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WATERSHED ORGANIZATIONS -
IMPACT ON WATER QUALITY MANAGEMENT
AN ANALYSIS OF SELECTED MICHIGAN WATERSHED COUNCILS

By

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ABSTRACT

WATERSHED ORGANIZATIONS - IMPACT ON WATER QUALITY MANAGEMENT AN ANALYSIS OF SELECTED MICHIGAN WATERSHED COUNCILS

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Edward John Hood

Utilizing a case study approach, eight Michigan watershed councils were evaluated to determine the degree to which they could have an effective impact on planning for water quality management.

Evaluation of their effectiveness included analysis of their activities and functions within the constraints imposed by existing state enabling legislation. This study was designed to reveal problems and develop recommendations for improvement of watershed council effectiveness in watershed water quality management. Methods chosen to measure the extent and type of impact the selected watershed councils could make on water quality management planning included first the development of a weighted index of effectiveness. Models established from this index were tested against organization operations, as revealed through their records and activities. This, in turn, was compared against results of questionnaires and interviews of key individuals, representatives, and government officials associated with the individual councils.

Results from this procedure produced the following conditions and conclusions:

1. Effective watershed water quality management planning from a watershed council perspective is largely limited to advisory, planning and information-education functions.
2. Watershed councils studied varied in their fulfillment of these functions largely as a result of differences in:
 - (a) enabling legislative provisions
 - (b) character of the watershed (rural or urban)
 - (c) level and type of membership involvement
 - (d) leadership continuity
 - (e) executive committee direction and perception
 - (f) approach taken: problem-service approach vs. issue approach
 - (g) willingness to seek out financial aid and physical support from other groups and organizations
 - (h) level of communication with constituents, the state government and other watershed councils
3. Most effective watershed councils appear to be those possessing a combination of factors including (but not limited to):
 - (a) active involved membership
 - (b) strong executive committee direction
 - (c) performance along a problem-service approach, with an emphasis on providing local services

- (d) solid, frequent communication and information dissemination to member units
- (e) willingness to coordinate their activities, cooperate, and otherwise align themselves with similar purpose organizations and agencies
- (f) full utilization of authority and involvement in activities and functions made possible by the enabling legislation

Problems associated with watershed councils were related largely to statutory weaknesses and deficiencies (i.e., funding, authority, number, and involvement of membership), as well as structural and operational difficulties concerning internal organization, orientation and approach. Problems were found not to be uniformly experienced, but rather varied in type and degree with each council, depending on the council's utilization and direction of those resources and authorities at its disposal.

Key recommendations:

- (a) Encourage, enlist representative support and participation to promote active assistance and sharing in council responsibilities
- (b) Maintain the existing legislative framework to avoid the political unattractiveness of attempting a movement for amendment; emphasize more complete application of current statutory responsibilities and opportunities

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- (c) Explore benefits, economies and the feasibility of establishing a coordinated watershed council effort on a multi-watershed basis
- (d) Solicit the Department of Natural Resources to provide councils with additional functions and responsibilities; encourage councils to augment state efforts and activities providing a basis for state reimbursement to watershed councils. Interaction of state agencies with local councils is a critical factor.
- (e) Review and apply useful approaches taken by similar organizations in other states
- (f) Establish regular contacts with local governmental units by council representatives speaking in support of council efforts
- (g) Facilitate accountability of council representatives by insuring that information on council activity is transmitted to represented units of government
- (h) Identify where other government units, agencies, or organizations are currently not playing a role in some aspect of water quality management; examine the possibility of watershed councils providing this service

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INTRODUCTION

Nature and Scope of the Problem

The Michigan Water Resources Commission counts among its various responsibilities the task of establishing water quality standards and seeking their enforcement. It readily becomes apparent, upon understanding the many variables involved in water quality management, that insuring the quality of a resource is not necessarily guaranteed simply by providing for standards and enforcement. There is also the need for establishing a basis for the planning and management of water quality for an area.

Several state agencies are concerned with area water problems, but water is often only a part of their broad public responsibility. At the local level, it was recognized that there was a serious organizational deficiency; there was a need for structuring institutions that could integrate the concern of local governments with the river resource that they share.

The State approached this need by encouraging local government participation in water quality management planning. It provided for the formation of watershed councils, river management districts, and related organizations. A framework was established allowing local units of government to organize for coordination of their efforts to study mutual problems through Act 200 of 1957, the Intermunicipality

Committee Act.¹ Then, enactment of the Local River Management Act, Public Act 253 of 1964 (as amended) provided additional scope.² This act was designed to better reflect management from a watershed perspective and outlined a number of specific activities, functions, and responsibilities available to watershed councils formed thereunder. Though the bases differ, the intent of both acts has been to provide organizational alternatives to local units of government interested in cooperatively studying area problems and in planning and carrying out a coordinated water management program in the area or watershed they share.

This study is designed to evaluate the impact of watershed council activities and functions on effective water quality management in a watershed; to measure (qualitatively) the ability of watershed organizations, organized under either Public Act 200 or 253, to make sound inputs into basin water quality management plans within constraints imposed by existing state legislation.

A few conditioning remarks are necessary prior to the identification of the watershed councils included in this study. Water quality management as a water management issue was chosen as one of the key areas in which watershed councils are equipped to make contributions. The perspective taken has been to view water quality management on a

¹State of Michigan, Intermunicipality Committee Act, Act 200, P.A. of 1957.

²State of Michigan, Local River Management Act, Act 253, P.A. of 1964, (as amended).

broad basis bringing in an assortment of other water management issues.

This list of other issues includes the following:

- (1) Soil erosion and sedimentation control
- (2) Flood control
- (3) Stream monitoring
- (4) Stream flow levels
- (5) Citizen education
- (6) Information availability
- (7) Waste water disposal
- (8) Water quality standards
- (9) Construction and development
- (10) Recreational use

Each of these has been viewed here as having either a direct or indirect relationship and bearing on water quality management. Hence, an evaluation of watershed council effectiveness in water quality management necessarily includes an examination of several issues peripheral to the basic issue. Within the limits of identified statutory limitations, it can be expected that the significance and extent of council impact will vary depending on the issue involved and normal variance between watershed councils. The magnitude of water quality management contribution will be minimal in some cases, but a useful function is served by identifying the areas in which councils either perform effectively or are equipped to perform effectively. The nature of limitations and weaknesses associated with watershed council performance will be determined by examining individual council activities and approaches to problems.

Water quality management may be viewed as one indicator of a watershed council's ability to make effective contributions to better watershed management. This view may result in the impression that a watershed council is not making sufficient strides in the direction of water quality management per se. The council may, however, be operating very effectively in other areas, such as citizen education.

To avoid misunderstanding, water quality management is examined here in its broader sense. This is done for the primary purpose of identifying which water quality management issues have been or can be most effectively dealt with by watershed councils.

Watershed councils selected for this study included all councils formed under both P.A. 200 and 253. The watershed councils and the Act under which they were formed are listed below:

(1) Ausable River Watershed Study Council	Act 200
(2) Boardman River Advisory Council	Act 200
(3) Clinton River Watershed Council	Act 253
(4) Elk River Watershed Council	Act 200
(5) Grand River Watershed Council	Act 253
(6) Huron River Watershed Council	Act 253
(7) Jordan River Watershed Council	Act 200
(8) Kearsley Creek Preservation Council	Act 200

Based on an initial review of the provisions and intent of the enabling legislation, the following basic objectives were established for evaluation in this study:

- (1) What functions and activities (variables) constitute effective watershed council water quality management
- (2) The relative importance of each of these variables among each of the study councils

(3) Organization effectiveness:

- a) Information on the council's operation and structure
- b) Examination of the functional capacity of each watershed council--analysis of council activity and determination of their ability to perform
- c) Identification of statutory, operational and/or organizational weaknesses
- d) A foundation for institutional improvement

In terms of identifying the functional capability and success of each watershed council in dealing with local problems and in making an impact on water quality management, watershed councils established under Act 253 provided a more specific basis upon which an evaluation could be made. The enabling legislation lists a number of activities, functions, and features (variables) made possible to councils organizing under it. A summarized list of these variables includes the following numbered items. The list is not arranged in any order of significance.

- (1) Funds (availability, source, operating budget, etc.)
- (2) Membership (number, actual and potential; turnover, involvement, leadership, etc.)
- (3) Conduct studies of the water resources in the watershed
- (4) Contract our studies
- (5) Prepare reports
- (6) Request the Water Resources Commission to perform stream-flow level studies
- (7) Creation of river management districts
- (8) Advise local, state, federal units of government as to council views of watershed problems and needs

(9) Coordinate, cooperate with other units of government in:

- a) handling mutual problems
- b) providing for water quality sampling

(10) Public information and education services and programs

As a result of utilizing these variables as a focal point for structuring questionnaires and for evaluating descriptive material, a basis was established for comparing the type and extent of activity of each of the three councils organized under Act 253.

The watershed councils established under Act 200 had to be dealt with somewhat differently. A number of activities, functions, and features common to watershed councils established under Act 253 are performed by councils formed under Act 200. However, the enabling legislation does not specifically provide for them; and, as a result, the functional capability of councils organized under Act 200 was looked at largely from the standpoint of examining available records, reports, and activities. The intent was to determine, among other things:

- (1) The kinds of activities in which the watershed councils are involved
- (2) How these activities relate to water quality management problems in the watersheds
- (3) The kind of impact the councils have been making/could be making on water quality management through their activities
- (4) The concerns and priorities of each of the councils
- (5) How well the concerns, priorities, and activities reflect watershed needs and the ability of the councils to make effective contributions

Watershed councils established under both enabling frameworks have existed for a sufficient period of time to produce identifiable indicators of performance. Analysis of these watershed councils focused on examining the organization's operation. This was done to make possible the identification of the nature and source of weaknesses and problems watershed councils were experiencing in their efforts to effectively make inputs in basin water quality management plans. The analysis was also designed to identify those water quality related issues on which watershed councils made (or could make) the most significant impact.

Research Objectives

The primary objective of this study is to evaluate the ability of watershed organizations to make sound inputs in basin water quality management plans within constraints imposed by existing legislation.

Included in this evaluation are:

- (1) An examination of the functional operation of each of the eight watershed councils in an effort to determine how each ranks in terms of effectiveness
- (2) Determination of the nature and source of operational, structural, or statutory problems that contribute to variations in effectiveness

As the first comprehensive analysis of Michigan's watershed councils, considerable attention was devoted to identifying the type and extent of each council's activity. The activities were then related to the water quality issues discussed earlier. Objectives were examined in the evaluation of council effectiveness in contributing

to better water quality management planning. Secondary to the determination of council effectiveness was the establishment of a foundation for organizational improvement which was developed in the conclusion and recommendation sections of this report. Both points involved research directed at organizational behavior. This behavior was assessed in terms of comparisons between established criteria and information derived from field examination of each of the eight watershed councils.

Methods and Procedures

The difference in enabling legislation and in the extent and availability of descriptive materials made it necessary to follow separate approaches in the analysis of the watershed councils formed under Act 200 and those formed under Act 253. The hypotheses formed were relevant to the approach taken for each type of watershed council. The second and third hypotheses are specific extensions of the first.

- (1) Selected watershed council activities, functions, and characteristics (hereafter referred to as variables) have an impact on watershed water quality management
- (2) Capacity to perform effectively can be expressed as some function of selected variables
- (3) Evaluation of these variables will help in identifying elements of watershed organization, structure, and operation that may be further improved

The following methods and procedures were chosen for each type of watershed council (with councils established under Act 253 receiving

more extensive and detailed treatment due to the nature and activity of these organizations and to the more ready availability of information on them).

Councils Formed Under Act 200

The methods and procedures chosen to evaluate watershed councils formed under Act 200 were designed to consider the nature of the organization and limitations in the Act. Unlike those councils formed under Act 253, watershed councils organized under Act 200 do not maintain a paid staff. They have an all volunteer force made up of representatives from government units, organizations and the like. Act 200 councils meet on a less frequent basis and generate less information. Generally, their approach is more low key and tied to a few basic issues.

In light of the nature of the organization and its volunteer membership, it was not possible to follow with Act 200 councils the same approach chosen to evaluate councils formed under Act 253. It was necessary, rather, to select at least one spokesman from each of the councils and to have him provide the history and background on the council and its activities. In most cases, the spokesmen were the chairmen and vice-chairmen of the councils (past chairmen were also interviewed when possible, as was the case with the Ausable River Watershed Study Council, the Boardman River Advisory Council, and the Kearsley Creek Preservation Council). The other Act 200 councils are the Elk River Watershed Council and the Jordan River Watershed Council.

A survey of representatives and government officials on watershed councils established under Act 200 was considered both impractical and

of little value in evaluating how effective the councils have been in terms of impacting water quality management. Some basic problems are:

- (1) Voting membership on the councils is not tied to payment of dues
- (2) Actual participating membership was found to be inconsistent with the listing provided in the council bylaws
- (3) Types of members possible varied between councils
- (4) Insufficient record keeping made it difficult to determine just what units and organizations currently belong
- (5) Infrequent meetings and less-than-adequate attendance

Due to these problems, a standard could not be formulated upon which a survey could be structured. Also the difficulty (in expense and time) in locating currently active, participating members, made it impossible to conduct a survey of representatives on Act 200 watershed councils. The approach chosen was to examine the activities Act 200 watershed councils chose to involve themselves in and to compare these against the total set of problems existing in the watershed. A standard information checklist (see Appendix A, page 229) was prepared for the purpose of gathering, through interviews of council spokesmen, as much background information and reactions to council activity as possible. In addition, all available records of council activity were reviewed.

The methods and procedures consisted largely of reviewing and analyzing descriptive information that was provided or made available through minutes, newsletters, annual reports, bylaws, special project reports, etc. Detailed comments were obtained in interviews of council

spokesmen. The ability of each watershed council formed under Act 200 to contribute to more effective water quality management planning was evaluated on the basis of their involvement in the water quality issues discussed in the problem statement section of this report.

Councils Formed Under Act 253

The approach chosen to evaluate how effectively each of the three watershed councils formed under Act 253 contributed to better water quality management planning was to combine, relate, and compare a series of surveys with a review of individual council activity. Three surveys were conducted; one of the executive secretaries of each of the three councils, one of the representatives to each of the councils, and one of the units of government that financially support the councils. The survey of the executive secretaries asked each of them to examine a list of ten variables made possible by the enabling legislation (see Appendix A, page 234). The executive secretaries were also asked to rank the ten variables in descending order of importance according to the degree of effectiveness they believed (based on their opinion, administrative judgment, and experience) each had on affecting water quality management in their watershed. The results of this survey served as a reference model for field testing in evaluation and identification of the particular problems of each council. They also served as a reference point to which the comments made by representatives and units could be compared for differences and similarities in opinion regarding council performance and operation.

The separate surveys of council representatives and member units of government involved soliciting comments and reactions of a census of

representatives and government officials which included those sitting on city and village councils, county and township boards (see Appendix A, page 236). Questions were developed to identify: 1) water management issues and problems, 2) where watershed councils have and have not made inputs and why, 3) the nature and source of operational, organizational, and statutory problems, and 4) key needs required for more effective contributions. The separate surveys of representatives and units of government were analyzed individually and then compared through percentage-frequency calculations and contingency analysis. Identifying the nature and frequency of similarities and differences of opinion existing between the groups surveyed was of primary importance. The intent was to provide a basis for determining the nature and source of operational, statutory, and organizational problems of the councils and also to identify how and on what issues the watershed councils made (or could make) the best contribution to water quality management planning.

An extensive review of available literature on the councils and their respective watersheds aided in the evaluation of the effectiveness of watershed councils. Records of council activity and operation were examined. These records included minutes of meetings, bylaws, newsletters, position statements, annual reports, special project reports, etc. From a number of other sources related information on both the councils and the watersheds was collected, reviewed, and analyzed.

The information obtained served a dual function. It was used to provide a history and background on council activities and programs. It was also used as a means of evaluating and determining the reasonableness and consistency of reactions and comments derived from the

surveys. The relative impact and degree to which each of these watershed councils could be said to have made an effective contribution to water quality management planning was based largely on review of council activities, functions, and programs, as well as supporting material and results of interviews and surveys.

Application and Need

The information and results obtained in the surveys and review of literature provided a basis for identifying problems. It also aided in specifying recommendations derived from differences and similarities between watershed councils in facilitating improvements in water quality management.

The importance of developing improvements begins with a recognition that local and regional assistance is needed to supplement the State's effort to preserve and protect the quality of the water. Watershed councils provide a framework from which the concerns and efforts of communities can be coordinated to develop programs on a regional basis. If the councils are to effectively serve the local and regional interest of the government units that it represents, then problems associated with its operation must be recognized and corrected.

This report has been designed to reveal these problems and to develop recommendations that would serve to improve watershed council effectiveness. More effective operation of these Michigan watershed councils might result in greater authority being vested in local and regional government, as well as in providing a model for regional coordination of local water quality management programs.

REVIEW AND ANALYSIS OF MICHIGAN WATERSHED COUNCILS
ESTABLISHED UNDER ACT 200 P.A. OF 1957

Introduction

Five Michigan watershed councils established under Public Act 200 of 1957 were selected for study.³ Analysis of their operation and activity was expected to provide an additional basis upon which watershed councils established under other enabling legislation could be evaluated. The different legislative frameworks provide varying degrees of authority to watershed councils. It was presumed that a comparative analysis would better yield the information necessary to assess the degree of impact each type has made on watershed water quality management planning.

The five councils chosen for study are: 1) the Ausable River Watershed Council, 2) the Boardman River Advisory Council, 3) the Elk River Watershed Council, 4) the Jordan River Watershed Council, and 5) the Kearsley Creek Preservation Council. These represent the total number of councils operating under Act 200 (see Appendix B, page 241). Figure 1 identifies their location and relative size. With the exception of the Kearsley Creek Preservation Council, all are located in the northern lower peninsula. Reasons for this predominant application of Act 200 in rural up-state areas center largely on certain statutory

³State of Michigan. Intermunicipality Committee Act, Act 200, P.A. of 1957.

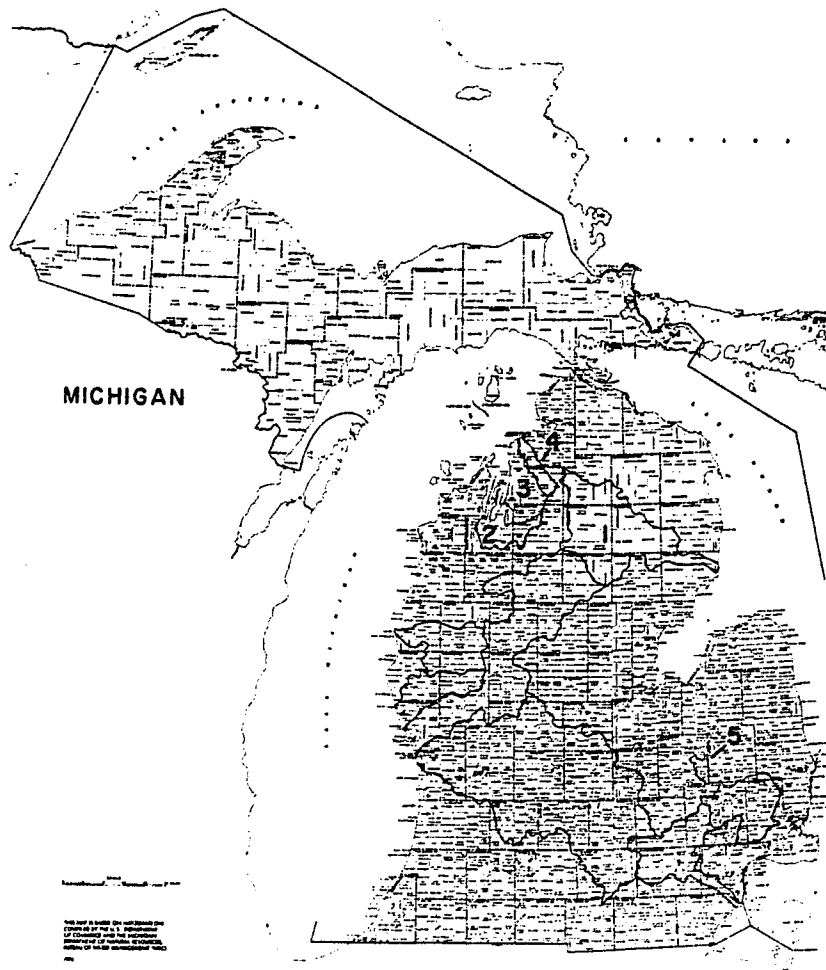


Figure 1. Watershed Councils Established Under Act 200

membership limitations imposed by Act 253.⁴ These are described later in more detail.

Analysis and review of councils formed under Act 200 is achieved by examining and evaluating their background and history, their activities and programs, and how they accomplish or implement their programs. Much of this information is derived from interviews with each council spokesman. This summary is based largely on review of their activities, functions, programs, other supporting materials and interviews. A summary evaluation will be offered on the impact and contribution each watershed council made on water quality management planning in their respective watersheds.

Prior to the discussion of the individual councils, an examination of enabling legislation will be made focusing on provisions, authority, and limitations cited.

Review of the Enabling Act

Provisions. Prior to passage of Public Act 253, units of government interested in cooperatively working toward identification and solution of watershed problems turned to the Intermunicipality Committee Act of 1957, Public Act 200, for an organizational framework (see Appendix B, page 243). Basically, Public Act 200 provides:

- (a) For the creation of a committee by two or more incorporated political units in the state for the purpose of studying area problems
- (b) For the employment of personnel to coordinate and conduct studies relating to mutual problems

⁴State of Michigan. Local River Management Act, Act 253, P.A. of 1964 (as amended).

- (c) For the handling of expenses of the committee by allocation of local government funds, by receiving gifts and grants from the federal and state governments and also from private individuals, foundations, or agencies

Generally, the objective of these committees has been to identify and study problems of mutual concern to member government units such as water management and related land resource use issues. Such issues have included (but have not been limited to) sewers and sewage disposal, water, drains, solid waste disposal, recreation, parks, etc.

