(please explain)_____

Under what conditions do you require that non-conforming systems be upgraded?

_____

_____.

In balancing the need to protect the resource and public health with concern for the costs to the shoreland resident, when do you think that it would be reasonable to require that non-conforming sewer systems be upgraded? Check more than one if appropriate.

upgrade only when public health threat is likely _____
upgrade when threat to lake or ground water quality is likely _____
upgrade when property ownership is tranferred _____
upgrade when owner applies for structure alteration permits _____
upgrade whenever it becomes evident that a system is non-conforming _____
other (please explain) _____

Please indicate whether or not you use any of the following methods for detecting non-conforming sewer systems. Please evaluate the effectiveness of those methods that you use.

Method	used	not used	effectiveness effective ... ineffective
soils borings	_____	_____	1.....2.....3.....4.....5
soils probes	_____	_____	1.....2.....3.....4.....5
dye tests	_____	_____	1.....2.....3.....4.....5
well water tests	_____	_____	1.....2.....3.....4.....5
installation records	_____	_____	1.....2.....3.....4.....5
inspection pipes	_____	_____	1.....2.....3.....4.....5
surface discharge evidence	_____	_____	1.....2.....3.....4.....5
estimate ground water from lake surface level	_____	_____	1.....2.....3.....4.....5
other _____	_____	_____	1.....2.....3.....4.....5

As a result of the shorelands program, how many on-site sewer systems have been upgraded in your county _____?
In your estimate, those that have been upgraded represent what percent of the total non-conforming systems at the time shoreland controls were enacted? ____%

How effective has the licensing program been for well contractors? Circle the appropriate number below.

effective ... ineffective
1.....2.....3.....4.....5

NON-CONFORMING SEWER SYSTEMS (CONTINUED)

If you feel the program has been ineffective, please indicate what you see as the major shortcomings? _____
_____.

Do you favor a mandatory state certification program for sewer system contractors? yes ___ no ___

ENFORCEMENT

Some have suggested that the penalties for non-compliance and the complications of the enforcement process result in no deterrence to violators. (Although it is seldom given, the maximum penalty for misdemeanors is a fine of $500 and or 90 days in jail.) Please circle the following numbers that best reflect your perspective on this concern.

the misdemeanor penalty as a deterrence is:
effective ineffective
1.....2.....3.....4.....5
the enforcement process as a deterrence is:
effective ineffective
1.....2.....3.....4.....5

If you feel that either the process or the penalties provide insufficient deterrence, what suggestions would you offer vis-a-vis either?

_____
_____
_____.

LAKE CLASSIFICATION

While most counties have adopted the lake and river classifications established under the state regs, some have departed significantly from the guidelines. Two counties have increased the number of lake classifications while another applies differing shoreland standards on the same lake. To what extent do you feel the basic lake and river classification system meets the shoreland management needs in your county?

present system is adequate _____
with minor changes the present system would be adequate _____
present system is inadequate _____

If you checked either of the latter two categories, what changes would you recommend? _____
_____
_____.

ASSISTANCE TO COUNTIES

How would you rate the quality of assistance that the county receives from the following agencies: Please circle the appropriate number for each. For those that are inappropriate or for which you have no opinion, circle no number.

	exceptional				poor
Department of Natural Resources	1	2	3	4	5
Soils Conservation Service	1	2	3	4	5
Agricultural Extension Service (U of M)	1	2	3	4	5
Department of Health	1	2	3	4	5
Pollution Control Agency	1	2	3	4	5
Environmental Quality Board	1	2	3	4	5
Minnesota Securities Division	1	2	3	4	5
Soil & Water Conservation District	1	2	3	4	5
Watershed Districts	1	2	3	4	5

For any agencies that you gave a '4' or '5' rating to, please explain the nature of the problems that have been encountered? _____

_____

_____.

What suggestions would you offer to improve the quality of the DNR assistance to counties. Check these categories as appropriate.

better coordination on clusters and PUDS _____
more frequent DNR written comments on shoreland actions _____
need for information on:
- variance hardship criteria _____
- location of sensitive environmental areas _____
- land use management tools _____
- recent court decisions _____
- ground water systems _____
- basics of shoreland regulation _____
- resource implications of development trends _____

closer working relationship with area DNR staff _____
training sessions on shoreland management _____
other _____. explain _____

Are there other suggestions that you would make regarding the DNR assistance to your county? _____

_____

_____.

STATE LEASED LOTS

To what extent have state leased lots posed any problems for the county in managing shorelands development? Please circle the appropriate number. If there are no leased lots in your county, circle no number.