The Committee has no formal authority or power, but rather only the power to study problems, prepare reports, and recommend solutions. The Committee finances its operation partly through gifts and grants from the "federal government, state government and local governments, and also from private individuals, foundations or agencies, if the grants are made for furtherance of the objectives for which the committee is established."⁵ As mentioned previously, member units may allocate funds to the Committee though this is not a prerequisite to either joining or continuing membership on a committee.

For the most part, the act provides a basis upon which units of government interested in studying problems can obtain some organizational legitimacy and at the same time recommend solutions. The extent to which this effort has produced an impact is largely related to the provisions of the Act, some of which have proved to be limitations.

⁵State of Michigan. Intermunicipality Committee Act, Act 200, P.A. of 1957, § 2.

Limitations. At a meeting of watershed councils and related organizations held in 1970, respective advantages and disadvantages of water quality group organization under Act 200 and Act 253 were discussed.⁶ It was generally agreed that Public Act 200 offered up-state rural areas with low population an opportunity to organize outside of the more restrictive statutory requirements for membership outlined in Act 253.⁷ Review of these requirements show that membership is only open to local government units using the river for water supply or waste disposal, to counties and townships having a minimum of 15% of their areas in the watershed and to other units that would demonstrate some relationship to the river or otherwise justify and show cause why they should be members.⁸ Most of the groups that organized under Act 200 did so because of the undesirable restrictions in Act 253. In rural areas, these would overload or otherwise create disproportionate representation in favor of more populated units. Act 200 does not place any special conditions on membership. In fact, most of the watershed councils have invited various interested groups and organizations in the watershed to be represented on the council. They cite this as a further advantage of Act 200 in that it provides for a more varied membership background. Special interests of particular government units, therefore, are not so apt to overshadow interest in overall watershed planning and management.

⁶Conference of Organized River Watershed Councils. Proceedings of the meeting held September 24, 1970.

⁷State of Michigan. Local River Management Act, Act 253, P.A. of 1964 (as amended), § 4a-c.

⁸Ibid.

Missing from Act 200, however, are provisions that would facilitate development of various action programs or that would assure performance of functions. Units organized under Act 200 also share a shortcoming present with councils organized under Act 253. The effectiveness of both is largely related to the willingness of the voluntary government units to actively participate and to provide funds. Participation is subject to the level of interest within the watershed to achieve better water quality management. If the units perceive the need and look upon the watershed council as a vehicle for providing a service to them and/or to the watershed in water quality management planning, then they will support the council. This lack of provisions in either act for compulsory membership, participation and funding represents a major limitation in both acts. As a consequence, the level of activity and scope of the watershed council and impact it makes is conditioned on these factors. As the Conference noted, "...the group formed will only be as effective as is commensurate with the interest in water quality, non-bias available time for participation, and non-political motivation of the appointed representation."⁹

⁹Conference of Organized River Watershed Councils. Proceedings of the meeting, September 24, 1970, p. 1.

Review and Analysis of Individual Council ActivityAusable River Watershed Study Council

The Ausable River Watershed Study Council is typical of the watershed councils formed under the Inter-municipality Committee Act (Act 200). Most of its activity, confined largely to specific issues and problems, has been the product of the efforts of the council's executive board and volunteer committees. There is no paid staff and as a result of this limited participation and funding support, the materials available for review of council activity are, for the most part, restricted to minutes of meetings, annual reports, and policy statements. The Ausable River Watershed Study Council and other watershed councils established under Act 200 do not have the ability to provide for a standard, consistently defined and participating membership. Consequently, the analysis and examination offered here is attenuated by the relative paucity of information and inactivity of the councils.

Evaluation of the Ausable River Watershed Study Council's impact on water quality management planning is based on a comparison and review of materials and comments collected. It is primarily intended to serve as an indicator of council effectiveness. Variability between councils in number and type of members participating, infrequency of meetings, and limited study resources, made a survey of councils established under Act 200 less amenable to generally accepted sampling techniques.¹⁰

¹⁰William Cochran. Sampling Techniques, (New York: John Wiley & Sons, Inc., 1963).

Description of the Watershed and General Water Quality. The Ausable River Watershed is located in the north central part of Michigan's Lower Peninsula (see Figure 2, page 22). The focal point of the watershed, the Ausable River, drains approximately 1800 square miles of land before emptying into Lake Huron.¹¹ Long famous for its beauty and recreation, the Ausable River has a well-developed system of tributaries, the character of which have contributed to the preservation and enhancement of the natural values of the main stream. The river has its beginning high in the northwest corner of Crawford County and moves eastward through the city of Grayling on the Oscoda on Lake Huron. The river is joined at Grayling by the East Branch extending from northern Crawford County. The South Branch, extending from Lake St. Helen through Roscommon, joins the Main Stream in western Crawford County along with the North Branch which has its headwaters in Otsego County.¹²

Despite the heavy recreation use it receives, the river continues to maintain a high degree of quality. The limitation on disturbance of the river bed and banks as well as the restriction on amounts of sewage contaminants that are allowed to enter the stream has been partly responsible for this. In 1972, the City of Grayling switched to tertiary treatment of their municipal wastes which had a significant effect on reducing contaminant loading of the river.¹³ In a

¹¹State of Michigan, Water Resources Commission. Water Resources Conditions and Uses in the Ausable River Basin, (Lansing, Michigan: Water Resources Commission, 1966), p. 1-1.

¹²Ibid.

¹³Interview with W. Bosserman, Roscommon County Extension Agent, Roscommon, Michigan, February 22, 1974.

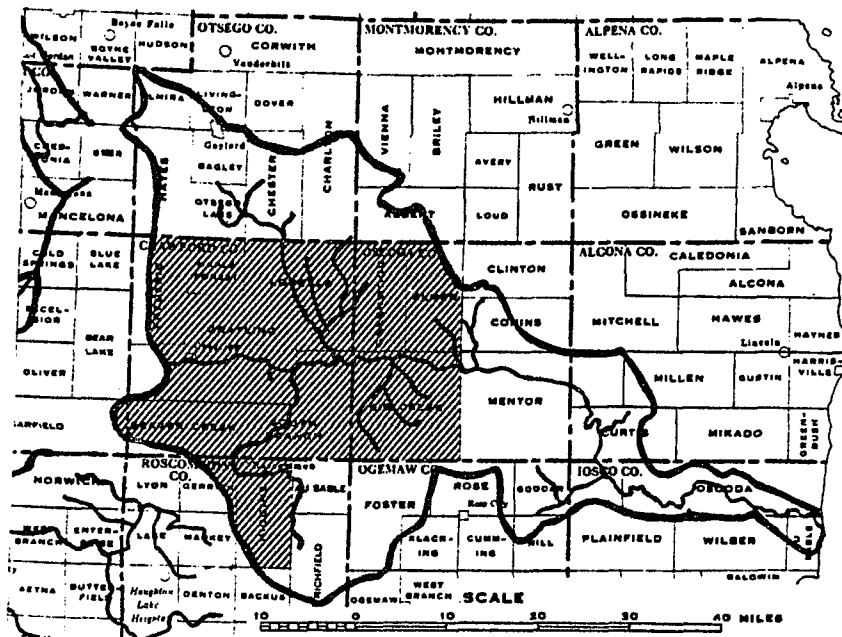



Figure 2. Ausable River Watershed

 Area served by the Ausable River Watershed Council

survey of 400 individual septic tank systems in Grayling Township, it was shown that no significant contamination of the river was occurring as a result of the operation of these systems.¹⁴ However, as an earlier report also stated, "Extensive development is expected to occur along the Ausable River. This will add to the present problem of numerous private systems now in operation. As these systems fail, they may add to the flowing stream by direct discharge or seepage of the materials associated with domestic waste products."¹⁵ (The actual extent to which the banks of the Ausable are developed will hinge on the outcome of the possibility that the river will be named part of the Federal Wild and Scenic Rivers Program.)¹⁶

There are a number of other concerns in addition to this potential threat to Ausable's water quality from septic tank discharge. The most critical concern appears to be the heavy recreation demand and use being made on the river and its adjoining land resources. To preserve and protect against deteriorating water quality from heavy use, a number of water management activities involving measures to control streamflow, water withdrawal, alteration of the natural streambank, and sewage discharge have been developed.¹⁷

¹⁴D. Brege, "Extent of Contamination of a Cold Water Stream by Private Domestic Waste Disposal Systems." (unpublished Masters thesis, Michigan State University, 1969), p. 4.

¹⁵State of Michigan, Water Resources Commission. Water Resource Conditions and Uses in the Ausable River Basin, (Lansing, Michigan: Water Resources Commission, 1966), p. 4-35.

¹⁶Interview with W. Bosserman, County Extension Agent, Roscommon, Michigan, February 22, 1974.

¹⁷Hendrikson, G., Michigan's Ausable River (Lansing, Michigan: Michigan Geological Survey, 1966), p. 68.

A key to this largely state and local effort to keep the water in the Ausable of excellent quality for recreational use has been and will continue to rest heavily with public support and cooperation. It was this same public concern for preservation and protection of the river that provided the impetus for the formation of the Ausable River Watershed Study Council.

Development of the Ausable River Watershed Study Council. The Ausable River Watershed Study Council was organized in 1967 in response to a stimulus from the Grayling Chamber of Commerce and the Cooperative Extension Service to provide a mechanism through which communities and groups could collectively channel their efforts toward improving conditions on the Ausable. Earlier, the Ausable River System Property Owners Association had begun a movement to stimulate awareness of the deteriorating recreational value of the river system. The Council focused on some of the concerns of this association and identified a number of specific problem areas. Among the original problems cited by the Council were behavioral and natural resource problems associated with municipal effluent, bank disturbance and inadequate zoning protection.

In light of the problems identified, the Council established the following objectives:

- (1) Study the relationships of the river and the relationship to the requirements of the present, and probable future users, including property owners, municipalities and other governmental units, agricultural and industrial users, fishermen, hunters, canoeists and other recreational users

- (2) Develop programs and policies designed to prevent future deterioration and where possible, to restore the original qualities of the river
- (3) To serve as an advisory group to recommend actions to be taken on policies and programs so adopted to appropriate government units
- (4) To serve as a study group to assimilate and coordinate all actions concerning the Ausable River¹⁸

The Council opened its membership to any local government unit within the watershed to help accomplish these objectives. The case with the Ausable River Watershed Council, as with some of the other watershed councils established under Act 200, is that the actual area served is usually less than the entire watershed (see Figure 2, page 22).

The Council primarily serves Roscommon and Crawford Counties. Down-river from Crawford County, landownership is largely in the hands of Consumers Power Company (which is represented on the council as a special interest organization). According to the Council, the area beyond Roscommon and Crawford Counties represents a different set of problems. As yet, there has not been much citizen interest from that area in the activities of the Council.¹⁹ Also, unlike the Boardman River Advisory Council which recognizes the need for direct, private citizen and riparian involvement, the Ausable River Watershed Study

¹⁸Ausable River Watershed Study Council, Organization Bylaws (Grayling, Michigan: Ausable River Watershed Study Council, 1967), p. 1.

¹⁹Interview with W. Bosserman, Roscommon County Extension Agent, Roscommon, Michigan, February 22, 1974.

Council did not extend membership to individuals. Instead, its membership extends to selected groups and organizations that have some immediate interest in the river.

The activities the Ausable River Watershed Study Council has become involved in reflect their concern for improving conditions on the river. Through sponsoring and assisting in efforts designed to bring about improvement, the Council has attempted to strike some kind of balance between conservation of the river's water quality and maintenance of it as a recreational area. The more prominent activities and concerns that the Council has been involved in are listed below:

- (1) Protective greenbelt zoning
- (2) Municipal effluent from Grayling and Roscommon
- (3) Land use study of the river
- (4) Directional signing
- (5) River Rules Ordinance and attempts by the Canoe

Liveries Association to secure a greater degree of control over the many canoeists who use the river

Description of the Activities of the Ausable River Watershed Study Council. The following descriptions of activities, concerns, and issues the Ausable River Watershed Study Council has been involved in are, in part, based on comments derived from interviews. The following summaries are intended to provide some perspective on the concerns and direction of the Council and also to provide a basis upon which the overall impact of these activities on better water quality management planning can be evaluated.

1. Protective Greenbelt Zoning

A tour of the Ausable River Watershed quickly shows that recreation plays an important role in the economic well-being of the area. In the Grayling area alone cabins, cottages, and year-round homes are numerous on the Ausable and its branches. The situation this has created is reflected in the following statement made by the Water Resources Commission:

"Waterfront lots command premium prices and some water access lots have been established to meet the demands of the off-water cottage buyer. Significant portions of river frontage are in private ownership and will no doubt provide a base for substantial increased development of river frontage for recreational facilities by private interests."²⁰

The Ausable River Watershed Study Council took a dim view of this prediction and launched an initiative to create a river-front zoning program that would allow for the continued use of the river and its resources while protecting it against over-development and deterioration.

Support for the initiative came from several sources; among them the Grayling Regional Planning Commission, the Grayling Regional Chamber of Commerce, and Grayling Township.²¹ The township was concerned about its zoning ordinance and the ability of it to promote preservation of the river's resources. The Council was asked to prepare a greenbelt zoning ordinance that would bring about a degree of

²⁰State of Michigan, Water Resources Commission. Water Resources Conditions and Uses in the Ausable River Basin. (Lansing, Michigan: Water Resources Commission, 1966), p. 3-2.

²¹State of Michigan, Chamber of Commerce. "Green Strip Zoning--It Is Working Along the Ausable River." Natural Resources Special Report. (Lansing, Michigan: Chamber of Commerce, October 31, 1969), p. 1.

protection not provided at the time. The ordinance prepared by the Council's Land Use Committee emphasized lot characteristics and focused on the 30 miles of stream in Grayling Township.

It was designed to regulate riverfront land use and to protect the water quality by:

- (1) Limiting the density of development; regulating the width and size of waterfront lots
 - a) Minimum lot width--150 feet
 - b) Minimum lot size--45,000 square feet
- (2) Preventing stream bank erosion; requiring a strip of native vegetation to be left at the waterfront. The strip must be 25 feet wide.
- (3) Preventing nutrient pollution:
 - a) The disposal field must be at least 100 feet from the river or lake. The sealed septic tank must be at least 50 feet from the lake or stream
 - b) Disposal field tile must be at least 3 1/2 feet above the high water table
 - c) Subsoil drainage systems must be at least 40 feet from a septic tank or disposal field
- (4) Preserving aesthetics:
 - a) Requires a minimum setback of the dwelling of 50 feet from the river, or 30 feet when on a high bank
 - b) Requires a 25-foot native vegetation strip on both banks

(5) Discouraging filling in floodplains for building:

- a) Requires filling with previous material four feet above high ground water table, before building²²

Following the adoption of the ordinance by Grayling Township, the Council could take credit for drafting Michigan's first Green Strip Zoning Ordinance. As a result of Grayling Township's success with the ordinance, other units of government, including Crawford and Roscommon Counties and Higgins Township, incorporated it into their zoning legislation.²³

The ordinance stands as a tribute to the Council's ability to make positive impacts on improving water quality management in the Ausable River Watershed. The success experienced with the ordinance prompted the Michigan Department of Natural Resources to incorporate some of its principles into its Natural Rivers Protection Program.²⁴ In addition, other river basins including the Boardman, have developed similar ordinances modeled after the Ausable program.

2. Municipal Effluent from Grayling and Roscommon

Concern developed over the ability of the cities to adequately handle their municipal waste as development and use of the river in and around these areas continued to grow. Following the water quality

²²Ausable River Watershed Study Council. Greenbelt Zoning Ordinance. (Grayling, Michigan: Ausable River Watershed Study Council, 1969).

²³Interview with W. Bosserman, Roscommon County Extension Agent, Roscommon, Michigan, February 22, 1974.

²⁴Ibid.

study in 1966,²⁵ pressure was brought to bear on Grayling and Roscommon by the Water Resources Commission to develop more satisfactory systems. The Ausable River Watershed Council's interest and assistance to these communities in exploring treatment options and in designing and planning an alternative disposal system was instrumental in encouraging both communities to plan tertiary treatment (lagoon) systems. Largely as a result of the influence the Council was able to exercise over Roscommon and Grayling, the amount of sewage effluent entering the Ausable through direct discharge has significantly been reduced.²⁶

3. Land Use Study of the River

The Council applied for and received a grant of \$2500 from the Water Resources Commission to conduct a survey of the land adjacent to the Ausable and its tributaries in 1968. The objective of the study was to begin making an inventory of current land use, stream bank conditions, and uses being made of the river.²⁷ Points along the river showing evidence of erosion, pollution, and poor drainage were of special interest. Information compiled by the study produced a booklet, approximately 50% of which identified effluence, litter, erosion, and zoning problems. The remaining 50% was devoted to

²⁵State of Michigan, Water Resources Commission. Water Resource Conditions and Uses in the Ausable River Basin. (Lansing, Michigan: Water Resources Commission, 1966), p. 4-35.

²⁶State of Michigan, Chamber of Commerce. "Green Strip Zoning--It is Working Along the Ausable River." Natural Resources Special Report. (Lansing, Michigan: Chamber of Commerce, October 31, 1969), p. 2.

²⁷The Roscommon-Herald News. "Watershed Council Studies Program for Famous Stream," July 4, 1968, p. 5.

providing information to property owners on the problems that existed, solutions, and resource people to tap for help.²⁸

Suggested approaches for correction of some of the problems identified included: 1) building protective log and stone revetments to stop stream bank erosion, 2) planning stream bank vegetative cover, and 3) providing suitable access to the river.²⁹ The study represents a successful attempt by the Council to gather basic information on the Ausable's conditions and uses. The suggestions supplied planners and land owners with proposals for improving present conditions and for helping better insure orderly development and preservation of the river.

4. Directional Signing

In addition to promoting preservation of the river, the Council has been concerned with protection of the Ausable River's resources. To help eliminate trespassing, the Council recommended to Crawford County and the City of Grayling, a plan for signing the river. The Council felt the erection of signs pointing to the location of various facilities along the river would help eliminate some of the trespassing and damage to private property. With the financial assistance of Crawford County and the City of Grayling, 57 signs were made and erected on the North and South Branches and on the Main Stream by the Department of Natural Resources in 1973.³⁰ No

²⁸W. Bosserman and L. A. Higgins. Ausable River Watershed Study Council Report. (Grayling, Michigan: Ausable River Watershed Study Council, 1968), p. 6-10.

²⁹Ibid., p. 11-19.

³⁰Interview with H. Goodhue, Chairman, Ausable River Watershed Study Council, Grayling, Michigan, April 23, 1974.

comprehensive effort has since been made to determine just what impact the signs have had on limiting trespassing or improving water quality.

5. River Ordinance and the Behavioral Problem

The Council became involved on this issue through the support it gave local initiative. This initiative originated with the Canoe Liveries Association and several units of government including Grayling and Crawford Counties. Increasing problems with canoeists prompted the Council to take part in an attempt to get the Department of Natural Resources to enact more specific legislation that would help local authorities in controlling behavior of individuals using the river.³¹ The Department of Natural Resources suggested limitation of use on the river as opposed to making stricter rules. A rift developed between local citizenry and the Department over exactly what was needed, who was going to promulgate rules, and who was going to enforce them. Due to this controversy, each side produced an alternative plan.

The local effort took the form of the Crawford County Recreational Water Ordinance.³² This proposed to:

"...provide for the management of all navigable inland lakes, streams, and rivers; to provide for licensing of recreational facilities; to regulate the users of the navigable water resources; to provide planning for the harmonious and complementary uses of all navigable waters

³¹J. Bassett, B. Driver, and R. Schreyer. User Study; Characteristics and Attitudes, Michigan's Ausable River. (Ann Arbor, Michigan: University of Michigan, School of Natural Resources, 1972), p. 74-76.

³²State of Michigan, Crawford County. Recreational Water Ordinance. (Grayling, Michigan: Crawford County Board of Commissioners, 1973).

in the County; to create advisory committees; and to prescribe the powers and duties of certain administrative agencies, their relationship with other local governments in planning and regulating the users of navigable waters in the County of Crawford, State of Michigan."³³

Its emphasis was on regulating the licensing of canoe liveries and controlling behavior of individuals using the river. The Department of Natural Resources, due to heavy use of the Ausable, Pine, Pere Marquette, and Manistee Rivers proposed a set of river rules to regulate and restrict use at peak periods (weekends, holidays) of 128 miles of sensitive stretches along these four streams.³⁴

The Department's river use rules were designed "to safeguard environmental values of the four northern Michigan streams and to bring about more orderly enjoyment of the heavily-used rivers by all types of creationists."³⁵ The rules called for a "permit system that would regulate the number of watercraft that could be launched on problem sections of the four streams on Saturdays, Sundays, and holidays during the peak summer season."³⁶

Concurrent with these efforts, a bill was introduced in the legislature by Representative Ralph Ostling. The bill proposes to

³³Ibid., p. 1.

³⁴Grand River Watershed Council. Address Presented at the Annual Meeting by Hilary Snell, Chairman, Michigan Natural Resources Commission, Lansing, Michigan, May 1974.

³⁵State of Michigan, Department of Natural Resources. "DNR Seeks State Court of Appeals Review on River Rules Decision." News Bulletin. Lansing, Michigan: Department of Natural Resources, April 18, 1974), p. 2.

³⁶Ibid.

limit the number of canoe liveries and the number of canoes they are allowed to have for rent along the Michigan rivers.³⁷

The current situation (May, 1974) with regard to these three alternatives at regulating use and behavior on Michigan streams appears to be as follows. The Crawford County Ordinance on River Rules submitted to the Governor for approval in January 1973, was reviewed by the Attorney General's office, but no formal action has yet been taken on it.³⁸

The Recreation Canoe Liveries Association took the Department of Natural Resources to court in response to the river rules that the Department proposed. The canoe people charged that Act 17 of 1921, the Department of Natural Resources' basic organization act, does not give the Department authority to implement the proposed river rules.³⁹ The decision handed down by the Lake County Circuit Court was in favor of the Canoe Liveries Association. The Department has since appealed, contending that the Act of 1921 charges them with the responsibility to protect and conserve the state's natural resources. When reached, the decision will most likely be appealed to the Michigan Supreme Court.

A bill introduced by Representative Ostling for regulation of canoe liveries and watercraft is on its third reading in the House

³⁷ State of Michigan, House of Representatives. A Bill to License and Regulate Canoe Liveries and Watercraft, HB 4848, 1974.

³⁸ Ausable River Watershed Study Council. Minutes of a Regular Meeting, January 15, 1974.

³⁹ State of Michigan, Department of Natural Resources. "DNR Seeks State Court of Appeals Review of River Rules Decision." News Bulletin. (Lansing, Michigan: Department of Natural Resources, April 18, 1974), pp. 1-2).

Appropriation Committee. It is in its original form after two substitutions failed, and is expected to come up for vote again this fall.⁴⁰

It appears that it will be some time yet before a decision will be reached as to which of the three alternative approaches discussed here will be adopted. The Council is continuing to play a role by distributing information to its members on the current status of each proposal in an effort to keep the local citizenry informed.

In addition to these activities, the Ausable River Watershed Study Council, through independent efforts of some of its members, has made available additional resource information on the area. One such project is a comprehensive analysis being done under the direction of the Northeast Regional Planning Commission on the Ausable River Watershed with the objective of developing a plan for the recreational use, preservation, and management of the watershed. The five-part study is nearing completion and will include recommendations for solving river user conflicts and protecting the natural environment.

Evaluation and General Recommendations

One of the overriding concerns of the Ausable River Watershed Study Council has been seeing that the public and local citizenry are represented when decisions are made. The Council was formed out of the belief that an organization was needed to cooperatively study the river's problems and to assist in the preservation and protection of the Ausable. It appears the Council has been effective and has made an impact on better water quality management for the Ausable, primarily through the influence function it has been able to exercise. This

⁴⁰ Interview with W. Bosserman, Roscommon County Extension Agent, Roscommon, Michigan, February 22, 1974.

function has been most evident in the Council's efforts to provide for greenbelt zoning, restricting sewage disposal, and providing advice and assistance to local government units, organizations, and individuals on methods for improving stream conditions.

The Ausable River Watershed Council is now suffering from dwindling interest for lack of a new issue. Water quality, except for the impact of canoeists, is no longer considered a problem in the area served by the Council.⁴¹ The Council needs to establish a new focus. It is suggested that the recommendations offered in the comprehensive Ausable River Project serve as a focus for the Council in redefining its role, functions, and the future activities it becomes involved in.⁴² With new activities, interest could be revitalized.

In addition to getting involved in new activities, the Council needs to expand its influence (its biggest asset) to help improve its visibility and credibility. Existing Council members need to make the effort to get more units and organizations involved. Individual Council members could serve as a local arm of the Council spreading the word about what the Council does and the value in belonging to it. They could also have the responsibility of contacting and meeting with downriver units and interest groups in an effort to identify their problems and attempt to encourage their membership.

⁴¹Interview with W. Bosserman, Roscommon County Extension Agent, Roscommon, Michigan, February 22, 1974.

⁴²Northeast Michigan Regional Planning and Development Commission. Ausable River Project. (Rogers City, Michigan: Northeast Regional Planning and Development Commission, 1974).

The Council should also consider opening membership to individual citizens to gain more support for their activities and to obtain a broader base of representation of interests in the watershed.

The existing organizational framework provided under Act 200 appears adequate. The Council does not necessarily need to reorganize under Act 253 to secure more management functions. In light of the impact the Council has been able to make in the past under Act 200, more efficient application of the enabling Act's provisions and utilization of existing resources (human and physical) would appear to be more the appropriate approach for the Council to take.

The question of funds has not been critical in the past and there is no real need to emphasize this in a membership drive; involvement is the key. It will be necessary for the Council to establish (or revitalize) its committee organizations. This will help allocate responsibilities and insure that every member has a meaningful role and responsibility to play.

Committees could assist the Council in building a stronger background for communication and coordination. The Ausable River Watershed Study Council should explore the possibility of establishing one of the following with other watershed councils organized under similar enabling legislation:

- (1) Liaisons on each of the other councils in the region (Jordan, Elk, Boardman)
- (2) A multi-watershed council approach operating under one regional council

They may also wish to take note of the approach being followed by the White, Pere Marquette, and Muskegon River Watershed Councils. An individual has been selected by these Councils to monitor the activities of each in an attempt to bring about a degree of coordination and compatibility in their separate activities and functions.

A continued function of the Council is to maintain and improve existing relationships with agencies and organizations like the Northeast Michigan Regional Development and Planning Commission. The Council should attempt to identify and align itself with interest groups not currently involved with the Council.

The Council should also strive to improve the lines of communication and coordination it currently has with state agencies and with the county planning commissions. If communication has been less than adequate in the past, the Council should consider taking the initiative to reopen and strengthen, through frequent contact, these lines of communication.

In general, the Ausable River Watershed Study Council needs to reexamine its purpose and the roles it has played in light of the current situation on the river. As its position is redefined, more efficient use of the resources at its disposal will help improve on its ability to once again exercise the degree of influence and impact it was able to make in its first few years of operation.

Boardman River Advisory Council

Description of the Watershed. The Boardman River Watershed (see Figure 3) covers some 347 square miles in Kalkaska and Grand Traverse Counties.⁴³ The Boardman River, the focal point of this developing watershed, has its headwaters in Kalkaska County where the river flows westerly to Traverse City. The main stem of the river covers some 30 miles from its beginning through heavily wooded state forest areas. The natural character of the stream, however, is contributing to the continued growth and development of the recreation potential in and around the Traverse City area. As sites become scarce in this area, it is expected that development will begin to move along the river's tributaries and on into more remote stretches.

The soil is relatively stable and stream quality remains high due to the density of vegetation that lines most of the river's banks. Most of the soil in the watershed is either sandy (higher areas), which contributes to high infiltration, or largely muck as is characteristic of some of the low lying areas contiguous to the stream. It is in these muck areas that concern over restricting development is highest. Outside of some problems with the Village of Kalkaska's sewage effluent⁴⁴ and with Traverse City in raising the water level of the river, there are currently no serious problems with water

⁴³ Student Water Publications. Michigan's Boardman River. (East Lansing, Michigan: Michigan State University, Student Water Publications), p. 25.

⁴⁴ State of Michigan, Bureau of Water Management. Water Quality of Selected Lakes and Streams in the Grand Traverse Bay Region. (Lansing, Michigan: Bureau of Water Management, 1970), pp. 10-11.

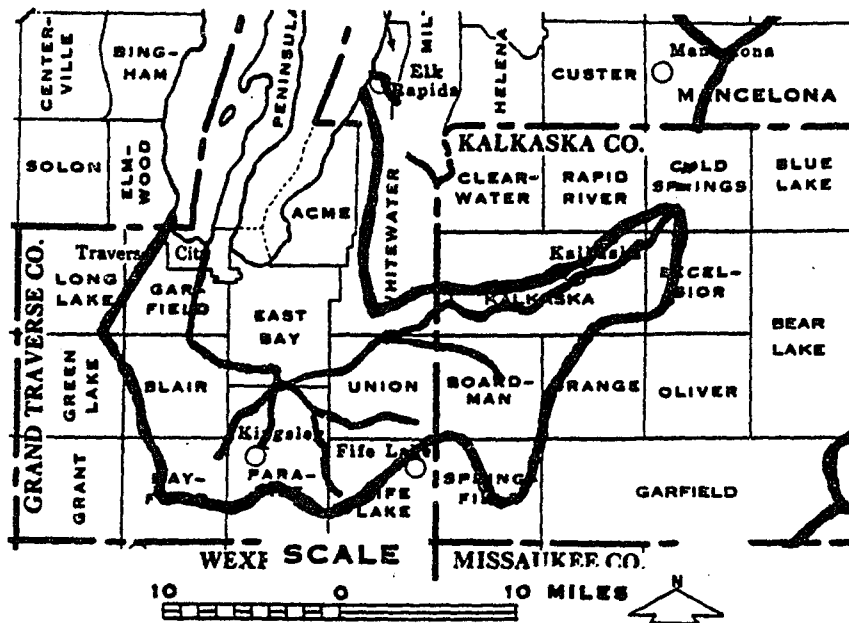


Figure 3. Boardman River Watershed

quality on the Boardman.⁴⁵ What has been recognized, however, are potential threats to the water quality. Among those issues and concerns identified are oil and gas drilling, pipelines and construction practices, highway location, development along the stream, location of sanitary landfills and others.⁴⁶ It has been along some of these lines that the Boardman River Advisory Council has focused its attention and directed its efforts.

History and Development of the Boardman River Advisory Council.

Largely in response to a calling from the League of Women Voters in Grand Traverse County and the general awareness that the quality of the watershed was beginning to decline as a result of rapid development in and around the Grand Traverse Bay area, the Boardman River Advisory Council was organized May 27, 1969. The Council adopted a watershed-wide perspective and selected as its purposes the following:

- (1) Study land and water uses of the Boardman River drainage basin, assess the changes that are taking place and formulate recommendations for review and action thereon by the member governing bodies
- (2) Develop policies and programs designed to prevent further deterioration of the quality of the water, land and related resources of the Boardman River drainage basin
- (3) Serve as a study group to assimilate and coordinate all actions concerning the Boardman River drainage basin

⁴⁵ Interview with George Sarns, Chairman, Boardman River Advisory Council, Traverse City, Michigan, March 21, 1974.

⁴⁶ Johnson, Johnson and Roy. Boardman River Study. (Ann Arbor, Michigan: Johnson, Johnson and Roy, 1973), pp. 19-24.

- (4) Serve as an advisory group to the governing bodies concerned with the Boardman River drainage basin and to promote cooperation between them
- (5) Serve as a source for educational materials and programs, and action programs pertaining to the Boardman River drainage basin⁴⁷

Membership on the Council is open to local government units in Kalkaska and Grand Traverse Counties and also to various organizations, among them the Grand Traverse Soil Conservation District, Kalkaska Soil Conservation District, League of Women Voters of Grand Traverse County, Grand Traverse J.C.'s, and the Elk River Drainage Basin Council.⁴⁸ Member units and organizations are solicited for funding support, but contributions are not required for continued membership and voting eligibility. The need for operating funds has not been critical with the Boardman River Advisory Council, as their involvement and activity has been directed more at calling for preventive measures and maintenance rather than with implementing corrective or improvement measures.

The activities of the Boardman River Advisory Council have covered a range of issues and concerns. Beginning with encouraging greenbelt zoning, the Council has also been involved in a physical survey of the river. This physical survey includes watching and

⁴⁷ Boardman River Advisory Council. Organization Bylaws. (South Boardman, Michigan, Boardman River Advisory Council, 1969), pp. 1-2.

⁴⁸ Boardman River Advisory Council. First Annual Report. (South Boardman, Michigan, Boardman River Advisory Council, 1971), p. 2.

reacting to oil and gas exploration, drilling and construction; natural rivers planning; the Atlantic Salmon proposal; cautioning against unrestricted use of ATV's; establishment of a natural education reserve; and sponsoring information meetings.

Description of the Activities of the Boardman River Advisory Council. The following descriptions of activities the Boardman River Advisory Council has been involved in are in part based on comments derived from interviews.⁴⁹ The summaries that follow are meant to provide some perspective on concerns and direction of the council and also to provide a basis upon which the overall impact of these activities on better water quality management planning can be evaluated.

1. Encouraging Green Belt Zoning

The first major project of the Boardman River Advisory Council concerned the promotion of greenbelt zoning in Kalkaska and Grand Traverse Counties. It was generally felt within the Council and the counties involved that a greenbelt ordinance would provide a stop-gap measure against unsound development and construction practices until more comprehensive zoning could be initiated.

The ordinance prepared was patterned after one developed by the Ausable River Watershed Study Council in 1968.⁵⁰ It was viewed by valley residents as too restrictive because of its provisions allowing

⁴⁹ Interview with Gordon Hayward, Past Chairman, Boardman River Advisory Council, East Lansing, Michigan, February 5, 1974. Interview with George Sarns, Chairman Boardman River Advisory Council, Traverse City, Michigan, March 21, 1974.

⁵⁰ Ausable River Watershed Study Council. Greenbelt Zoning Ordinance. (Roscommon, Michigan, Ausable River Watershed Study Council, 1968).

clearance of only 25' of river frontage, restrictions against altering land within 50' of the river, and the requirement that the house had to be the furthestmost dwelling from the river.⁵¹ The extent of opposition that developed over the ordinance resulted in an unsuccessful bid for adoption. As a result of the greenbelt proposal, a movement developed within the townships along the river to adopt zoning that would include protection of the riverbank and the water quality. The Council did, in effect, accomplish its purpose by stimulating an awareness of the importance of zoning among the townships along the river.

2. Survey of the River

The Boardman River Advisory Council sponsored a foot survey of the river to help identify problem areas. Volunteers involved included individuals and groups from service clubs, schools, and youth groups. An inventory of areas showing signs of deterioration and other current and potential hazards to water quality were recorded. The results of this survey were intended to help agencies, units of government, and individuals recognize problems within the watershed and otherwise stimulate interest in the correction of these problems.

3. Watching Over and Reacting to Oil and Gas Exploration, Drilling, and Construction

The major contribution made by the Council to water quality management has probably been in working with the Public Service Commission and the Department of Natural Resources in overseeing the

⁵¹Ibid. (A copy of the ordinance prepared by the Boardman River Advisory Council was not available for review, so reference is being drawn to the ordinance from which the Boardman ordinance was developed.)

oil and gas development in the watershed. The Council, in addition to several information-education meetings held on the subject, has developed a position paper on oil and gas development within the Boardman River Watershed.⁵² This policy has been incorporated into the overall state policy on oil and gas development. It has also been largely accepted and adhered to by oil and gas companies working in the area.⁵³

In their efforts to continue to help develop useful policy for the protection of the watershed, the Council also prepared a statement on gas pipeline duplication:

"Due to the aesthetic and environmental impact of the construction and presence of gas gathering systems in areas of high quality surface waters and great natural beauty, the Boardman River Advisory Council opposes any unnecessary duplication of facilities by Michigan Consolidated Gas Company and Consumers Power Company.

The Grand Traverse County and Kalkaska County area of the Boardman River Watershed is such an area of high quality rivers and lakes, as well as exceptional natural beauty. The wasteful destruction of this land and water by pipelines and associated equipment should not be permitted.

The Boardman River Advisory Council therefore urges Michigan Consolidated Gas Company, Consumers Power Company, and the Michigan Public Service Commission to develop a "Least Destructive" gas gathering system by pipeline sharing wherever possible in this region."⁵⁴

⁵²Boardman River Advisory Council. Policy on Oil and Gas Development Within the Boardman River Watershed. (S. Boardman, Michigan: Boardman River Advisory Council, 1971).

⁵³Interview with George Sarns, Chairman, Boardman River Advisory Council, Traverse City, Michigan, March 21, 1974.

⁵⁴Boardman River Advisory Council. Policy Statement on Gas Pipeline Duplication (S. Boardman, Michigan: Boardman River Advisory Council, 1971).

Copies were sent to all units of government and to affected parties. The Council felt the responses and results to the statement were good.⁵⁵

In June 1972, the Council became concerned about siltation resulting from a Michigan Consolidated Gas Company pipeline crossing on Failing Creek, a tributary of the Boardman River. They were concerned not only because they thought a violation had occurred, but because of possible adverse effects on spawning beds downstream.⁵⁶ On discussion of the matter with the Department of Natural Resources, in light of their Stream Crossing Guidelines, it was determined that the Gas Company had failed to take the necessary precautions.⁵⁷ No action was taken against the Company, but the incident stands as an example of the "watchdog function of the Council in recognizing problems and bringing them to the attention of agencies and units of government."⁵⁸

4. Natural Rivers Planning

The Council has come out strongly in favor of the Natural Rivers Program because of the protection it would provide the river. The Council and the Traverse Bay Regional Planning Commission have taken

⁵⁵ Boardman River Advisory Council. Second Annual Report. (S. Boardman, Michigan: Boardman River Advisory Council, 1972), p. 3.

⁵⁶ Boardman River Advisory Council. Third Annual Report (S. Boardman, Michigan: Boardman River Advisory Council, 1973), p. 3.

⁵⁷ Ibid.

⁵⁸ Interview with Gordon Hayward. Past Chairman, Boardman River Advisory Council, East Lansing, Michigan, February 5, 1974.

an active role in the planning and implementation phases of the Natural Rivers Act. Largely due to the activities of these two groups, the number of resolutions necessary to begin work on a management plan have been obtained. A task force made up of local, regional, and state planning people is currently working on the development of a management plan. To date, the plan recommends that the whole Boardman River be included under the program. It also suggests that the upper reaches be designated as wild scenic, and the downriver area as country scenic.⁵⁹ The state will review the plan once it is completed, designate how the river will be classified under the program, and give the affected units of government a year to prepare natural rivers zoning. The Council will continue to provide assistance and advice to the units of government it serves that will be affected by the program.

5. Atlantic Salmon Proposal

The Department of Natural Resources developed a program proposal for bringing Atlantic Salmon into the Boardman River. The Council held several public meetings and panel discussions on the issue. They were suspicious of the implications of such a program. They cited no real objection to the salmon plant itself, but rather to the problem of controlling people if the program was instituted.⁶⁰ The Department of Natural Resources has shelved the proposal at this time on the basis of local reaction, and so that they can study further the feasibility of such a program.

⁵⁹ Interview with George Sarns, Chairman, Boardman River Advisory Council, Traverse City, Michigan, March 21, 1974.

⁶⁰ Boardman River Advisory Council. Fourth Annual Report. (S. Boardman, Michigan: Boardman River Advisory Council, 1974), p. 1.

6. Cautioning Against the Unrestricted Use of ATV's

The Council is concerned about the growing use of off-the-road vehicles and the damage that results from their unrestricted use. They have submitted a resolution to the Grand Traverse County Board of Commissioners requesting that the Board support the Council's recommendations.⁶¹ The Council's recommendations emphasize protection of sensitive areas and private property. It was their feeling, "that ATV's should be limited to the use of existing trail roads, county roads and highways, or designated trails or private lands with the written permission of the land owner."⁶²

7. Establishment of a Natural Education Reserve

Several resolutions were sponsored by the Council encouraging Grand Traverse County to formally establish and develop the Sabin Dam Recreation Area and a Natural Education Reserve Center. The area was a gift of land from Consumer's Power when they abandoned their dams located South of Traverse City.⁶³ The Council wants to see the land preserved for a park and natural-education area. When the county decides to act on the property, the Rotary and the Council will be disposed to release the money they voted to establish a natural information center within the area.⁶⁴

⁶¹Ibid.

⁶²Interview with George Sarns. Chairman, Boardman River Advisory Council, Traverse City, Michigan, March 21, 1974.

⁶³Ibid.

⁶⁴Ibid.

8. Sponsoring Information Meetings

In addition to information-education meetings and panel discussions sponsored on the issues and topics previously discussed, the Council has held special public meetings to discuss topics relating to water and related land use, solid waste disposal, water quality, the Boardman Study and others.

The Council has also worked with the Health Department to require holding tanks for all new developments in the valley. They have, in addition, through designated representatives, worked on the preparation of the Boardman River Study, a comprehensive analysis of the physical, economic, and social aspects associated with the Boardman River Watershed.⁶⁵

Evaluation and Recommendations

The following general conclusions are drawn on the contribution and impact the Boardman River Advisory Council has made in the area of water quality management planning:

- (1) Consistent with the resources available to the Council, the contribution and impact made has been positive.
- (2) Contribution has been primarily in the area of giving advice and assistance and otherwise providing information or applying pressure
- (3) Most significant impact has been felt with the Council's input in greenbelt zoning, oil and gas exploration policy, and in the Natural Rivers Program

⁶⁵Johnson, Johnson and Roy. Boardman River Study (Ann Arbor, Michigan: Johnson, Johnson and Roy, 1973.)

- (4) Impact and contribution was most effective from 1969-1972.

In the subsequent years, except for the Natural Rivers Program, there has been a decline in visible Council activity and initiative

What the Council needs, outside of a new problem, is to gather together its membership and redefine its purposes and objectives in light of current problems and issues. Specific suggestions include improvement of visibility and credibility; development by the Council's executive board a few short range action programs and establishment of a membership drive to improve participation; alignment of the Council with related organizations both within and outside the watershed; continuation and expansion of contacts such as those with the Elk River Watershed Council; and exploration of grants from foundations and other organizations on an on-going basis by a special committee. Additional funds might improve the Council's effectiveness by allowing it to engage in independent study of the watershed. Funds might also allow development of specific programs and projects such as a stream monitoring network for the Boardman.

The problems and needs laid out in the Boardman River Study give the Council sufficient reason to take a hard look at what they are doing and where they are going. The Council has provided a useful service to the area. It can continue to do so through its efforts at examining issues, problems, and concerns in promoting action.

Elk River Watershed Council

Description of the Watershed and General Water Quality. The territory of the Elk River Watershed covers some 500 square miles in Charlevoix, Grand Traverse, Kalkaska and Antrim Counties (see Figure 4). The Elk River, extending from Elk Lake to Elk Rapids on Grand Traverse Bay, is a small feature of the watershed. At one time, the Elk River stretched north-eastward to the Bellaire area. The Elk River lost most of its identity as a river as a result of the construction of dams along its length during the lumbering era. Created in the wake of these dams were a series of lakes which have come to be known as the "Chain-of-Lakes." These consist primarily of those lakes in the lower chain. These lakes are: Elk, Skegemog, Torch, Clam and Bellaire.

The lakes have become the most outstanding and valuable resource in the watershed. The watershed is considered a prime recreation area as a result of their attraction. Recreation continues to represent the largest and most extensive water use. Due to the increased demand and use being made of the lakes, water quality has become a focus of growing concern.