no problem				a major problem
1	2	3	4	5

STATE LEASED LOTS (CONTINUED)

If state leased lots have posed a problem in your county, please elaborate on the nature of those problems. _____

_____

_____.

WETLAND/SMALL LAKES

Since the recreation potential for small and large lakes are very similar there may be little need for differing management approaches. However, the land use management district (1,000 ft.) may be too large for small lakes. Too what extent do you feel that this district is too large? Circle the appropriate number below. If you have no opinion, circle no number.

too large				about right
1	2	3	4	5

A public (recently changed to "protected") waters inventory has been underway by the DNR for several years. Completion of the inventory will provide information about the location and characteristics of many small lakes and wetlands which are not currently managed under local shoreland controls. What management approaches would you suggest for these areas? _____

_____

_____.

MANAGEMENT PHILOSOPHY

The Shoreland Management Program was established to protect a valuable state resource and to ensure orderly development in shoreland areas. Some have suggested, however, that the minimum standards for the program facilitate more than they regulate development. In the process shoreland areas tend to develop to their maximum allowable densities with a minimum of environmental safeguards. Some fear this will result in shoreland areas developing beyond the resource capacity. Please indicate below to what extent you believe this to be a problem.

no problem				a major problem
1	2	3	4	5

If you feel the problem may be serious, please indicate below the resource capacity limits that are most likely threatened.

scenic resources damage _____
shoreland crowding _____
water surface use crowding _____
ground water contamination _____
surface water contamination _____
fish depletion _____
habitat loss _____
other (please explain) _____

MANAGEMENT PHILOSOPHY (CONTINUED)

If it can be demonstrated that the development on a lake or river is approaching the limits of resource capacity, a variety of options can be considered. Please check those below that you feel are appropriate options:

1. prohibit further shoreland subdivisions _____
2. establish water surface controls _____
3. establish a lake improvement district _____
4. prohibit further conversions from seasonal to permanent _____
5. establish a sanitary sewer district _____
6. prohibit further second tier development _____
7. require upgrading of all non-conforming sewer systems _____
8. establish a watershed district _____
9. chemical treatment of lake water _____
10. explore the feasibility of central sewer system _____
11. encourage establishment of property owners lake association _____
12. require future development to install better designed and maintained sewage treament facilities _____
13. removal of aquatic growth _____
14. do nothing _____
15. other (please explain) _____

Now please rank the top four options in terms of those you feel could most effectively address the problems of over development. Place the appropriate option number from the list above in the spaces below.

1st _____ 2nd _____ 3rd _____ 4th _____

Recent studies (Growth Management and others) have suggested that land use management efforts in non-shoreland areas, such as prime farmland protection measures, may be focusing development pressure on shoreland areas. To what extent do you feel this applies in your county?

clearly not the case in this county _____
possibly the case, but scope is difficult to determine _____
possibly the case, but probably not a significant problem _____
clearly the case, causing significant pressure on shorelands _____

Regardless of the actual trends in your county, assume for a minute that non-shoreland management is focussing development pressure onto shoreland areas. How would you characterize that trend?

desireable undesireable
1.....2.....3.....4.....5

If you feel such a trend would be desireable, what are the reasons? Check more than one if appropriate.

the county is better able to protect important non-shoreland areas such as prime farmland _____
the county is better able to monitor and control development that is concentrated _____
services can be more effectively provided when development is concentrated _____
other, please explain _____

MANAGEMENT PHILOSOPHY (CONTINUED)

If you feel such a trend is undesireable, what are the reasons? Check more than one if appropriate.

shoreland areas are already over crowded _____
shoreland areas may become overcrowded _____
shoreland areas are environmentally sensitive and thus more vulnerable _____
general philososphy is to disperse development and thus reduce potential conflicts _____
other, please explain _____

There are several options for addressing resource limits or other management concerns on rivers (i.e., Wild and Scenic rivers, Flood Plain designation, etc). Fewer options exist for lakes, however. One approach might be to establish a lakes management program. The concept would be to select lakes with severe resource problems and develop management responses to those problems. To what extent do you feel that a program of special lake study and management is needed? Please circle the appropriate number below.

badly needed unneeded
1.....2.....3.....4.....5

If you feel such a program may be needed, please check some of the following parameters for establishing this program. Check as many as you feel appropriate.

study lakes identified by county _____
study lakes identified by state _____
study lakes identified by petition _____

study conducted by state agency (DNR, PCA) _____
study conducted by a college or university _____
study conducted by county _____
study conducted by other (specify) _____
study jointly conducted state/county _____

study funded by property assessment _____
study funded by other county funds _____
study funded by state revenues _____
joint state/county funding _____

other funding (specify) _____

county implements study _____
state/county jointly implements study _____
other implementation (specify) _____