In a study of the lakes' water quality, the following general statements were made:

- (1) The lakes are in good condition generally, with respect to water quality. Eutrophic conditions are confined largely to the lakes in the Upper Chain
- (2) There are indications of added nutrients and a resultant change in productivity in certain areas of the lakes. The indicators are (a) algal growths along the margins of lakes;

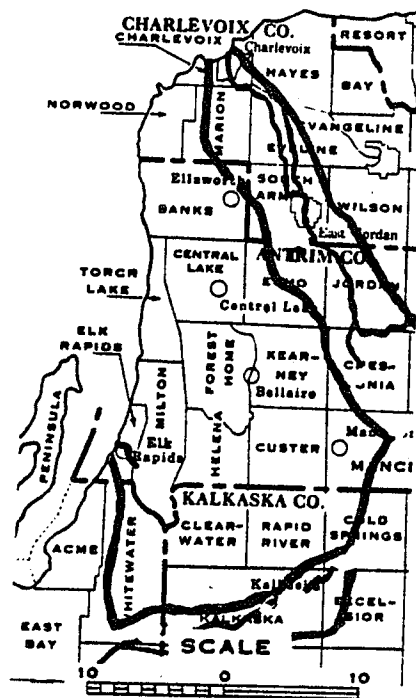


Figure 4. Elk River Watershed

(b) chemical tests; (c) aquatic insects found in the bottom muds and; (d) bacterial samples

- (3) The added use of the water by people and the increase in population around the lakes will increase the possibility of added nutrients to the lakes⁶⁶

It appears, upon more specific examination, that the most serious threats to the water quality of the lakes involves development and clearing along the shoreline, resulting nutrient enrichment from runoff, and septic tank drainage and industrial effluent.

Improvements on some local zoning regulations have helped in controlling the first of these two threats, with introduction of greenbelts and requirements for sealed septic systems. Agricultural practices are not considered a serious threat to water quality. Some feedlot drainage does occur; but for the most part, surface runoff and sedimentation resulting from farming is considered to have only a minimal impact on water quality.⁶⁷ Over-development of unsuitable land (areas like that around the Skegemog Swamp which are characterized by high water tables and poorly drained soils) is considered a serious potential erosion and drainage threat to the continued high water quality of the lower lakes.⁶⁸

⁶⁶L. Curry, Summary Report of Projects Conducted on the Chain-of-Lakes, (Mt. Pleasant, Michigan: Central Michigan University, 1971), pp. 11-12.

⁶⁷D. Benjamin; R. Brinker; C. Dalebout; W. Gill; D. Hann, A Base Line Study of the Upper Chain-of-Lakes with Reference to Several Stations in the Lower Chain, (Mt. Pleasant, Michigan: Central Michigan University, 1970), p. 7.

⁶⁸Interview with E. Dunn, Chairman, Elk River Watershed Council, Williamsburg, Michigan, April 22, 1974.

The third of these threats to the water quality of the Chain-of-Lakes concerns industrial effluent. Most of the communities in the area still rely on independent septic tanks. As a result, the opportunity for industrial tie-ins with municipal waste treatment facilities has been minimal. The problem is currently not too serious, due to the fact that few industries are tied to the Chain-of-Lakes. The last available recorded count shows the following industries operating in the Elk River Basin:⁶⁹

Columbia Fruit Division, Michigan Fruit Cannery, Inc.

Type: food

Location: Ellsworth

Receiving water: Intermediate Lake

Problems: Bean deposits causing BOD and coliforms

Elk Rapids Packing Company

Type: food

Locations: Elk Rapids

Receiving water: Elk Lake

Problems: Solids, sugars producing black fungus along shoreline

Faas Foods, Inc.

Type: food

Location: Central Lake

Receiving water: Intermediate Lake

Problems: Chrome plating wastes one or two times a year, along with copper and cyanide wastes

Central Lake Industries

Type: metal

Location: Central Lake

Receiving water: Intermediate Lake

Problems: Solids

Of the five industries, the Elk Rapids Packing Company is the only one located in the lower chain. They currently provide for some screening and odor treatment of their cherry packing wastes.

⁶⁹ Student Water Publications, The Elk River Watershed, (E. Lansing, Michigan: Michigan State University, Student Water Publications, 1970), p. 2.

The plant employs no other form of waste treatment.⁷⁰ It appears, however, that the impact of introducing wastes and nutrients has its greatest adverse effects on the shallower, less temperature-stable lakes in the upper chain: Intermediate, Central, Hanley, Benway, Wilson, Ellsworth, St. Clair, Six Mile, Scotts and Beal Lakes.⁷¹ Reductions in the water quality of these lakes will have an effect on maintaining the high water quality currently characteristic of the lower Chain-of-Lakes. Concern over this and over increasing development and use of the water resources in the lakes of the lower chain, has prompted the formation of several lake associations and a watershed council. Among their efforts have been promoting the protection and preservation of the water and land resources in the basin.

Development of the Elk River Watershed Council. The Elk River Watershed Council, originally named the Elk River Drainage Basin Council, was organized in April 1969. The Council was established to serve municipalities and organizations in Antrim, Charlevoix, Grand Traverse and Kalkaska Counties. The original stimulus for the formation of the Council came as a result of concern from within this area over increasing development and water use pressures that were felt to pose a potential threat to the protection and preservation of the water quality of the lakes in the watershed.

⁷⁰ Interview with Thomas Kampinen. Michigan Bureau of Water Management, Water Quality Control Section, Lansing, Michigan, May 1, 1974.

⁷¹ D. Benjamin; R. Brinker; C. Dalebout; W. Gill and D. Hann. A Base Line Study of the Upper Chain-O-Lakes with Reference to Several Stations in the Lower Chain. (Mt. Pleasant, Michigan: Central Michigan University, 1970).

The perspective of the Council is the entire watershed. The primary focus, however, has been the Chain-of-Lakes, especially those within the lower chain. In pursuit of this, the Council has identified the following as its purposes:

- (1) Study land and water uses of the Elk River Watershed, assess the changes that are taking place and formulate recommendations for review and action thereon by the member governing bodies
- (2) Develop policies and programs designed to prevent further deterioration of the quality of the water, land related resources of the Elk River Watershed
- (3) Serve as a study group to assimilate and coordinate all actions concerning the Elk River Watershed
- (4) Serve as an advisory group to the governing bodies concerned with the Elk River Watershed and to promote cooperation between them⁷²

In an effort to accomplish these objectives, the Council has opened its membership to representatives from local units of government and organizations within the four-county area it serves. Voluntary membership has produced something less than the total number of units eligible for membership on the Elk River Watershed Council. This has been a characteristic of all councils established under Act 200. Realization by local government units of the need to get

⁷²Elk River Watershed Council, Organization Bylaws, (Williamsburg, Michigan, Elk River Watershed Council, 1973), p. 1.

their representatives to attend meetings regularly is one of the big problems the Council has had to contend with.⁷³

The following organizations have been invited to participate on the Council:

- (1) Antrim County Farm Bureau
- (2) Antrim Soil Conservation District
- (3) Bellaire Sportsman's Club
- (4) Charlevoix Soil Conservation District
- (5) Elk Rapids Sportsman's Club
- (6) Elk-Skegemog Lakes Association
- (7) Grand Traverse Soil Conservation District
- (8) Kalkaska Soil Conservation District
- (9) Mancelona Liar's Club
- (10) Three Lakes Association
- (11) Upper Intermediate Chain-O-Lakes Association
- (12) Upper Torch Lake Association⁷⁴

Among these, the lake associations have been most active.⁷⁵ The lake associations have helped bring an element of strength to the Council through the support and activity of their membership. Developing out of this alignment has been a steady line of communication and cooperation that has, in part, contributed to the early recognition of problems in the watershed.

The members participating on the Council do not all support the Council financially. Like the other watershed councils established under Act 200, financial support has not been a prerequisite to membership or voting privileges. One exception to the voting privilege does exist with the Elk River Watershed Council. That exception is,

⁷³ Interview with E. Dunn, Chairman, Elk River Watershed Council, Williamsburg, Michigan, April 22, 1974.

⁷⁴ Elk River Watershed Council, Organization Bylaws, (Williamsburg, Michigan: Elk River Watershed Council, 1973), p. 2.

⁷⁵ Interview with Chet Worthington, Vice Chairman, Elk River Watershed Council, Williamsburg, Michigan, April 22, 1974.

"Interested individuals and representatives of the State and Federal agencies cooperating with the Elk River Watershed Council shall be eligible to participate as non-voting members of the Council and serve on committees."⁷⁶

The activities the Elk River Watershed Council has become involved in reflect a concern to first provide an information-education service to local government units and individuals, and second to assist them in promoting resource protection. Among the more prominent activities and concerns the Council has been involved in are:

- (1) Working with local government units and organizations to provide for better zoning controls and waste disposal systems
- (2) Working with the Three Lakes Association on:
 - a) getting the Grass River area established as a conservancy district
 - b) supporting water quality studies on the Chain-of-Lakes
- (3) Establishment of legal lake levels
- (4) Oil and gas exploration, drilling, and construction
- (5) Protection of the Skegemog Swamp
- (6) Request by the Elk Rapids Packing Company to continue discharging wastes into Elk Lake
- (7) Information-education services

⁷⁶Elk River Watershed Council. Organization Bylaws, (Williamsburg, Michigan: Elk River Watershed Council, 1973), pp. 2-3.

Description of the Activities and Concerns of the Elk River
Watershed Council.

(1) Improvement of Zoning Controls and Waste Disposal Systems

The Elk River Watershed Council had its beginnings rooted in concern over the need it recognized to provide for controls on development and use of the resources in the area. The Council served as somewhat of a protagonist, in that the concerns and problems it recognized were not generally shared by a majority of local government units and individuals. Units of government were concerned about tax revenues that would be lost as a result of restricting development, and individuals resented being told how to develop or use their land. In spite of the opposition it received to its recommendations, the Council began encouraging the development or improvement of zoning controls among townships in the lower watershed area.

Partially as a result of the pressure it was able to apply, the Council was successful in encouraging a number of townships to adopt or otherwise provide for improvements in existing ordinances. Among those townships adopting ordinances were all the townships in Grand Traverse County, Clearwater township in Kalkaska County, and Custer township in Antrim County.⁷⁷ Provisions for greenbelting and secondary development were built into some of these ordinances, such as the ordinance passed by Whitewater Township in Grand Traverse County. Antrim County and Whitewater Township, on the suggestion of the Council, reviewed and incorporated in their ordinances aspects from the model greenbelt ordinance drafted by the Ausable River

⁷⁷Interview with C. Worthington, Vice Chairman, Elk River Watershed Council, Williamsburg, Michigan, April 22, 1974.

Watershed Study Council.⁷⁸ The Elk River Watershed Council was also instrumental in recommending improvement of Whitewater Township's ordinances by suggesting control over secondary development (where one lot would give access to the lake for a number of subdivided lots behind it).⁷⁹ The idea was to discourage unscrupulous subdividing of off-shore property by providing limits on the density of development that was to be allowed.⁸⁰

In addition, the Council has been working with Kalkaska, Grand Traverse, Antrim and Charlevoix Counties in an effort to encourage them to draft and improve county-wide zoning and land use legislation. Utilizing soils information provided by the local soil conservation districts, the Council and the Elk-Skegemog Lakes Association have encouraged the local health departments to review their sanitary codes and require sealed septic systems in areas characterized by high water tables or poorly drained soils.⁸¹

(2) Work by the Council with the Three Lakes Association

(a) Establishment of the Grass River Conservancy

The Grass River, which connects Clam Lake with Lake Bellaire, was established as a wildlife-wilderness preserve largely as a result of the efforts and activities of the Elk River Watershed Council and the Three Lakes Association. Performing the necessary legwork of contacting property owners and securing pledges, the two groups

⁷⁸ Ibid.

⁷⁹ Ibid.

⁸⁰ Interview with E. Dunn, Chairman, Elk River Watershed Council, Williamsburg, Michigan, April 22, 1974.

⁸¹ Ibid.

assisted the Soil Conservation Service in the designation of the area as a Conservancy District. The Council was also successful in securing a grant of \$30,000 from the Kresge Foundation for establishing the preserve.

(b) Supporting Water Quality Studies on the Chain-of-Lakes

The Elk River Watershed Council and the Three Lakes Association were among the sponsors of several water quality studies performed on the Chain-of-Lakes.⁸² The objectives of these studies were to determine the quality of the lakes within the chain and to identify and locate types and sources of pollution. A variety of approaches designed to deal with the specific problems identified within the studies were developed by local units of government, organizations, and individuals using the information obtained in these studies.

(3) Establishment of Legal Lake Levels

The Council has long been concerned about the conditions of the dams on the Chain-of-Lakes and their ability to insure stable lake levels. Working with the Antrim County Board of Commissioners, the Council was able to secure the purchase of three abandoned dams (at Charlevoix, Bellaire and Elk Rapids) owned by Consumers Power Company.⁸³ The dams were originally used to raise and lower the water

⁸² D. Benjamin; R. Brinker; C. Dalebout; W. Gill; D. Haan. A Base Line Study of the Upper Chain-of-Lakes with Reference to Several Stations in the Lower Chain. (Mt. Pleasant, Michigan: Central Michigan University, 1970).

L. Curry, Summary Report of Projects Conducted on the Chain-of-Lakes. (Mt. Pleasant, Michigan: Central Michigan University, 1971).

⁸³ Interview with C. Worthington, Vice-Chairman, Elk River Watershed Council, Williamsburg, Michigan, April 22, 1974.

for power production. They were phased out by Consumers and have since fallen into disrepair. Antrim County has remodeled the dams in order that lake levels could be raised and legally stabilized.

As a result of a Circuit Court decision handed down in October 1973, legal water levels have been set.⁸⁴

(4) Concern with Oil and Gas Exploration, Drilling and Construction

The Elk River Watershed Council, in February 1972, drafted a statement on oil and gas development in which they outlined their position.⁸⁵ Within the statement, the Council identified three categories of land use where oil and gas development may or may not take place, based on the ability of various land conditions to support this type of activity. The Council also recommended the preparation, evaluation, and utilization of an environmental impact statement for all new oil and gas development.

The Council's concern is the proper regulation and location of oil and gas drilling pipeline construction. As it did following the Williamsburg incident, the Council continues to work with local and

⁸⁴Elk River Watershed Council, Minutes of a Regular Meeting, November 1973.

⁸⁵Elk River Watershed Council, Statement on Gas and Oil Policy, Williamsburg, Michigan: Elk River Watershed Council, 1972).

state agencies and units of government, individuals, companies, and interest groups toward the proper regulation and development of watershed oil and gas resources.⁸⁶

(5) Protection of the Skegemog Swamp

The Skegemog Swamp is a wildlife habitat of some 1200 acres along the Southern edge of Lake Skegemog in Clearwater Township. The Council has been working with local and state agencies including the Soil Conservation Service and Kalkaska County Board of Commissioners, local township boards, and individual landowners in an effort to put this area into a conservancy district. The approach has been similar to that followed with the designation of the Grass River area; but due to the size and landownership pattern associated with the Skegemog Swamp area, the necessary commitments from private landowners have not yet all been gained. The Council is continuing its efforts at encouraging pledges of private and state land for the purpose of creating this conservancy and preventing further development, thereby providing for the preservation and protection of the residence area of wildlife living in the swamp.⁸⁷

⁸⁶Year Old Gas Dispute Bubbles On, Detroit Free Press, April 21, 1974, p. 1;

State of Michigan, Office of the Attorney General, "Record Recovery for State from Williamsburg Natural Gas Eruptions." Environmental Newsletter, (Lansing, Michigan: Office of the Attorney General, Environmental Protection and Natural Resources Division, May 15, 1974), pp. 1-2;

State of Michigan, Department of Natural Resources, "Well Drilling Safeguards to be Discussed at Meeting," News Bulletin, Lansing, Michigan: Department of Natural Resources, May 30, 1974), p. 2.

⁸⁷Interview with E. Dunn, Chairman, Elk River Watershed Council, Williamsburg, Michigan, April 22, 1974.

(6) Concern Over the Continued Discharge of Wastes into Elk Lake By the Elk Rapids Packing Company

The Elk Rapids Packing Company, early in 1974, filed an application with the Michigan Water Resources Commission for authorization to continue discharging cherry packing wastes into Elk Lake.⁸⁸ The Elk River Watershed Council and the Elk-Skegemog Lake Association petitioned the Water Resources Commission to deny the authorization on the basis of the sludge and odor the wastes were creating. The Commission's decision was to authorize continuation of discharge under the National Pollutant Discharge Elimination System (NPDES). The packing plant was given public notice April 27, 1974, that it would be allowed to continue discharging with current screening of cherry packing wastes until May 1, 1975.⁸⁹ The packing plant, after that date, has to provide for an alternate waste disposal system. The company has since chosen the method of land disposal as preferable to the cost requirements associated with sharing the expense of a municipal treatment plant with the City of Elk Rapids.⁹⁰

(7) Information and Education Services

In an effort to educate citizens, local governments, organizations and the like on the need for resource protection, the Council

⁸⁸ Interview with T. Kamppinen, Michigan Bureau of Water Management, Water Quality Control Section, May 1, 1974.

⁸⁹ State of Michigan, Water Resources Commission, Authorization for the Elk Rapids Packing Company to Discharge Under the National Pollutant Discharge Elimination System, (Lansing, Michigan: Water Resources Commission, April, 1974).

⁹⁰ Interview with T. Kamppinen, Michigan Bureau of Water Management, Water Quality Control Section, May 1, 1974.

has taken a number of steps to encourage an awareness of problems and to suggest methods for controlling and correcting them. Among the steps taken have been:

- (1) Sponsoring an environmental poster contest in the local schools to draw attention to ecology and conservation
- (2) Publication of several information brochures outlining some common problems with suggestions for controlling land alterations, developing a greenbelt strip to reduce runoff and prevent erosion, controlling wakes from boats, and others
- (3) Informing local government units and individuals of soil erosion occurring along cleared lakefront, on improperly protected ski slopes and along state and county highways in the watershed

Evaluation and General Recommendations. The Elk River Watershed Council enjoys a particularly favorable position among the other watershed councils established under Act 200, in that it commands an element of strength and visibility missing among the other Councils.⁹¹ This is due in large part to the relationship the council has with the four lake associations in the watershed. They are the Elk-Skegemog Lakes Association, Three Lakes Association, Torch Lake Association, and Upper Intermediate Chain-of-Lakes Association. The most involved and active members on the Elk River Watershed Council

⁹¹State of Michigan, Intermunicipality Committee Act, Act 200, Public Act of 1957.

are those from the lake associations.⁹² These lake associations bring to the Council not only a steady line of information, but the ability and power to exert influence brought about by the joining of its efforts with those of the Council. The two groups are closely aligned in terms of their goals and objectives. The Watershed Council has been able, with the help of the lake associations, to make significant contributions to the protection and improvement of the water quality conditions in the area. Changes in attitudes toward zoning and land use controls as well as changes in the scope of these, preservation of environmentally-sensitive areas such as the Grass River, and assistance provided by the Council in helping establish legal lake levels have been most important in terms of the impact the watershed council has made on water quality management. The Council has also played an information-education function by identifying problems and by informing individuals, agencies and units affected of measures they can follow to control or correct water quality management problems.

The Elk River Watershed Council provides a needed service to the watershed, and can continue to do so by further strengthening its relationships with special interest groups within the watershed. The Council also needs to build on its relationships with other watershed councils and with state and regional agencies. Based on the activities and concerns the Council has involved itself in, they should have more than enough resources at their disposal to actively seek out

⁹² Interview with E. Dunn, Chairman, Elk River Watershed Council, Williamsburg, Michigan, April 22, 1974.

information from other groups on how to deal with similar problems and where to obtain further assistance. They might also attempt to seek out a broader base of representation by members and actively work on obtaining more grants similar to the one secured from the Kresge Foundation for the Grass River Area. Special projects, such as the valuable relationship built up with the lake associations, will go a long way toward helping the Council gain additional respect and visibility in the watershed.

The Elk River Watershed Council will continue to make an impact on water quality management by keeping informed and by having current knowledge of where to go and what to do in problem situations. It is important for the Council to realize that they have a valuable resource in an interested, concerned and involved membership. They should take advantage of this resource and mobilize it into an information and data gathering unit. The service the Council now provides could conceivably then be improved and expanded, resulting in an even more important role for the Council in future preservation and protection of the water and related land resources in the watershed.

Jordan River Watershed Council

Description of the Watershed and General Water Quality. The Jordan River watershed is characteristically similar to the Elk and Boardman watersheds, in that they share the same general area in the northwest portion of Michigan's lower peninsula (see Figure 5). The Jordan River Watershed is the smallest of the three, occupying some 160 square miles of largely undeveloped private land in parts of Antrim and Charlevoix Counties. The remainder, approximately 25% of the land in the watershed, is state-owned as the Jordan River State Forest and public access sites.⁹³

The Jordan River has its beginnings in Warner Township, Antrim County, and flows approximately 34 miles north to Charlevoix County where it discharges into the end of Lake Charlevoix at East Jordan. The river has two major tributaries--the Green River and Deer Creek. The river is bounded largely by wilderness and undeveloped privately-owned land. As a result of this lack of disturbance, the river enjoys a reputation for high water quality and excellent trout fishing.⁹⁴ The quality of the river and surrounding resources has served to attract an increasing number of recreationists. The problem created is primarily one of protection against overuse. There is also the problem of controlling and regulating development

⁹³J. Shauver. A Preliminary Survey of the Jordan River Watershed, (East Jordan, Michigan: Jordan River Watershed Council, 1968), p. 1.

⁹⁴J. Morgan. Biological Survey of the Jordan River, (East Jordan, Michigan: Jordan River Watershed Council, 1969), pp. 12-13.

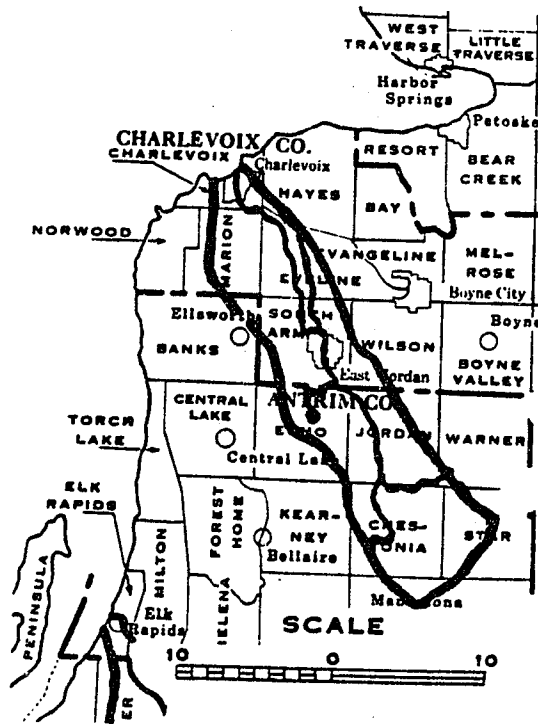


Figure 5. Jordan River Watershed

that may occur as a result of the privately-owned, undeveloped land being converted into residential use.

Most of the water quality problems in the watershed revolve around these two basic issues. There are threats to the water quality from riverbank alteration and clearance brought on by overuse and development. More specifically, this includes concern over:

- (1) Maintenance of riverbank stability
- (2) Controlling silt and sedimentation
- (3) Controlling surface runoff and erosion
- (4) Protecting fish habitats, stream temperature, and oxygen stability
- (5) Minimizing nutrient enrichment of the river from improperly located and operating septic tank systems

The single, most important step taken to help control and correct these problems has been with zoning; the most recent manifestation of this being the protection that will soon be provided the Jordan and its tributaries under the Michigan Natural Rivers Program.

Development of the Jordan River Watershed Council. The Jordan River Watershed Council was organized out of recognition by various people in the watershed of both actual and potential threats to the maintenance of the quality of the Jordan River. Established on January 15, 1968, the Council represents the culmination of efforts that began as early as 1961 to develop an organization to oversee the management of the Jordan watershed. Most of this effort was confined to a series of four public awareness meetings held in 1967. The meetings included programs, presentations, discussions, and workshops. They were promoted by the Antrim and Charlevoix County Extension Services with the objective of getting the local people involved in identifying problems, recommending courses of action, and agreeing on an approach to deal with these problems. Growing out

of the meetings was a new awareness and interest in establishing a more formal effort to study and help manage the resources in the watershed.

Due to various management alternatives discussed during the meetings, the "Save the Jordan" Steering Committee was formed to (1) examine possible enabling legislation for the establishment of a formal watershed council, and (2) involve the eleven local governments in the formal organization.⁹⁵ Act 200 was chosen as the organizational framework for the proposed watershed council on the recommendation of the Steering Committee.

With its formal organization in 1968, the Jordan River Watershed Council established the following purposes:

- (1) To study land and water uses of the Jordan River watershed, assess the changes that are taking place and formulate recommendations for review and action thereon by the member governing bodies
- (2) To develop policies and programs designed to prevent deterioration of the quality of the Jordan River watershed
- (3) To serve as a study group to assimilate and coordinate all actions concerning the Jordan River watershed
- (4) To serve as an advisory group to the governmental units concerned with the Jordan River watershed and to promote cooperation between these units⁹⁶

⁹⁵ A. Judson and C. R. Humphrys. "Save the Jordan--The Jordan River Watershed Program, (East Lansing, Michigan: Michigan State University, Student Water Publications, 1971), p. 10.

⁹⁶ Jordan River Watershed Council. Organization Bylaws, (East Jordan, Michigan: Jordan River Watershed Council, 1968), p. 1.

Membership is open primarily to townships and counties in the watershed and includes the Village of Mancelona and the City of East Jordan. As has been the case with other councils established under Act 200, selected organizations have been invited to participate, among them the Antrim and Charlevoix County Soil Conservation Districts.⁹⁷

Despite the fact that each of the government units passed a resolution supporting the establishment of a council, active participation and attendance at meetings has not been all that good.⁹⁸ Most of the program and financial support for the Council has come from the counties in the watershed.

Four program areas relative to the direction and emphasis the Council would take were established to deal with the issues facing both the Watershed Council and the watershed. Selected program areas included financing, highway development, land development and control, and the Department of Natural Resources plans for the watershed.⁹⁹ The establishment of committees to deal with problems and issues identified by the Council as being part of these program areas was the next step. Committees were appointed on land use, public relations, water use, roads and highways, and finance.¹⁰⁰

⁹⁷ Ibid., p. 2.

⁹⁸ Interview with E. Rebman, Charlevoix County Extension Agent, Boyne City, Michigan, April 23, 1974.

⁹⁹ Ibid.

¹⁰⁰ A. Judson and C. R. Humphrys. "Save the Jordan"--The Jordan River Watershed Program. East Lansing, Michigan: Michigan State University Student Water Publications, 1971), p. 10.

The activities and concerns the Council has involved itself in follow this general pattern with most of the emphasis falling on concern for providing controls to protect the river and surrounding land.

The more prominent activities and concerns the Council has involved itself in are:

- (1) Operation of the federal fish hatchery and proposed plans by the Department of Natural Resources to build a new state hatchery on the Jordan
- (2) Preparation of reports on the Jordan River
- (3) Development of a greenbelt zoning ordinance
- (4) Support and assistance to the Department of Natural Resources and local units of government in their efforts to bring the Jordan River under the Natural Rivers Protection Program

Description of the Activities and Concerns of the Jordan River

Watershed Council.

- (1) Concern over the Operation of the Federal Fish Hatchery and the Proposed Plans by the Michigan Department of Natural Resources to Build a New State Hatchery on the Jordan River

The Jordan River National Fish Hatchery near Alba became an early focus of attention by the Council as a result of the untreated effluent being discharged from the hatchery into the Jordan and two of its feeder streams. A survey was performed on the Jordan which included an analysis of the effects of the hatchery on nutrient levels present in the Jordan downstream from the hatchery. The study determined:

"The water that is returned to the Jordan River does not enter a settling or other nutrient removal system. The total nutrients discharged into the river each year is about 100 tons. The comparison of

nutrients present above, below, and in the hatchery are still apparent 0.3-0.5 miles downstream. The nutrients are those that generally aid plant growth. Upon examination, a clear conclusion is that these added nutrients stimulate marked increase algal and aquatic plant growth, which is not desirable in a stream such as the Jordan River which is an excellent trout stream because of its cold temperature and nearly complete lack of nutrients."¹⁰¹

Based on these conclusions, the Watershed Council met with the hatchery officials to discuss their findings, the operation of the hatchery, and its effect on the Jordan River. The officials initially took the position that the enrichment that entered the stream was actually beneficial.¹⁰² They did agree, however, that if an impartial study could be performed to show pollution was occurring as a result of the effluent, the hatchery would take steps to eliminate it.

A request was filed by the Council with the U.S. Department of Interior, Fish and Wildlife Service, for a follow-up study of the water quality in the Jordan River.¹⁰³ The Federal Water Pollution Control Administration (now the Federal Water Quality Administration) performed the water quality studies below the Jordan River National Fish Hatchery. It determined that the hatchery was contributing significant amounts of fish-fecal material and unconsumed fish food into the Jordan. The agency recommended the development of a settling basin to handle waste effluent from the hatchery.

¹⁰¹J. Shauver. A Preliminary Survey of the Jordan River Watershed, (East Jordan, Michigan: Jordan River Watershed Council, 1968), pp. 18-19.

¹⁰²A. Judson and C. R. Humphrys. "Save the Jordan"--The Jordan River Watershed Program. East Lansing, Michigan: Michigan State University, Student Water Publications, p. 16.

¹⁰³Jordan River Watershed Council, Second Annual Report, (East Jordan, Michigan: Jordan River Watershed Council, 1969), p. 3.

The Council was instrumental in informing the public of the fact that the federal fish hatchery was polluting the Jordan River.

Largely as a result of the pressure and influence the Council was able to exercise, the hatchery now has a settling basin designed to settle out 90% of the solid organic material from the effluent.¹⁰⁴

The proposal by the Michigan Department of Natural Resources to build a coho salmon hatchery near Chestonia was strongly opposed by the Jordan River Watershed Council. The proposal to build the new hatchery was offered in 1968 at the same time problems with the federal-fish hatchery were surfacing. The Council's opposition, as well as the opposition registered by a majority of local government units, groups, and individuals in the watershed, centered on the contention that the hatchery would pollute the Jordan with fish waste and would necessitate controls on the river during the coho spawning run.¹⁰⁵

A series of public meetings were called by the Council in an effort to draw further attention to the adverse effects associated with placing another hatchery on the Jordan River. The Department of Natural Resources, because of the extent of opposition and in an attempt to remove some of the suspicion surrounding the proposal, indicated the hatchery would not be built until it could be guaranteed

¹⁰⁴ J. Morgan, Biological Survey of the Jordan River, (East Jordan, Michigan: Jordan River Watershed Council, 1969), p. 13.

¹⁰⁵ Jordan River Watershed Council, Resolution Opposing Creation of a State Fish Hatchery on the Jordan River, (East Jordan, Michigan: Jordan River Watershed Council, 1968).

there would be no pollution.¹⁰⁶ This did not, however, allay the fears of those groups and individuals who were concerned about the impact of the coho on the ability of the Jordan to continue supporting its trout population.¹⁰⁷

The original plans to construct the hatchery in 1970 were postponed until such time as the Department of Natural Resources could verify for itself the effect of the federal fish hatchery on the river, and what effect a second hatchery might have on the water quality and the river environment. Formal action on the proposal has been delayed pending the outcome of this study. It is expected that a decision will be reached in the mid 1970's.¹⁰⁸

(2) Preparation of Reports on the Jordan River

Arrangements were made with two graduate students to perform surveys on the Jordan River. The first of these studies was made possible through a grant of \$2500 from the Michigan Water Resources Commission.¹⁰⁹ The money was used to make a study of the watershed concerning present and future land use, ownership, assessed valuation, and general soils information.¹¹⁰ The more important general findings, conclusions, and recommendations of the study were:

¹⁰⁶E. Rebman. "Save the Jordan"--The Jordan River Watershed Council, (Boyne City, Michigan: Charlevoix County Extension Service, 1971), p. 20.

¹⁰⁷*Ibid.*, p. 47.

¹⁰⁸Interview with E. Rebman, Charlevoix County Extension Agent, Boyne City, Michigan, April 23, 1974.

¹⁰⁹E. Rebman. Save the Jordan, (Boyne City, Michigan: Charlevoix County Extension Service, 1968).

¹¹⁰J. Shauver. A Preliminary Survey of the Jordan River Watershed, (East Jordan, Michigan: Jordan River Watershed Council, 1968).

- (1) Pollution of the river was occurring as a result of
 - (a) Silt and sedimentation from
 - 1) highway construction
 - 2) river bank disturbance brought on by heavy use and development
 - 3) farming practices
 - (b) Waste effluent from the federal fish hatchery
- (2) The Jordan River needs development controls to protect its high water quality and natural beauty
- (3) A watershed improvement ordinance would best provide regulation of use and development of the river and land related resources¹¹¹

The Jordan River Watershed Council used the study as a basis for focusing in on specific problems and concerns such as the position it took on the federal fish hatchery and later the proposed state hatchery.

The second of these two studies was performed in 1969 as a result of appropriations made by the Charlevoix and Antrim County Board of Supervisors. The focus of this second study was on examining the flora and fauna of the Jordan River. The objective was to assess the biological activity in the river and to provide the foundation for a continuing program of research concerning the water quality of the river.¹¹² The river survey consisted of taking bottom samples

¹¹¹Ibid., pp. 42-46.

¹¹²J. Morgan. Biological Survey of the Jordan River, (East Jordan, Michigan: Jordan River Watershed Council, 1969), p. 5.

and of classifying plant and algal growth. The general findings and recommendations of the study were:

- (1) Water quality of the river was generally good except at a few stations where nutrient levels were high as a result of beaver activity and effluent from the federal fish hatchery
- (2) The proposed fish hatchery should not be built because of the added possibility of raising nutrient levels
- (3) A greenbelt zoning ordinance is needed to regulate and control residential and commercial development occurring along the river bank¹¹³

(3) Development of a Greenbelt Zoning Ordinance

As a result of recommendations offered by the two studies performed for the Jordan River Watershed Council, greenbelt protection for the river gained additional support. The Council's land use committee was given the task of preparing a greenbelt zoning ordinance in response to this support. Sample ordinances from Wisconsin were reviewed, as well as the Ausable River Greenbelt Ordinance. The Council met with interested townships and groups to discuss the proposal and to solicit recommendations on what they thought should be covered within the scope of such an ordinance.

The greenbelt ordinance prepared by the Council provided for a greenbelt strip 400 feet either side of the river as well as specific

¹¹³Ibid., pp. 12-13.

regulations concerning minimum lot and building size, septic tank location, and restrictions on riverfront clearance.¹¹⁴

As a result of the drafting of this ordinance, the Extension Service and County Planning Commissions in Antrim and Charlevoix Counties have helped several townships in the watershed prepare or add a greenbelt clause to their zoning ordinance.¹¹⁵

(4) The Jordan River and the Natural Rivers Program

The Michigan Natural Rivers Act of 1970 provided the Natural Resources Commission with the authority to designate sections of a stream a natural river.¹¹⁶ The Jordan River, because of its natural beauty and wild and scenic character, was among the first rivers recommended for inclusion in the Natural Rivers Program. The program recommended, "...that the Jordan River and its tributaries from Rogers Bridge in Charlevoix County upstream to their source in Antrim County be designated and managed as a Wild-Scenic River."¹¹⁷ (See figure 6).

A planning committee, made up of the Jordan River Watershed Council and the Department of Natural Resources, was then established for the purpose of developing a long-range management plan for the

¹¹⁴ Jordan River Watershed Council, Proposed Greenbelt Zoning Ordinance, (East Jordan, Michigan: Jordan River Watershed Council, 1969).

¹¹⁵ Interview with E. Rebman, Charlevoix County Extension Agent, Boyne City, Michigan, April 23, 1974.

¹¹⁶ State of Michigan. Natural River Act of 1970, Act 231, P.A. of 1970.

¹¹⁷ State of Michigan. Department of Natural Resources. Summary of Tentative Proposals for State Administration of a Natural River Plan for the Jordan River, (Lansing, Michigan: Office of Planning Services, 1973), p. 1.

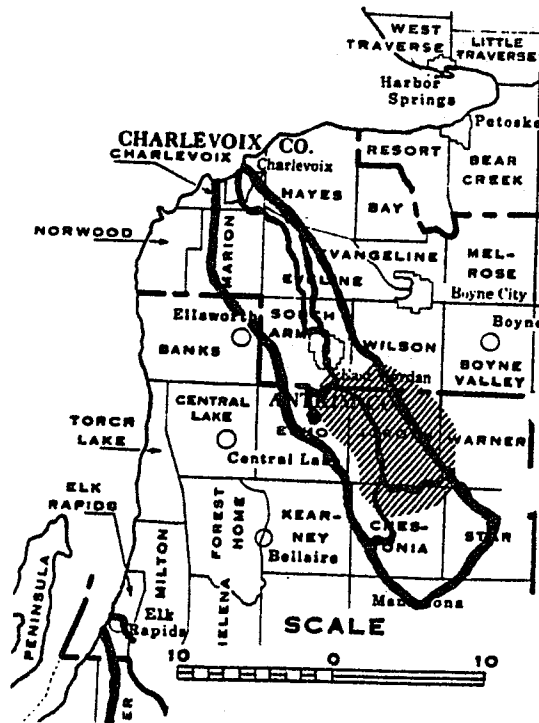


Figure 6. Jordan River Natural Rivers Zone

river. The management plan considers the most distinctive feature of the Program "...the provision for protecting rivers and their tributaries through zoning the use of land adjacent to the streams except within the units of an incorporated municipality."¹¹⁸

The Natural Resources Commission accepted the management plan in October 1972, following several public hearings.¹¹⁹ In so doing, the Jordan River became the first river in Michigan designated a Natural Wild-Scenic River (a stream with wild or forested borders, shorelands and/or backlands, in close proximity to man-made development).¹²⁰

The Watershed Council's next task was to aid implementation of the natural river district controls as specified in the management plan. Under the Natural Rivers Act (Act 231, P.A. of 1970), local governments are encouraged to establish zoning controls on their own. If local units do not establish zoning controls within one year of the formal approval of the management plan, then the zoning responsibility reverts to the State.

The Council was unable to encourage local units of government to develop zoning controls that would fulfill the requirements of the management plan. Public hearings held on the management plan

¹¹⁸State of Michigan, Department of Natural Resources. Michigan's Natural Rivers Program, (Lansing, Michigan: Office of Planning Services, 1974), p. 2.

¹¹⁹Public Hearings on the Proposed Management Plan for the Jordan River, May 25, and September 15, 1972, Bellaire, Michigan.

¹²⁰State of Michigan, Department of Natural Resources. Management Plan for the Jordan River, (Lansing, Michigan: Office of Planning Services, 1972), p. 1.

produced considerable apprehension among citizens affected by the program.¹²¹ Citizen apprehension focused on requirements in the program that would limit the use of private property.

In the absence of local zoning, the state drafted administrative procedures for the Jordan River. These tentative rules were presented to the public at hearings held January 7, 1974.¹²² Ideas and concerns expressed by the public at these hearings were incorporated into the revised version of the zoning rules.¹²³

The Council played a key role in helping bring the Jordan under the Natural Rivers Program. As a result of its participation in developing the management plan and its coordination of local efforts, the Council has helped contribute to the continued preservation and protection of the river's resources. The Department of Natural Resources will be responsible for administration of the following uses and limitations within the 400 foot Natural River District upon final approval by the Legislative Services Bureau and the Attorney General.

- (1) New buildings shall be set back at least 200 feet or out of sight of the river on the mainstream, with a 100 foot minimum setback on tributaries

¹²¹Public Hearings on the Proposed Management Plan for the Jordan River, Bellaire, Michigan, May 25, and September 15, 1972.

¹²²Public Hearing on the Tentative Rules for Jordan River Natural River Zoning, Charlevoix and Bellaire, Michigan: January 7, 1974.

¹²³State of Michigan, Department of Natural Resources, Jordan River Natural River Zoning Proposed Rules (Lansing, Michigan: Office of Planning Services, 1974).

- (2) No additional subdivisions or unplatted land sales shall be permitted unless lots have a minimum of 150 feet of frontage on the river and are of sufficient size to permit 200 foot setback of buildings
- (3) Landfills or buildings shall be prohibited in the floodplain or on uplands where the ground water level is within six feet of the surface
- (4) To protect the natural character and water quality of the river and its tributaries, no new damming, dredging, filling, or channelization will be permitted
- (5) New development, exploration or production of oil, gas, salt brine, sand and gravel, or other minerals will not be permitted within 300 feet of the river on private land or within 1/4 mile on state land
- (6) Cutting of trees and other vegetation will be restricted within 100 feet of the river and 25 feet of the tributaries, except as approved by the area forester¹²⁴

The Jordan River Watershed Council has also been involved in promoting the banning of motorboats on the Jordan, promoting with the Department of Natural Resources restrictions on camping along the riverbank, and opposing the merging of the US 31 and US 131 right-of-way through the Jordan Valley.

Evaluation and General Recommendations. The Jordan River Watershed Council's primary focus has been on the protection of the water

¹²⁴State of Michigan, Department of Natural Resources, Jordan River Natural Zoning Proposed Rules, (Lansing, Michigan: Office of Planning Services, 1974).

quality of the Jordan River. As a result, especially during the first few years of operation, they have been able to make some significant contributions to the protection and preservation of the quality of the Jordan River and its adjoining resources. The Jordan has not seriously been threatened by pollution. However, significant local reductions in pollutants that are entering the stream have been made, as in the case of the federal fish hatchery. The Council was largely responsible for bringing this to the attention of federal authorities and encouraging them to make the necessary adjustments in their waste disposal methods to restrict organic enrichment of the Jordan. Equally significant has been the contributions the Council has made to greenbelt zoning and most recently to the Natural Rivers Program for the Jordan. The impact on water quality management has been more widespread and represents even greater significance in this case. Greenbelting and natural rivers zoning represent the current front line defense against the two most important threats to the continued quality of the Jordan River--sedimentation and residential development. As a result of the role the Council has played in helping bring greenbelting and natural rivers protection to the Jordan, these threats to the river have been locally minimized.

The future role of the Council should continue to focus on these concerns, attempting to encourage portions of the watershed not adequately zoned to consider greenbelting. The Council might also make an effort to rekindle the interest in their activities that has waned somewhat in the past few years. They are currently suffering from poor attendance at meetings and less than adequate participation

and cooperation by the government units and their representatives in Council activities.¹²⁵

The Council has kept a low profile the last few years except for the Natural Rivers Program. This is evident in the extent to which it has been involved in issues and activities. The Council needs to take a hard look at the role it can play in the implementation and administration of the Natural Rivers Program and in helping downriver units with the problems they have concerning the river. The Council could conceivably provide assistance to units of government and private landowners experiencing problems with natural rivers zoning. They could serve as a liaison to the Department of Natural Resources in helping bring these local problems to the attention of the Department who is responsible for administering the program.

In addition to this function, the Council needs most to boost cooperation and communication with its member units. It would seem appropriate for the Council to redefine its purposes and goals in light of the current slowdown in activity in an effort to build a new awareness and interest in the Council. They might find it valuable to utilize some of the funds it has on hand to support one or two short range projects designed to provide an information-education service to the units and/or citizens within the watershed. A landowner's guide to protecting the water quality of the Jordan might be one possibility. Units of government periodically need to be reminded of the benefits of financial or representative support

¹²⁵Interview with E. Rebman, Charlevoix County Extension Agent, Boyne City, Michigan, April 23, 1974.

given to the Council. For instance, providing units with a resource guide outlining where local units of government can turn for help on specific problems might be of interest. Certainly, a periodic newsletter and an occasional visit by representatives from the Council would help stimulate interest and possibly renewed activity on the Council. The information-education function of the Council should be reviewed with the idea to expand the service the Council currently provides its supporters. Realization of the importance of the Council in the continued preservation and protection of the watershed will then be more broadly recognized.

Kearsley Creek Preservation Council

Introduction. The Kearsley Creek Preservation Council occupies a unique position among the rest of those Michigan watershed councils established under Public Act 200 of 1957. In addition to being the most recently organized (February 1972), the Kearsley Council provides an interesting variation in its interpretation and application of Act 200 as well as in its formation and scope. Its purpose has followed a very specific course, that of preservation of riparian property owners' interests.

This section deals with an examination of the history and background of this Council, taking a look at its activities and its objectives. Due to its recent formation, specific concerns, intermittent activity, and its less-than-watershed wide perspective, it will be difficult to offer an evaluation of how effective an impact this group has had on planning for better water quality management. Suggestions will be made as to how the Council might either widen its perspective to provide a service to the entire watershed or otherwise improve on the goals it has currently established for protecting the creek area.