If there are lakes in your county that you feel may be appropriate for such an effort, please list them below and specify the nature of the problems that qualifies the lake for special concern.

lake name	DNR lake number	nature of resource problem
_____	_____	_____
_____	_____	_____
_____	_____	_____

MANAGEMENT PHILOSOPHY (CONTINUED)

The major focus of the shoreland program has been directed towards lakes. Rivers, in comparison, have received little attention. Do you feel that a greater emphasis should be placed on rivers management in the shoreland program? Yes ___ No ___

If you answered yes, are there specific problems for rivers that bear special attention? _____

_____

_____.

OVERLAP IN PROGRAM MANAGEMENT

On occasion where the standards of more than one management program overlap, (i.e., shorelands, flood plains, wild and scenic rivers, local zoning) confusion has resulted. To what extent has this been a problem in your county? Circle the appropriate number below.

no problem				a major problem
1	2	3	4	5

If you feel that overlapping standards have been a problem in your county, please tell us which programs have presented the largest problems. _____

_____

_____.

Do you feel the need for more guidance from the DNR specifying when and under what conditions the various standards apply? yes ___ no ___. Any comments? _____

_____

BUILDING PERMIT TRENDS

As you know the shoreland update program is collecting information on the number of seasonal and permanent dwellings on shoreland areas in every county of the state for 1981. By comparing this data with similar data collected in 1967, we will be able to provide information on the increase that has occurred overtime. But we will not be collecting information on trends during the interim period and thus we will be unable to determine the extent to which development trends are increasing or decreasing in recent years. It would be very helpful to us if you would be able to tell us the number of building permits granted for shoreland areas during the past ten years. If such information is readily available, please fill in the following information:

Year	number of building permits for residences of previously vacant shoreland lots
1972	_____
1973	_____
1974	_____
1975	_____
1976	_____
1977	_____
1978	_____
1979	_____
1980	_____
1981	_____

BUILDING PERMIT TRENDS (CONTINUED)

It would be helpful to be able to determine how much of the building activity in the county is actually focussed on shoreland areas. To make that estimate, we would need to have similar information on the total number of building permits by year in the non-municipal areas of the county. If that information is available to you, please fill in the following spaces:

Year	number of building permits for residences on previously vacant lots in all non-municipal areas of the county
1972	_____
1973	_____
1974	_____
1975	_____
1976	_____
1977	_____
1978	_____
1979	_____
1980	_____
1981	_____

MISCELLANEOUS

Please list any lakehome owners associations present in your county.

LAKE NAME	DNR LAKE NUMBER	NAME AND ADDRESS OF CONTACT PERSON
_____	_____	_____
_____	_____	_____
_____	_____	_____

(Use back side if you need more space)

On page two (2) of this questionnaire, you assessed your level of concern regarding certain potential problem areas in your county. As you will well appreciate, the public at large and the county board may often differ with shoreland managers regarding assessment of problems. To measure those differences, we would like you to return to page two and re-evaluate those problems areas. You placed a circle to estimate your level of concern. For those problem areas where the county board would have a different assessment, please place an 'X' over the number that would best approximate what you would believe to be their level of concern. For those problem areas where you believe the public would have a different assessment, place a 'P' over the number that would best approximate what you would believe to be their level of concern. Where either the public or county board perceives the problem the same as yourself, add no letter. Or, if you feel you do not have sufficient insight into how others perceive a problem, again add no letter.

In some parts of the state, seasonal home owners have maintained that there is considerable inbalance between the taxes they are assessed and the services they receive. Justifiable or not, they feel their taxes are inequitable. To what extent have seasonal home owners expressed that concern in your county? Circle the appropriate number below.

continuously — never

1.....2.....3.....4.....5

MISCELLANEOUS (CONTINUED)

To what extent do you feel there is any merit to that perspective? Please circle the appropriate number below.

much merit no merit
1.....2.....3.....4.....5

If you feel there is some merit to those concerns, what actions, if any, should be taken to address the concern? _____

_____.

What have we missed? What comment would you like to offer in terms of defining the effectiveness of the shoreland management program or in identifying potential problem areas? What other types of changes do you feel are needed?

NAME OF PERSON FILLING OUT QUESTIONNAIRE _____
POSITION _____
COUNTY _____

Would you be willing to serve on an advisory committee whose charge would be to make specific recommendations regarding changes in the shoreland management program? yes ____ no ____.

Are there other individuals or organizations that should be considered for membership on this advisory committee? Please list below.

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