Physical Description of the Creek and the Watershed. Review of Figure 7, shows the Kearsley Creek Watershed to be small in comparison to other watersheds, draining an area of 113 square miles in Oakland and Genessee Counties.¹²⁶ The Kearsley Creek, approximately

¹²⁶ Bureau of Water Management, Water Quality Study, Flint River Tributaries, (Lansing, Michigan: Bureau of Water Management, 1970), p. 8.

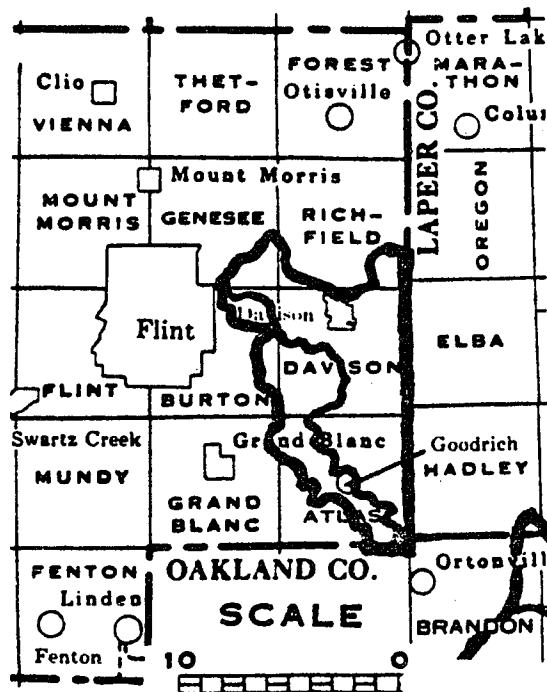


Figure 7. Kearsley Creek Watershed

25 miles long, flows northwest from its beginnings in Lake Louise in Brandon Township, Oakland County, to its outlet in the Flint River just west of the Kearsley Reservoir.

The creek is a relatively shallow, meandering stream with a slow but steady flow over its 250-foot drop on its way north to Flint.¹²⁷ The stream is relatively narrow, ranging between ten and twenty feet in width.¹²⁸ Several dams have been built on the creek, the largest creating the Kearsley Reservoir. The others provide impoundments near Goodrich and Atlas.

At the headwaters of the Kearsley Creek, the predominant form of land use is agricultural, while the area north of the Black Creek juncture is characteristically more residential. Largely as a result of this phenomenon, the water quality of the upper Kearsley Creek is generally good, contributing to the recreational qualities and rising property values of the immediate stream area.

The Bureau of Water Management collected and reviewed water quality data from Kearsley Creek. Their analysis reveals that though the stream is turbid in color for much of its length, steady stream flow and a diverse, well-balanced stream biota indicate that the stream, at least from Lake Louise to Davison (which makes up approximately 18 of the stream's 25 miles) is basically clean and suitable for a variety of recreational and agricultural purposes.¹²⁹ From

¹²⁷Student Water Publications, Kearsley Creek, Genesee County, Michigan, (East Lansing, Michigan: Student Water Publications, 1971), p. 1.

¹²⁸Ibid., p. 23.

¹²⁹Bureau of Water Management, Water Quality Study, Flint River Tributaries, (Lansing, Michigan: Bureau of Water Management, 1970), pp. 2-3.

Davison to the stream's mouth in the Flint River, the flow is slower contributing to greater deposits of organic materials and more developed bottom growth. Also characteristic of this more highly developed area are problems associated with industrial waste discharge, as well as situations where the Creek receives discharges of raw or semi-treated domestic sewage, dry weather discharges from storm sewers, and erosion from highway construction occurring in and near the Flint area.¹³⁰

Backdrop to the Formation of the Kearsley Creek Preservation Council. The Kearsley Creek Preservation Council, as it is known today, had its early beginnings rooted in a regional park proposal offered by the Genesee County Parks and Recreation Commission in 1972. The stimulus for this proposal was a recreation and open space study on the Kearsley Creek Watershed.¹³¹ The study was performed in 1971 by Michigan State University under the financial support of the Cooperative Extension Service, the Genesee County Board of Commissioners, and the Genesee County Parks and Recreation Commission. Based largely on statements derived from this study and a similar one conducted on the Upper Flint River Watershed, it appears that there was no immediate need for additional park space.¹³² There

¹³⁰ Ibid.

¹³¹ Student Water Publications, Kearsley Creek Watershed-Recreation and Open Space Study, (East Lansing, Michigan: Student Water Publications, 1971).

¹³² Student Water Publications, Upper Flint River Watershed Recreation and Open Space Study, (East Lansing, Michigan: Student Water Publications, 1971).

was, however, a need felt to assess the resource base and take steps to insure its future protection.¹³³

The objectives of the study were to identify and pinpoint the high value open space and recreation areas of the Genesee County portion of the Kearsley Creek Watershed (some 82 miles) and to describe the potential recreation uses of each site.¹³⁴

A plan for preserving and developing the Kearsley Creek flood plain was recommended. The scheme identified seven areas that were felt to have attractive recreational and educational potential.

These areas consisted of:

- (1) The Kearsley Creek Reservoir
- (2) A conservation-education area, the For Mar Nature Preserve and Arboretum
- (3) A River Recreation Zone (from Atlas to Davison)
- (4) A historic district centered on the 19th century mill at Atlas
- (5) A wildlife habitat zone above Atlas
- (6) Two urban river bank areas near Davison and Goodrich.
- (7) A scenic drive¹³⁵

The river recreation zone was the most extensive of these areas.

It was this greenbelt zone that was to become the focus of attention

¹³³Student Water Publications, Kearsley Creek Watershed, Recreation and Open Space Study, (East Lansing, Michigan: Student Water Publications, 1971), p. 11.

¹³⁴Ibid., p. 1.

¹³⁵Ibid., p. 13.

as the proposal for developing it into a multi-purpose recreation area began to take shape. (This area also served to identify the primary focus of the Kearsley Council following its reorganization in December 1972.) Both studies went on to recommend a call for action for bringing these areas into public recreational use.¹³⁶

A quote from the Upper Flint River Watershed, Recreation and Open Study is representative of this calling:

"...Many private landowners have recognized the value of lands associated with the water environment and have posted them for no trespassing and no public use. While no one associated with this study would dispute the right of private ownership to restrict the use of their lands, such posting is indicative of the need for continual acquisition and development of public lands for use by those individuals who cannot afford their own private piece of the countryside.

Lands suggested for inclusion within this study would provide much of the land required for open space and recreational activities by residents of the region over the next twenty-five to thirty year period. Many of the areas can be acquired at a reasonable cost today because there is little development associated with them, particularly in the northeastern part of the watershed. The cost of these lands increases every day and action must be taken in the near future if significant sections of the area are to be preserved."¹³⁷

In response to this quote and recommendations offered in the studies, the Genesee County Parks and Recreation Commission, early

¹³⁶ Student Water Publications, Kearsley Creek Watershed, Recreation and Open Space Study, (East Lansing, Michigan: Student Water Publications, 1971).

Student Water Publications, Upper Flint River Watershed Recreation and Open Space Study, (East Lansing, Michigan: Student Water Publications, 1971).

¹³⁷ Ibid., p. 31.

in 1972, drafted a proposal for the development of three regional parks: Flushing-Montrose Park, Swartz Creek Park and Grand Blanc-Goodrich Park. The development plans not only generally followed the areas recommended in the study, but they also expanded on the above quote in suggesting a \$35 million dollar bond issue, \$20 million of which was ear-marked for land acquisition.¹³⁸ The major objective of the new park areas was to "...obtain sufficient recreation areas in various parts of the county to serve the anticipated needs of the residents for the time period of 1972 through 1990. Emphasis was placed on the need to acquire the park land now prior to other development."¹³⁹

It was about the time this proposal surfaced that the Kearsley Creek Preservation Council was formed. The Intermunicipality Act was chosen for the purpose of providing interested municipalities in the watershed with an organizational framework for preserving and protecting the Kearsley Creek.¹⁴⁰ This provided them with the foundation for "...studying area governmental problems of mutual interest and concern, recommending action to the participant municipalities, and accepting gifts and grants in furtherance of the objectives of the committee."¹⁴¹

The Kearsley Creek Preservation Council, as it was originally called, adopted the following objectives for the watershed area:

¹³⁸Ibid., p. 34.

¹³⁹Ibid., p. 36.

¹⁴⁰Act 200, Public Act of 1957.

¹⁴¹Ibid., p. 1.

- (1) Study land and water uses of the Kearsley Creek Watershed, assess the changes that are taking place and formulate recommendations for review, and action thereon by the member governing bodies
- (2) Develop policies and programs designed to prevent further deterioration of the quality of the water, land and related resources of the Kearsley Creek Watershed
- (3) Serve as a study group to assimilate and coordinate all actions concerning the Kearsley Creek Watershed
- (4) Serve as an advisory group to the governing bodies concerned with the Kearsley Creek Watershed and to promote cooperation between them
- (5) Serve as a source for educational materials and programs and action programs pertaining to the Kearsley Creek Watershed¹⁴²

Membership on the Council was open to the following governmental units: Atlas Township, Davison Township, Groveland Township, City of Davison, Village of Goodrich, Hadley Township, Burton Township, Genesee Township, and Ortonville.¹⁴³ In addition, the following organizations or agencies (and even individuals) could be members:

- (1) Genesee County Parks and Recreation Commission
- (2) Genesee County Metropolitan Planning Commission
- (3) Genesee Intermediate School District
- (4) Genesee County Health Department

¹⁴²Kearsley Creek Preservation Council, Organization Bylaws, 1971, p. 1.

¹⁴³Ibid., p. 2.

- (5) Flint Journal
- (6) Genesee County Board of Commissioners
- (7) Soil Conservation Service
- (8) Genesee County Road Commission
- (9) Genesee County Drain Commission
- (10) Genesee County Cooperative Extension Service
- (11) Atlas Valley Country Club
- (12) Williams Gun Club
- (13) Flint Group of the Sierra Club
- (14) Davison Country Club
- (15) Industrial Mutual Association
- (16) Genesee Sportsman's Club
- (17) Flint Environmental Action Team

...and any other governmental units or organizations or individuals may be accepted as council members by the Council.¹⁴⁴

On review of the attendance records kept by the Council, it is not evident that the membership was well represented at the meetings that were to follow.

At their organizational meeting, February 1, 1972, the Council reiterated their purposes with a discussion of how they could protect the Kearsley from sewage pollution and deterioration of its beauty and natural character. A consensus at the meeting expressed a desire for the Council to do everything possible within its power

¹⁴⁴Ibid.

to "...support our Boards and agencies in protecting the Kearsley, study changing water and land use, to develop programs and policies to prevent further deterioration of the watershed, and to advise government units on watershed problems and possible solutions."¹⁴⁵

Suggested activities and concerns took the form of having the Council:

- (1) Serve as a protective organization around the Kearsley Creek to stop dumping and trespassing
- (2) Form committees to watch pollution problems
- (3) Work with Goodrich on their sanitary sewer problems
- (4) Discourage removal of trees along the Kearsley, participate in a tree planting program
- (5) Develop policies that would further prevent deterioration
- (6) Help individual landowners with problems concerning the Creek
- (7) Advise communities on the need for zoning and otherwise assist them with developing zoning ordinances¹⁴⁶

At its next meeting in June 1972, the Council focused on the Goodrich sewage treatment problem. In general, they expressed concern over the upstream effect of sewage discharge on downstream use. The Council agreed there was a need to study present and future pollution problems on the Kearsley, though no plan of action was developed, outside of asking the Genesee County Planning Commission and the Drain

¹⁴⁵Kearsley Creek Preservation Council. Minutes of Meeting held February 1, 1972.

¹⁴⁶Ibid.

Commissioner for their future plans involving the Kearsley Creek.

The Council moved their attention to the impending bond issue vote to decide the fate of the regional park proposal. The Council held a series of informational meetings prior to the vote to discuss the implications of the plan and the probable effect this would have on the watershed. A sense of urgency developed among some of the Council's members, primarily those riparians living in the area of the proposed Grand Blanc-Goodrich Park. The Grand Blanc-Goodrich Park proposal was to provide the stimulus for the formation of a citizen's reaction group known as CCAT (Citizens Concerned About Taxes), a splinter element of the Kearsley Creek Preservation Council. This group was made up largely of riparian landowners who would be displaced if the proposal was approved. CCAT and general citizen opposition to the proposal centered on the issue of the role of private landowners in preservation of natural areas. It also centered on the increased millage, the uncertainty about "preservation," whether or not future drainage needs were more important, and the expected increased burden on surrounding taxpayers.¹⁴⁷ CCAT's position was supported by the Davison Township Supervisor and 1,000 Davison area residents in a letter to the Genesee County Parks and Recreation Commission:

"...To remove this land from our area places a burden on the ability to pay for (sewer and water) systems. To remove all road frontage would not only remove from our tax roll the highest value part of the land, but could seriously jeopardize the ability of Davison Township to pay bond payments

¹⁴⁷Letter from Genesee County Parks and Recreation Commission, February 14, 1974.

on the systems they've already installed. We also question the ability of our people to pay another mill and a half for the construction and maintenance of parks when they are facing at this point a possible increase in millage on a public utility system that has to remove the burden that you are putting upon it. I have in my possession petitions presented to the Davison Township Board on July 10, at their regular Township Board meeting containing over 1,000 signatures of Davison area residents which are saying basically the same things I am."¹⁴⁸

The Genesee County Parks and Recreation Commission did not dispute that conflicts would arise between the park plans and local development plans. They did, however, indicate that they believed removal of the private property for the park would be gradual and that the effect on the area tax base would not be critical, based on the expected tax money from developers who would build businesses on the edges of the park.¹⁴⁹

The park proposal was eventually presented to the people of Genesee County in the primary election held in August 1972. Their reaction to the plan was negative and according to the Parks and Recreation Commission, "...seemed to be based on opposition to any additional taxes, loss of tax base to the various townships, and definitive proposals for development."¹⁵⁰ As a consequence of this bond issue defeat, the Parks and Recreation Commission rescinded all action for the establishment of new park areas.

¹⁴⁸Letter to Genesee County Parks and Recreation Commission, July 13, 1972.

¹⁴⁹The Flint Journal, June 2, 1972.

¹⁵⁰Letter from the Genesee County Parks and Recreation Commission, February 14, 1974.

A movement generated largely within Davison and Atlas Townships for changing the perspective of the Kearsley Creek Preservation Council emerged from this defeat. They wanted the Council to take on a more limited area of concern--primarily that of Davison and Atlas Townships. It is suspected that the change in council perspective was brought on largely by a desire among the riparians living in these townships to obtain organizational legitimacy and a rallying point against any future threats on both private landownership and privately-conducted natural preservation. The Davison-Atlas Inter-municipality Committee for the Preservation of the Kearsley Creek Basin was established by resolution of the Davison and Atlas Township Boards on December 18, 1972.¹⁵¹ The current Council dates its formation from this point and has maintained Kearsley Creek Preservation Council as its name, despite its more limited perspective as outlined in part three of the Amended Bylaws:

"The area of land covered by the duties and responsibilities of this committee shall be the Kearsley Creek Basin located within the Townships of Atlas and Davison, Genesee County, Michigan, and the headwaters thereof."¹⁵²

Membership on the Council is now formally restricted to appointees from the two townships. In a statement by the Council, however, "The membership at large of the Kearsley Creek Preservation Council is visualized to be all of the riparian property owners along the

¹⁵¹Kearsley Creek Preservation Council (Amended Bylaws, December, 1972).

¹⁵²Ibid., pp. 1-2.

Kearsley Creek watercourse."¹⁵³ Two other changes were made in the bylaws to reflect additional purposes:

- (1) To aggressively and creatively study and recommend action to the respective governing bodies and to take such action as will effectively fulfill the purposes of preserving the Kearsley Creek Basin recognizing the rights of private ownership therein, as well as the interest of the public in general
- (2) To receive grants from any public source or private source to aid in the accomplishments of the purpose of the committee. To accept and receive voluntary grants of title from interested land owners in the name of respective townships for the purpose of preserving and improving the Kearsley Creek Basin.¹⁵⁴

Based largely on the Council's short life span, it is difficult to assess at this point, just how well the Council has made an attempt to pursue its expressed purposes.

Activities of the Kearsley Creek Preservation Council. The activities of the Council since December 1972, reflect an effort by the group to provide some kind of service to the riparian owners along the watercourse. They have maintained a relatively low profile, cautiously attempting to develop an information base from which they could propose

¹⁵³Kearsley Creek Preservation Council (statement presented at the annual meeting of the Michigan Association of Watershed Organizations, Mt. Pleasant, Michigan, March 28, 1974), p. 1.

¹⁵⁴Kearsley Creek Preservation Council (Amended Bylaws, December 1972), p. 2.

future activity. The Council has attempted to build awareness among riparian owners by providing them with information they feel would be of interest. In addition, the Council is currently in the process of developing an inventory of riparians along the Creek. This will be used as a point of contact for introducing Council ideals and for introducing plans for protection of the Creek. The Council's scheme for protection does not include acquisition, but rather is built on the cooperative efforts of riparians. Once developed, the plan envisages obtaining pledges from property owners to maintain natural areas or to otherwise provide greenbelt easements that will insure protection without acquisition.¹⁵⁵

Roles and Recommendations. Based on an evaluation of the Council's activities and short life span, it is apparent that outside of whatever information role the group has played with riparians, it hasn't yet made any measurable impact on water quality management planning. The extent that this may change in the future hinges on the approach taken by the Council.

It is conceivable that the Kearsley Creek Preservation Council could, through the activities and programs outlined by the original council, make an impact on local water quality management planning focusing on the Atlas-Davison Township area. The Council, with its current focus, might also explore whether its interests might be served better under the auspices of some other organizational framework better aligned to its purposes, i.e., the Michigan Riparian Association located in Kalamazoo.

¹⁵⁵ Interview with Robert Williams, Chairman of the Kearsley Creek Preservation Council, November 29, 1973.

As it currently stands, the Council represents the interests of a particular segment of the watershed, namely the Davison and Atlas area. It is suggested that if the Council is not committed to resuming a watershed-wide perspective, then it might consider adopting the name change brought on by the Bylaw Amendments--the Atlas Division, Kearsley Creek Preservation Committee.

If a watershed perspective is desired (which in terms of overall water quality management planning would be more beneficial), then it is suggested that the Council readopt its original bylaws and purposes outlined in 1971. After a test period of operation, with active participation among its members, the Council could decide on a specific course of action, including (but not limited to) the original purposes outlined.

There is, regardless of which approach is taken, merit in the initiative to develop a communication and information link with other watershed councils and organizations. An example of the potential value of communication with other Councils is the outcome of a special project currently being performed by the Huron River Watershed Council.¹⁵⁶ The focus of that study is selected creeks in the Huron River watershed with the objective of developing a scheme and handbook for protecting them.

¹⁵⁶Huron River Watershed Council, Creeksheds Project, (Ann Arbor, Michigan: Huron River Watershed Council, 1974).

Overall Conclusions and Recommendations

The ability of watershed councils established under Act 200 to make an impact on water quality management was examined through an analysis of their activities and functions. Keeping in mind that the enabling act limits groups organized under it primarily to a study function, it was generally determined that watershed councils established under Act 200 have, in varying degrees, been able to impact water quality management. This impact has, in general, been the result of the following:

- (1) Advice and assistance councils have provided local units of government, groups and individuals
- (2) Information and education services
- (3) Influence and pressure tactics
- (4) Alignment with related groups, such as lake associations and the Soil Conservation Service

The Ausable and the Jordan River Watershed Councils have been the most successful in areas #1 and #2 (see above). The contributions and impact they have made have come largely in the form of greenbelt zoning and natural rivers protection. The Elk River Watershed Council has been most successful in areas #3 and #4. This is evident in the establishment of legal lake levels for the Chain-of-Lakes and the designation of the Green River Conservancy.

This rating of the effectiveness of the watershed councils is relative to a number of considerations. Most of the watershed council activity considered, with the exception of natural rivers zoning, is

a result of the evaluation of the first few years of operation. The fact that the councils named were all formed prior to the summer of 1969, would suggest that the impact the councils have made in the last two years has not been as significant as that of their first few years of operation. This was evident in both the recent lack of available information and with respect to much poorer participation and representation by members on the councils.

The Boardman River Watershed Advisory Council, established after the Ausable, Jordan, and Elk Watershed Councils, counts its participation and role in greenbelting and natural rivers zoning and in guiding oil and gas policy among its most significant contributions. The Boardman Council, however, has appeared to have suffered the most from a recent lag in activity. The Annual Report for 1973 shows only one meeting was held during the year.¹⁵⁷

The Kearsley Creek Preservation Council, formed in February 1972, is still trying to establish itself primarily as a spokesman for riparians and has not as yet produced any real formal activity upon which it could be evaluated.

Less than adequate participation by members in council activity was the problem most frequently cited by the councils. Despite this fact, none of the councils has attempted to establish a program for improving interest and involvement in council activity. The council represents a voluntary effort. This, and the fact that direction has come mostly from the hands of a small group within the council, compounds the problem.

¹⁵⁷Boardman River Advisory Council, Annual Report (South Boardman Michigan: Boardman River Advisory Council, 1973).

The majority of councils did not feel that lack of funds or more specific authority restrained their ability to make an effective contribution to water quality management. The consensus was that Act 200 was adequate for the study, education, and advisory roles they wish to play. Conversations held with watershed council spokesmen revealed that limited budgets and voluntary membership, in their opinion, restricted output in certain activity areas. The general feeling was that bringing attention to problems, working with units and organizations on their correction, as well as communicating or distributing whatever information they found to be of value are their most beneficial forms of action. On the basis of the scope of activity that is possible under Act 200, it would not appear necessary or politically attractive at this time to consider a change in the Act since the resource base within the councils remains not fully utilized.

Out of this review of problems and examination of council activity, the following suggestions and recommendations are offered for consideration. These represent general highlights of more specific recommendations offered at the conclusion of discussion of each watershed council. Watershed councils established under Act 200 should consider the following:

A. More efficient utilization of resources at the council's disposal

(1) Improving member interest and participation

establish a system of committees to better distribute and share responsibilities for dealing with various issues before the council, such as soliciting new members

identify short term programs and projects that have as their goal providing a service

consider involvement of more interest groups and provide for individual membership in the council

- (2) Use of council funds to support a regular newsletter
- (3) Actively work on securing grants from federal, state, regional, and local agencies and foundations to support special projects

B. Improving communication and coordination with state, regional, and local agencies and units of government

- (1) Solicit Department of Natural Resources participation in programs operating in the watershed, e.g., assist in administration of natural rivers zoning
- (2) Take the initiative to set up frequent lines of communication with other watershed councils; with state, regional, and local agencies and units of government
- (3) Explore with other watershed councils the possibility of establishing a coordinated approach to watershed management on a multi-watershed basis

C. Periodically there should be internal review of watershed council policy, activity, goals, and objectives in light of current issues, problems and needs within the watershed

In addition to the recommendations mentioned, it would be useful for the councils to examine the suggestions offered at the conclusion of this report.

REVIEW OF MICHIGAN WATERSHED COUNCILS ESTABLISHED
UNDER ACT 253, P.A. OF 1964 (AS AMENDED)

Introduction

Prior to the creation of the Local River Management Act,¹⁵⁸ (see Appendix B, page 245), units of government interested in cooperatively working on local and regional problems found an organizational framework under the Intermunicipality Committee Act.¹⁵⁹ The primary focus of this act was to provide for various cooperative arrangements between municipalities and other local government units for the provision of community services and related community facilities. It was adapted to also provide for the study of watershed problems but its adequacy was felt to be less apparent, especially in the downstate watersheds.

In response to a need expressed within the Huron River Watershed for a more formal authority or mechanism to study and recommend solutions to problems having more of a watershed than strictly municipal perspective, the Local River Management Act was passed. The Act provided for the creation of an organization; namely, a watershed council to study problems, recommend solutions, and otherwise assist state and local government agencies in their dealings with water on a

¹⁵⁸State of Michigan, Local River Management Act, Act 252, P.A. of 1964, as amended.

¹⁵⁹State of Michigan, Intermunicipality Committee Act, Act 200, P.A. of 1957.

watershed basis. As reflected in the comments of one of the Act's sponsors, "the rationale for watershed councils was the need to establish an advisory group wherein people living along the river could work jointly on the study and solution of local issues and problems."¹⁶⁰

Since the creation of the Local River Management Act, three watershed councils have been formed. They are (in order of their formation): Huron River Watershed Council (1965); Grand River Watershed Council (1966); and Clinton River Watershed Council (1971). (A fourth watershed council representing the River Raisin Basin is expected to be formed late in 1974.) The areas numbered on Figure 8 identify the watersheds currently represented by a watershed council.

This report will attempt to examine and evaluate the background and history of these councils by taking a look at the activities and programs they have been involved in, as well as the approach taken to accomplish or implement them.

A determination of the relative impact and degree of effectiveness that each council has made to better water quality management will be made in the analysis and concluding remarks sections of the report. This determination will be based largely on review of council activities, functions, programs, supporting material, interview comments, and results of surveys.

An examination of the enabling legislation will be made prior to the discussion of the individual councils. Provisions in the

¹⁶⁰ Interview with Senator Gilbert E. Bursley, January 8, 1974.

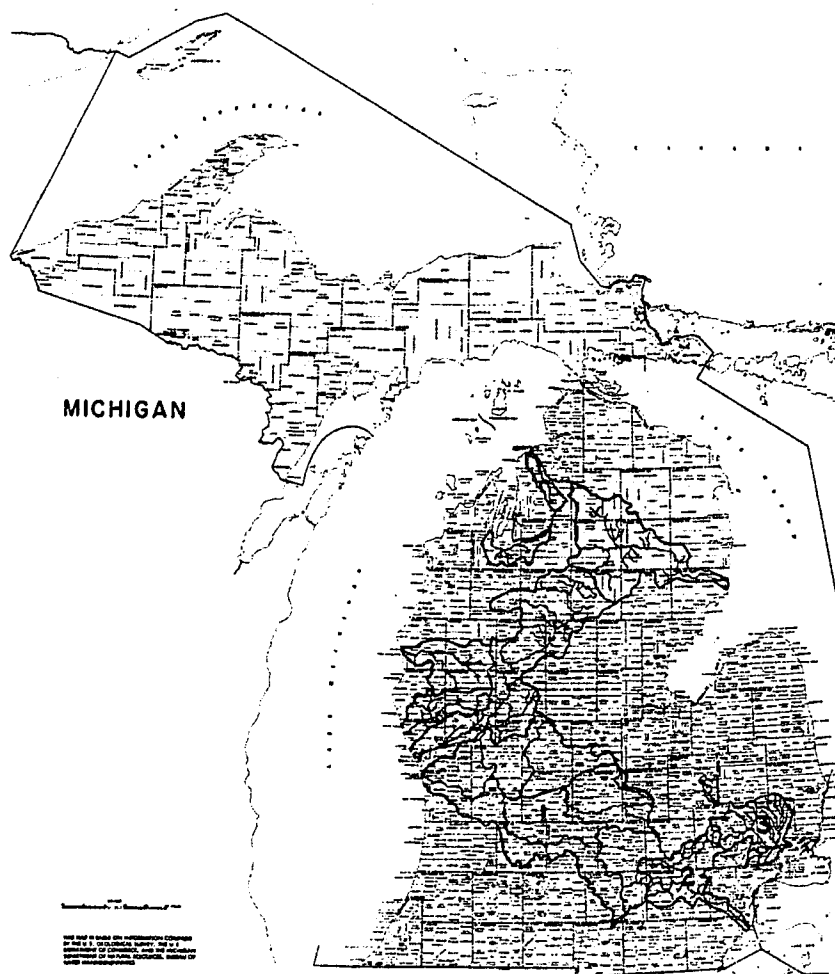


Figure 8. Watershed Councils Established Under Act 253

1. Grand River Watershed
2. Huron River Watershed
3. Clinton River Watershed

legislation that outline functions and authorities will be examined.

In addition, some discussion will be devoted to those shortcomings observed with the legislation and the attempts made to remedy some of them.

Review of the Enabling ActProvisions

The Local River Management Act was designed to improve on Act 200 by making available to those watersheds having more water quality related problems, and in need of more specific legislation, a choice for organization. The intent of Act 253¹⁶¹ is to broaden the perspective provided by Act 200 and to specify the functions and responsibilities available to watershed councils organizing under it.

As the preamble to the Local River Management Act states, this is

"An act to enable local units of government to cooperate in planning and carrying out a coordinated water management program in the watershed which they share."¹⁶²

To promote this cooperation in watershed management, the Act provides for the formation of a watershed council "upon a petition from 3 or more local governments lying wholly or partially in the watershed..."¹⁶³

Having met these conditions, this council formed to represent the government units in a watershed may then perform the following functions:

- (1) Conduct, or cause to be conducted, studies of the water resources of the watershed, including investigations of water uses, water quality and the reliability of the water resource
- (2) Prepare periodic reports concerning, among other things, trends in water use and availability, emerging water problems and recommendations for appropriate public water resources for the watershed area

¹⁶¹State of Michigan, Local River Management Act, Act 253, P.A. of 1964 (as amended), p. 1.

¹⁶²Ibid.

¹⁶³Ibid.

- (3) Request the commission to survey the watershed for the purpose of determining minimum levels of streamflow necessary for health, welfare and safety as provided in sections 13 through 18
- (4) Recommend the creation of a river management district or districts under the provisions of sections 7 through 12 when the need for river management seems to warrant such an action
- (5) Advise agencies of federal, state and local governments as to the council's view of the watershed's problems and needs
- (6) Cooperate with federal, state and local agencies in providing stream gauges, water quality sampling stations, or other water resource data-gathering facilities or programs that aide the council in its responsibility for studying and reporting on water conditions
- (7) Employ an executive secretary and such other professional administrative or clerical staff including consultants, as may be provided for in an approved budget
- (8) Establish such subcommittees or advisory committees as are deemed helpful in the discharge of its functions
- (9) Establish special project funds as needed to finance special studies outside its annual budget capacity and for this purpose the council may accept gifts and grants from private individuals, corporations and local, state or federal governments¹⁶⁴

Membership by government units on a council is voluntary with representation made possible according to the following stipulations:

- (1) Each local government using the river for water supply or waste disposal shall appoint 1 representative for each 20,000 population or fraction thereof. The governing body of each local government shall determine the method by which its representatives shall be selected.
- (2) Each county having 15% or more of its area in the watershed shall appoint 1 representative, and 1 additional representative for each 20,000 population or fraction thereof which aggregate total shall be computed from population of eligible townships not otherwise represented. Such townships shall be eligible under this section if they shall have 15% or more of their respective areas in the basin. The methods by which the county representatives are selected shall be determined by the county board of supervisors.
- (3) Any local agency wholly or partly within the basin may appoint a representative to the council upon a finding by the council that the agency is so affected by or concerned

¹⁶⁴Ibid., Sec. 6, pp. 2-3.

with the use and development of water resources in the basin as to warrant representation. If any township is represented under this subdivision, its population shall not be counted in determining the eligible total representatives of its county.¹⁶⁵

(In addition to formal representation, ex officio membership on the councils has been provided through invitation of district Soil Conservation Service representatives.)

Watershed councils established under this legislation have no legal controls over water resource activity in their watersheds, but rather are advisory in nature. This arrangement normally is sufficient if the need is primarily for cooperative studies and exchange of information. If, however, the need arises for more power and authority because of more serious problems with river levels, flow or maintenance, then the Act also provides for the formation of river management districts. Two or more local government units may petition the Water Resources Commission to establish such a district. The district would serve as the agency permitted to acquire, construct, operate, and finance water storage and other river control facilities necessary for river management. ('River management' means the control of river flow by the operation of dams, reservoirs, conduits and other man-made devices in order to improve and expand the use of the river for those who depend upon it for a variety of private and public benefits.)¹⁶⁶ Built into this definition are Craine's comments that river management "is based on the belief that storage of high flows should be used to increase and stabilize the level of dependable flows

¹⁶⁵ Ibid., Sec. 4, p. 2.

¹⁶⁶ State of Michigan, Local River Management Act, Act 253, P.A. of 1964 (as amended), Sec. 2, p. 1.

during the dry season...").¹⁶⁷ The district would be directed by a river management board which may conduct studies necessary to make their functions operational, compound and control river waters subject to the minimum stream flow levels, operate reservoirs, negotiate and contract with other government agencies on water development matters, and perform the functions of the Council if a Council has not been formed within the district.¹⁶⁸ The river management district would be a voluntary organization. It would have no authority in the area of water supply, sewage disposal, or other related public purposes. It merely provides the means whereby local units of government can join together to monitor water quality and flow, and thereby determine whether or not controlling the river will in some way provide for and maintain benefits to the communities involved.

A third feature of the Local River Management Act is that it gives the Water Resources Commission powers with respect to the low-flow period.¹⁶⁹ As this is interpreted, "the state agency would establish low-flow levels in the watershed area so that in drought periods withdrawals that are not in the best interests of the whole watershed could be prevented or, in other words, the state agency would provide a basis for apportioning the waters during the low-flow

¹⁶⁷Lyle Craine, Need for Water Legislation in Michigan, Statement presented to the House of Representatives, Committee on Water Resources, (Lansing, Michigan, June 21, 1963), p. 3.

¹⁶⁸State of Michigan, Local River Management Act, Act 253, P.A. of 1964 (as amended), Sec. 9, p. 4.

¹⁶⁹State of Michigan, Local River Management Act, Act 253, P.A. of 1964 (as amended), Sec. 14, p. 5.

periods."¹⁷⁰ Other provisions authorize the Commission to maintain gauges and sampling devices, to cooperate and negotiate with government units, and to promulgate rules.

In all, the Local River Management Act provides for the establishment of two types of machinery, the Watershed Council and the river management district. Utilizing one of these two arrangements, local units of government can, with varying degrees of authority, jointly work toward the identification, study, and solution of watershed problems.

Limitations

The primary advantage associated with the Local River Management Act is its expanded perspective beyond that of Act 200, and its more specific reference to provisions, functions, and responsibilities. Outside of this broad observation, most of the attention here will be devoted to noting some of the Act's limitations and to offering recommendations for their solution.

Shortcomings observed with the Local River Management Act were among the topics discussed at a meeting of watershed councils in 1970.¹⁷¹ The new Act shared a limitation with Act 200 in that membership on both was strictly voluntary; units of government eligible for membership could not be compelled to join. Specific to Act 253 were certain stipulations built into the legislation limiting

¹⁷⁰ Huron River Watershed Intergovernmental Committee. Proceedings of the Conference on the Importance of the Management of the Huron River Watershed (Ann Arbor, Michigan, 1963), p. 33.

¹⁷¹ Conference on Organized River Watershed Councils, September 24, 1970.

membership to those units qualified.¹⁷² The stipulation for limited membership contributed to the uncertainty of how many units of government would join, or how many would continue membership on a council. Subsequently, the amount of revenue from appropriation that a watershed council would have available from participating units to plan for its programs and activities was uncertain.

When the Act was passed in 1964, it was generally felt the water management contributions made by a watershed council to the overall state effort could be made by voluntary cooperative action, and therefore more specific enforcement and regulatory powers would not be necessary. After several years of experience with two watershed councils (the Huron and Grand River Watershed Councils), it became apparent to the participants attending the conference¹⁷³ that the Act needed to be amended. The first attempt at changing the legislation involved the proposal of two amendments, one concerning membership, the other financial aid.

The first of these amendments, H. B. 5423, proposed to deal with the problem of membership eligibility by extending the scope of the title to include not just local units of government, but other affected individuals or groups, as well.¹⁷⁴ One of the underlying

¹⁷²State of Michigan, Local River Management Act, Act 253, P.A. of 1964, Sec. 4, p. 2.

¹⁷³Conference of Organized River Watershed Councils, September 24, 1970.

¹⁷⁴Michigan, Congress, House, An Act to Amend the Local River Management Act of 1964, (as amended), 1971, H.B. 5423.

purposes of the amendment was to more effectively allow for all organized watershed councils and related organizations to form under one act. The principal argument for the bill was that it "...would principally revise council or group membership requirements in a manner which would provide flexibility so that watershed councils or groups which were previously formed under other acts (because of difficulties encountered in meeting the population limitations of Act 253) could now form under Act 253 of the Public Acts of 1964."¹⁷⁵

The bill proposed to amend the original Act in four general ways:

- (1) Ambiguous and contradictory language relating to local government membership and representation on the councils would be clarified.
- (2) Classes of watershed councils, based on the size and population of the watershed, would be created, to afford the smaller or less populous watershed areas within Michigan a more realistic basis for organizing.
- (3) The concept of citizen involvement and special non-governmental organizational participation in water planning and management problems would be recognized, by permitting interested individuals and organizations, and local agencies, to participate in the council should the council so desire.
- (4) Watershed councils would be permitted to broaden the scope of their activities to include investigations of the inter-relationships of land and water use policies and programs, in recognition of the concept that water resources planning, use, and management are greatly affected by the land use within the watershed.¹⁷⁶

The intent and design of the amendment was to modify the original legislation to help bring it more in line with needs of rural upstate watershed councils and to establish representation by special membership groups.

¹⁷⁵ Department of Natural Resources. Analysis of House Bill, 5423 (Lansing, Michigan: Department of Natural Resources, 1971), p. 1.

¹⁷⁶ Huron River Watershed Council. Comments on the Proposed Amendment to the Local River Management Act (Ann Arbor, Michigan: Huron River Watershed Council, 1971), p. 1.

Questions began to surface soon after the bill's introduction on whether or not the amended provisions would indeed create the type of change intended. Comments registered at a meeting of the Michigan Association of Watershed Organizations¹⁷⁷ ran largely against the amendment. There was some doubt as to the need to include special interest groups on a formal basis. It was felt that special interest groups could already, as could any individual, attend council meetings and make an input or offer recommendations. The group also questioned how the inputs of special interest groups, say the Sierra Club, would be dealt with in relation to inputs offered by the Drain Commissioner or a representative of the Water Resources Commission. Other questions that arose involved how to require and assess payment of fees by special interest groups and how a watershed council reorganization would be affected by the Governor's regional land use organization plan if adopted. The problems that may arise in specifying what powers and duties may come in conflict with regional agencies were also of concern at the meeting.

H. B. 5423, the first of the proposed amendments, was not reported out of committee due to the conflicts previously mentioned, and also because it lacked sufficient support within the legislature for passage. A similar fate occurred to the Grants-in-Aid Bill, the second of the proposed amendments.¹⁷⁸

¹⁷⁷ Michigan Association of Watershed Organizations, Special Meeting Called by Honorable Raymond Smit for Soliciting Comments on the Reintroduction of Amendments to the Local River Management Act, Act 253, P.A. of 1964 (as amended), Williamstown, Michigan, November 3, 1972.

¹⁷⁸ Michigan, Congress, House, An Act To Amend the Local River Management Act of 1964 (as amended), 1971 H.B. 5422.

The Grants-in-Aid Bill was designed, "...to provide state grants to watershed councils to match local government contributions for the purpose of meeting operating expenses of the council."¹⁷⁹ According to the Bill, the state would annually appropriate \$250,000 from the general fund to match, on a one-to-one basis, the dollar contributions received by each council from its participating member units.¹⁸⁰ The Bill was expected to ease funding problems experienced by watershed councils, thereby providing them with adequate financial support from which they could expand on the activities and services they were currently providing their member units. A statement issued by the Huron River Watershed Council expressed that, "In addition to enabling councils that have already been created to provide additional services to its present members without increasing the financial burden on them, it is felt that enactment of this Bill would greatly stimulate new memberships in existing councils and the creation of watershed councils in other drainage basins...."¹⁸¹ Cited within the statement were some secondary benefits the Huron River Watershed Council viewed as spinoffs of the investment by the state in watershed council activity:

"While state matching funds would become part of the general operating fund of the watershed councils, much of this additional money would be used to finance limited but vitally important water resources and related

¹⁷⁹Michigan Department of Natural Resources. Analysis of House Bill 5422 (Lansing, Michigan: Department of Natural Resources, 1971), p. 1.

¹⁸⁰Michigan, Congress, House. An Act to Amend the Local River Management Act of 1964 (as amended), 1971 H.B. 5422.

¹⁸¹Huron River Watershed Council. Statement Prepared on the Watershed Council Grants-in-Aid Act, (Ann Arbor, Michigan: Huron River Watershed Council, 1971), p. 4.

land use studies throughout the basins. While such programs as water quality monitoring and flood damage avoidance and flood warning programs would be designed to meet particularly the needs of the local units of government in the basin, these and other activities which more active watershed councils would be engaged in would, at the same time, provide information which would be of significant value to the Michigan Water Resources Commission, other state agencies and agencies of the federal government in the carrying out of their programs. Therefore, program development at the local level would make necessary the expenditure of their state funds for similar programs within the watersheds, and would free these funds for use in areas of the State where the local commitment to comprehensive water resources development is less fully developed."¹⁸²

The Grants-in-Aid Bill, as did the bill that proposed to broaden membership eligibility, represented attempts to bring about some internal reorganization that was believed would help make watershed councils formed under Act 253 more responsible to local units of government.

Internal reorganization possible through the creation of a river management district did not materialize either, but this time for a different reason. A good deal of the objections registered during the time Act 253 was being debated centered on features of the section that provided for the creation of river management districts. Some concern surfaced at the state level and within some localities on the assumption that the river management district provision might interfere with procedures set up under other state laws regarding the powers and authority of drain commissioners. Private companies and utilities were also concerned as to whether it would infringe on their rights or needs to impound water for hydroelectric and other purposes.

¹⁸²Ibid.

More specifically, the City of Detroit, Department of Public Works, cited the following items as features they found to be objectionable:

- (1) The bill would tend to oppose regulation by the Michigan Department of Health in matters of water supply and sewage disposal and stream pollution.
- (2) The bill is not clear as to the protection of riparian rights of those areas not included in an established river management area that may be downstream of the area.
- (3) The bill further fragments the metropolitan area which is now suffering from existing fragmentation.
- (4) The bill would infringe on Detroit's existing service areas for water supply and sewage treatment.¹⁸³

The State Soil Conservation Committee also made some similar comments with regard to the possibility of a breach occurring in riparian interests to water within the river management district.¹⁸⁴ More recent objection to the establishment of river management districts has come from within the councils themselves. Their concern has not been with those items already mentioned, but with the timing of district formation and with reaching an agreement on how the districts would be financed. The general feeling within the Huron River Watershed Council was that there was not need, at that time, for additional regional governments. They felt that more effective

¹⁸³Letter to City Corporation Council from City of Detroit, Department of Public Works, February 28, 1964. (Clyde Palmer, City Engineer)

¹⁸⁴Letter from State Soil Conservation Committee to the Huron River Watershed Intergovernmental Committee, December 2, 1963. (Russell Hill, Executive Secretary).

local action was required instead.¹⁸⁵ The favored method of financing, distribution of short notes and contract bonds, could not be worked out to mutually satisfy the councils, partly because the original legislation was not worded correctly to insure the redemption of those bonds.¹⁸⁶

A final attempt at bringing about a change and improvement in the scope of the Local River Management Act came with the proposal for the creation of Watershed Districts.¹⁸⁷ (This proposed Act is not to be confused with Chapter 22 of the Michigan Drain Code that provides for the creation of water management districts, a description of which can be found in Extension Bulletin E-382, Drain Law for Michigan Landowners. (Michigan State University, Cooperative Extension Service, 1966, pp. 6-7). This Act proposed to consolidate water resource management and water quality control at the local level by granting the District authority to:

- (1) Exercise control over water quality within the watershed. The District may set minimum acceptable flow standards for the rivers, lakes, and streams within its boundaries. It shall license all new withdrawals from the waters of the District and review, with the power to revoke, existing withdrawals according to set criteria. The District may initiate projects to alleviate flood damage, curb siltation, or conserve the waters of the Districts. Equally important, the District shall enforce the water quality standards as applied by the Natural Resources Commission.

¹⁸⁵Huron River Watershed Council, Minutes of Annual Meeting, 1973.

¹⁸⁶Interview with John Kennaugh, Executive Secretary of the Grand River Watershed Council, Lansing, Michigan, May 3, 1974.

¹⁸⁷Environmental Law Society. Proposed Legislation for the Creation of Watershed Districts. (Ann Arbor, Michigan: University of Michigan, Environmental Law Society, 1972).

- (2) Develop water resources and related services on a scale which individual cities and counties find prohibitive. For example, the District may construct and manage recreational facilities, investigate and monitor water withdrawals and discharge into the waters of the District, and plan projects for low flow augmentation. Moreover, the District shall devise an overall plan for the watershed in order to forecast future needs of the watershed including possible water supply problems.
- (3) Coordinate water management on a watershed-wide basis and assist towns and counties within the watershed. Under this heading, the District shall install and operate a hydrometric scheme for measuring the factors which are likely to affect water resources within the watershed. The knowledge and expertise gained by such an investigation shall be passed on to each community within the District. The District shall provide plans for flood plain and shoreline zoning in towns in the watershed. It shall assist counties and municipalities with any of their water management problems and lend its considerable resources to defending the water needs and water quality of member communities. The pollution enforcement and withdrawal licensing powers will have a great impact in this area.¹⁸⁸

To carry out these functions, the proposed Watershed District Act gave the governing board of the district, "...power to tax, issue revenue, general obligation and general improvement bonds; and assess public corporations for smaller projects."¹⁸⁹

In general, the watershed district concept was proposing the establishment of another unit of government. Reaction to the proposal, as such, ran strongly against it. Examples of the type of thinking that opposed establishment of watershed districts included:

- (1) Rather than create another unit of government that would duplicate existing state activity and create conflicts in regulation and water quality surveillance, current state efforts should be strengthened.

¹⁸⁸Grand River Watershed Council, Summary of Proposed Watershed District Law, (Lansing, Michigan: Grand River Watershed Council, 1972), pp. 1-2.

¹⁸⁹Ibid., p. 2.

- (2) The proposal was threatening to the Water Resources Commission because it would, in effect, work to fractionate the water quality program in Michigan
- (3) The public would be adverse to anything that further gives any state agency or level of government taxing or bonding authority.¹⁹⁰

Comments such as these contributed to the lack of any sustained deliberation over the watershed district proposal. However, on a recent reading of legislative support for the proposal, the Grand River Watershed Council has reintroduced the Act for possible consideration and action within the forthcoming legislative session.¹⁹¹

The objective of this section has been to review the provisions and scope of the Local River Management Act and its proposed amendments. The intent was to identify both the extent of activity provided for, as well as the activity that was suggested be made possible. Analysis of the legislation and its shortcomings will help provide a basis upon which the performance of those councils established under Act 253 will later be evaluated.

¹⁹⁰Michigan Association of Watershed Organizations, Proceedings of a meeting held in Williamston, Michigan, November 3, 1972.

¹⁹¹Interview with John Kennaugh, Executive Secretary, Grand River Watershed Council, Lansing, Michigan, June 6, 1974.

Review of Individual Council ActivityIntroduction

It will be the objective of this section to briefly outline representative activities, functions, interests, and programs of the Clinton, Grand and Huron River Watershed Councils. The approach will be to identify highlights of watershed council activity and to relate this to provisions in the enabling legislation that make certain functions possible. Identification of the most representative activity will help illustrate:

- (1) Where the emphasis in council activity has been
- (2) The extent to which this activity represents application of functions made possible by the legislation

This information, in turn, will help provide an additional basis for understanding and evaluating responses of council representatives and government units to questions concerning watershed council activity.

Clinton River Watershed Council

The Clinton River Watershed is located in southeast Michigan and drains some 760 square miles of portions of Macomb, Oakland, Lapeer and St. Clair Counties (see Figure 9). The Clinton River flows south-eastward, largely through flat, urban areas. The flat topography has contributed to a number of problems associated with flooding, flood-plain development and recreation management.

The Clinton River Watershed Council was formally organized on May 13, 1971.¹⁹² The impetus for the Council's formation came from a group known as the Friends of the Clinton River, organized five years earlier to promote river cleanup projects and citizen awareness of river pollution problems.¹⁹³ An Army Corps of Engineer's proposal to retard flooding through channelization of portions of the Red Run-Clinton River area provided the immediate backdrop for the council's actual formation. Citizen concern called for the formation of a watershed council that would investigate proposals and collectively speak for units of government on issues relating to water management.

Recognizing a responsibility to provide constructive leadership in the protection and development of the Clinton River as a natural resource, the Council adopted the following as its purposes and functions:

- (1) Conduct, or cause to be conducted, studies of water resources of the Clinton River Watershed; including investigations of water use, water quality, and the reliability of the water resources.

¹⁹²Clinton River Watershed Council, Minutes of Organizational Meeting, May 13, 1971.

¹⁹³City of Pontiac, Minutes of Community Meeting, October 29, 1970.

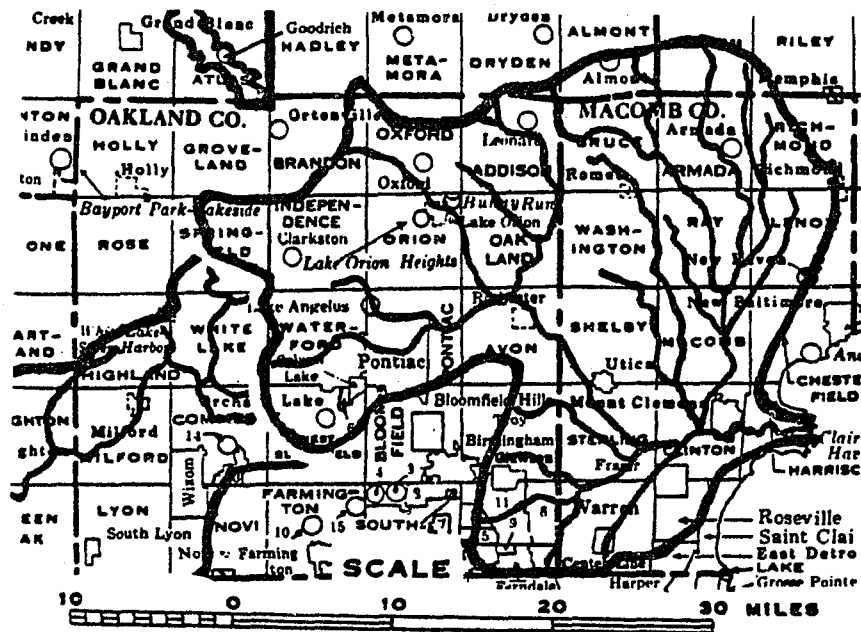


Figure 9. Clinton River Watershed

- (2) Prepare periodic reports covering among other things trends in water use and availability, emerging water problems, and recommendations for appropriate public policies and programs necessary to maintain adequate water resources for the Clinton River Watershed area.
- (3) If determined necessary by the Council, request the Michigan Water Resources Commission to survey the Clinton River Watershed for the purpose of determining maximum levels of stream flow necessary for health, welfare, and safety as provided in Sections 13 through 18 of Act No. 253, Public Acts of 1964, as amended.
- (4) Make plans for development and management of water resources and recommend the creation of a river management district or districts in the Clinton River Watershed under the provisions of Sections 7 through 12 of Act No. 253, Public Acts of 1964, as amended, when the needs warrant such an action.
- (5) Advise agencies of federal, state and local government as to the Council's view of water resource problems and needs in the Clinton River Watershed.
- (6) Cooperate with federal, state, and local agencies in providing, maintaining and reading stream gauges, water quality sampling stations, or other water resource data-gathering facilities or programs that aid the Council in its responsibility for studying and reporting on water conditions.¹⁹⁴

Prior to the naming of a full-time executive secretary, little evidence exists of activity in the direction of the purposes and functions outlined. Following the appointment of a paid staff member, the Council, in the Fall of 1972, began to set forth some basic objectives and guidelines for the activities and action of the watershed council. A "Statement of Position and Goals" was developed and set forth the Council's intent to work in support of and in cooperation with State and Federal agencies in developing programs and activities designed to deal with the following problem areas:

- (1) Wastewater disposal
- (2) Storm water runoff and surface drainage
- (3) Community water supply
- (4) Recreation use of water
- (5) Irrigation and industrial use
- (6) Conservation of natural resources and wildlife

¹⁹⁴Clinton River Watershed Council, Organization Bylaws, 1971, p. 2.

- (7) Stream flow
- (8) Flood plain control
- (9) Water quality
- (10) Public education and citizen participation¹⁹⁵

Since the adoption of these goals, the watershed council has been developing its programs along a service approach to local units of government that support it. The council has directed its efforts at providing information, developing a supportive data base on flooding and water quality and providing a forum for discussion of watershed issues and problems. In structuring its programs and activities, the council has taken up on its purposes and functions in attempting to provide local governments with a specific organization they can relate to and call upon for help in controlling development in the river's floodplain, surveying the river's environmental needs and in directing studies which will lead to river improvement.

In an effort to build a power base and to establish themselves as a credible organization capable of supplying a variety of water management services, the watershed council is increasingly focusing on providing information. Much of the activities and programs of the council have been designed to identify information needs and to supply this information to affected units of government. It is the watershed council's objective to build a performance record based on information supply, having this serve to develop the necessary government and citizen support it needs to be an effective voice in

¹⁹⁵Clinton River Watershed Council, Statement of Position and Goals, October 19, 1972, p. 1.

the watershed. The Council has developed a committee system to help it deal with particular areas of interest. The committees include:

- (1) Administration and Finance: To aid with administrative detail of the Council and assist in assessments and budget preparation; includes membership
- (2) Water Quality and Quantity Control: A committee to monitor the actions of Council programs relating to water quality and quantity monitor of stream flow and watershed capacity to provide for domestic, municipal, and industrial uses; waste disposal, irrigation including sprinkling
- (3) Recreation and Conservation: To monitor and coordinate efforts of communities and individuals along rivers and in lake areas for providing recreation activities and conservation programs, emphasis on areas such as Preservation and control of Inland Lakes and Soil Erosion Programs
- (4) Legislative Committee: To prepare or cause to be prepared (and review) local regulatory measures for members and monitor enabling legislation at state and national levels
- (5) Goals Committee: To be concerned with the philosophic and long-range efforts of the Council; a watchdog over the other committees (steering committee)
- (6) Watershed Coordinating Committee: To interact with other watersheds for an exchange of ideas and programs; to disseminate informational data and brochures relating activities of the Council; to initiate the development of a Comprehensive Land Use Plan for the Watershed Basin¹⁹⁶

For the most part, the committees have been responsible for developing council programs and activities. A review of the major activities and programs will follow with the emphasis being placed on the more recent examples of inputs the Council is making in the area of water management. Among the activities, functions, interests and programs of the Clinton River Watershed Council in its relatively short period of operation are:

- (1) Sponsoring river awareness and cleanup projects
- (2) Developing of a stream monitoring program
- (3) Preparing of public information and awareness reports

¹⁹⁶Clinton River Watershed Council, Minutes of General Meeting, February 24, 1972.

Brief descriptions of the nature of council activity in each of these areas will be provided here.

(1) Sponsoring River Awareness and Cleanup Projects. This type of activity largely characterized the early focus of the Clinton River Watershed Council. In response to a general decline in water quality conditions on the Clinton River, the watershed council developed a program aimed at soliciting participation and awareness by communities and citizens in the basin area. The effort was designed to bring attention to problems on the river and to resources the watershed council could bring to bear on these problems. The council proposed a four-point program to improve the river's condition in 1973. The program emphasized local input and control in calling for:

- (1) A river cleanup campaign using local resources to remove debris from the Clinton River
- (2) A comprehensive stream monitoring program to help identify pollution sources
- (3) An assessment of the recreational potential along the Clinton to aid communities in developing river-related leisure facilities
- (4) A role as planning consultant to the local communities in the basin in seeking government grants for projects which have an impact in the river and basin area

In an effort to gain the support of communities and citizens, the watershed council sponsored several walks and canoe trips. The primary purpose of these was "...to allow government officials and citizens to evaluate the stream for themselves and to discuss possible river management programs..."¹⁹⁷

¹⁹⁷ The Macomb Daily. 'Tour' Clinton River. October 18, 1973, p. 1.

A more aggressive program taken on by the council involved planning a Clinton River Cleanup for the summer of 1974. A special committee was organized to coordinate local efforts along the stream from Pontiac to the mouth. The council's role was to spearhead the cleanup, coordinate the actual effort and to act as an information source for local efforts.

(2) Development of a Stream Monitoring Program. As a part of the river awareness and cleanup program developed by the watershed council, a stream monitoring system was developed to supplement state monitoring efforts. Early in 1973, in an effort to improve on the availability of water quality data for the Clinton River Basin, the watershed council launched a program to collect, analyze and store water quality data. The first phase of this program was initiated in July 1973, and included fifteen grab sampling stations.¹⁹⁸ These stations were tested at a frequency of once a month. Parameters examined included temperature, dissolved oxygen, biological oxygen demand, fecal coliform indices and nutrients.¹⁹⁹ Limitations present in the grab sampling technique, however, limited the application of the data collected. In response to this, the watershed council in September 1973, approved the expenditure of \$15,000 to purchase four continuous monitoring stations that would allow the council to expand and improve its testing program.²⁰⁰

¹⁹⁸Clinton River Watershed Council, Preliminary Annual Report, October 1973, p. 5.

¹⁹⁹Clinton River Watershed Council, Stream Monitoring Committee Report, October 18, 1973, pp. 1-2.

²⁰⁰Ibid.

These units are equipped to monitor levels of dissolved oxygen and temperature on a continuous basis. The information collected is designed to supplement recent state water quality studies on segments of the Clinton River and to provide a basis for assessing current water quality conditions and problems.²⁰¹

The Stream Monitoring Committee has collected existing information on water use in the basin from a number of sources including the Water Resources Commission, Bureau of Water Management, Oakland and Macomb County Soil Conservation Service Districts, SEMCOG and the Army Corps of Engineers.²⁰² This data, in conjunction with information collected from the monitoring units (expected to be in operation by 1975), the council believes will play a vital role in the preparation of recommendations for development of basin water policies and programs, in promoting preservation and optimum use of resources and in identifying water quality problems and demands on existing resources.²⁰³

(3) Preparation of Public Information and Awareness Reports.

The Watershed council is concerned about demonstrating the services it can provide and informing and educating communities and citizens on the problems facing the watershed. To this end, the council

²⁰¹State of Michigan, Bureau of Water Management, Clinton River Study, Pontiac to Rochester, 1974.

State of Michigan, Bureau of Water Management, Clinton River Study, Rochester to Mouth, 1974.

²⁰²Clinton River Watershed Council, A Preliminary Report on Water Use in the Clinton River Basin, 1973, p. 1.

²⁰³Clinton River Watershed Council, Water Uses in the Clinton River Basin, 1973, p. 1.

has published a series of informational brochures that identify a variety of concerns and problems and call for citizen and community action and support. The brochures have been distributed to government units and to interested citizens in the watershed. The brochures are designed to stimulate discussion of water management issues and to serve as a focal point for further action. The brochures include:

- (1) Local Recreation and Open Space
- (2) Water Uses in the Clinton River Basin
- (3) Water Quality Management Issues
- (4) Water Quality Problems in the Clinton River Basin
- (5) Flood Plain Management in the Clinton River Basin
- (6) Water Quality in the Clinton River Basin

Beginning in the Fall of 1974, several informational meetings are planned to discuss the brochures and to develop approaches for watershed council involvement.

In addition to the foregoing activities, the Clinton River Watershed Council has been instrumental in:

- (1) Opposing Corps of Engineers and Soil Conservation Service proposals to alleviate flood problems on portions of the Clinton River (Red Run and North Branch) through construction of retarding structures, spillways and impoundments²⁰⁴
- (2) Reviewing municipal plans for wastewater plant improvements
- (3) Receiving and reviewing applications for permits to authorize work in or over Michigan's inland waters
- (4) Recommending communities implement provisions of the Michigan Soil Erosion and Sedimentation Act²⁰⁵

²⁰⁴ Soil Conservation Service, Technical Report-North Branch of the Clinton River Watershed, 1970, pp. 2-3.

²⁰⁵ State of Michigan, Soil Erosion and Sedimentation Control Act of 1972, Act 347, P.A. of 1972.

In relating the activities of the Clinton River Watershed Council to provisions in the enabling legislation that make certain functions possible, it becomes evident that the Clinton Council has followed a strong service-oriented approach in its application of legislative provisions. The emphasis has been on education and information supply, evidenced in the studies and reports performed and prepared by the council as well as in the advice, education and discussion services provided. More recently, the council has begun to examine deficiencies in water resource data for the Clinton River Watershed and as a result has taken steps to improve the water quality data base by embarking on its own comprehensive stream monitoring program. This effort is expected to supplement existing state water sampling activity and to further help establish the watershed council as a credible data collection and information supply organization.

Grand River Watershed Council

The Grand River Watershed is the major drainage basin of western Michigan. It has a drainage area of approximately 5,570 square miles involving some 243 local government units (see Figure 10).²⁰⁶ The basin includes the watershed of the Grand River and seven major tributaries including the Flat River, Looking Glass River, Maple River, Portage River, Red Cedar River, Rogue River and Thornapple River.²⁰⁷ All of these are characterized by varying degrees of agricultural, urbanized and forested lands, though they remain predominantly agricultural.

The Grand River Watershed Council was organized in 1966 to promote cooperation among the local governments in a water management program in the watershed.²⁰⁸ The goals of the Council are to enhance the quality of the water and related natural resources in the Grand River Watershed by:

- (1) Stimulating public involvement
- (2) Providing local units of government guidance in regional management decisions
- (3) Assisting local units of government in planning water and land management programs
- (4) Correlating water and land management programs
- (5) Uniting various local publics with all levels of government²⁰⁹

The Council proposes to accomplish these goals largely through performing the following functions:

²⁰⁶Michigan Grand River Watershed Council, Information Bulletin, July, 1970.

²⁰⁷Ibid.

²⁰⁸Michigan Grand River Watershed Council. Organization Bylaws, June, 1966.

²⁰⁹Michigan Grand River Watershed Council, Newsletter, March, 1974.

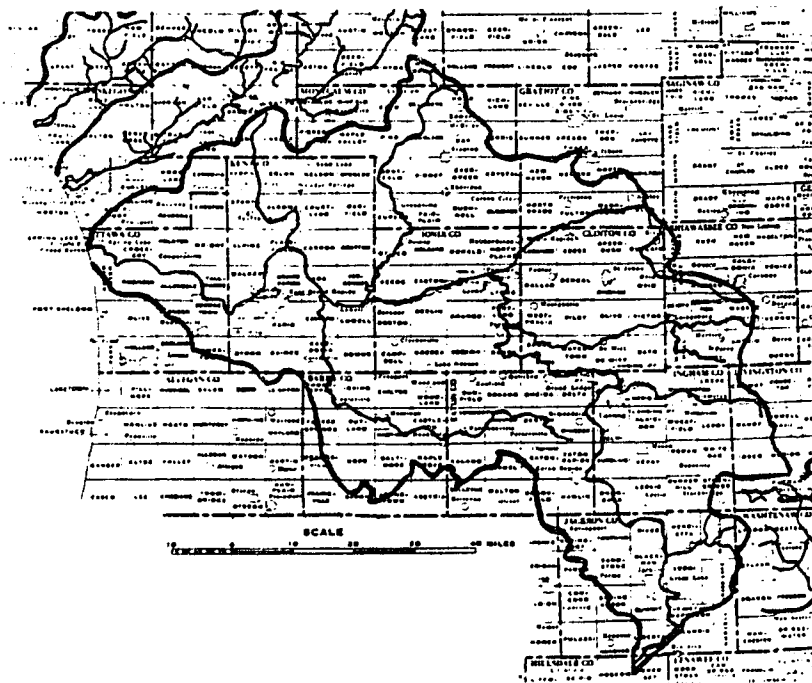


Figure 10. Grand River Watershed

- (1) Conduct, or cause to be conducted studies of water resources of the Michigan Grand River Watershed, including investigations of water use, water quality, and the reliability of the water resources
- (2) Prepare periodic reports concerning among other things, trends in water use and availability, emerging water problems and recommendations for appropriate public policies and programs necessary to maintain adequate water resources for the Grand River Watershed area
- (3) If determined necessary by the Council, request the Michigan Water Resources Commission to survey the Grand River Watershed for the purpose of determining minimum levels of stream flow necessary for health, welfare and safety as provided in Sections 13 through 18 of Act No. 253, Public Acts of 1964 as amended
- (4) Make plans for development and management of water resources and recommend the creation of a river management district or districts in the Grand River watershed under the provisions of Section 7 through 12 of Act No. 253, Public Acts of 1964 as amended, when the needs warrant such an action
- (5) Advise agencies of federal, state, and local government as to the Council's view of water resource problems and needs in the Grand River Watershed
- (6) Cooperate with federal, state, and local agencies in providing stream gauges, water quality sampling stations, or other water resource data-gathering facilities or programs that aid the Council in its responsibility for studying and reporting on water conditions²¹⁰

Since its formation, the Council has been involved in a variety of activities, most of which illustrate a strong service-program approach to watershed planning and assistance. The Council has been concerned with the study of river use requirements, the necessity for effective river management and the development of alternative methods of meeting both public and private river needs.²¹¹ The Council has prepared several reports on water usage, water supply,

²¹⁰Michigan Grand River Watershed Council, Organization Bylaws, June 1966.

²¹¹Michigan Grand River Watershed Council, Paper presented at the Water Management Orientation and Workshop Conference, Appleton, Wisconsin, May 28, 1969.

stream monitoring and soil erosion and sedimentation controls. In addition, the Council has sponsored, been involved in, and provided for a number of services and activities. These include, but are not limited to, watershed protection and flood prevention, stream appreciation, the Grand River Basin Study, and conservation education through programs with schools and organizations and through regional meetings with government units. Discussion of these and other representative activities will follow with an emphasis being placed on showing the Council's involvement in action programs.

Soil Erosion and Sedimentation Control. In recognition of major pollution problems along the Grand River and its tributaries from soil erosion, poor land management and uncontrolled runoff, the watershed council, in conjunction with the Soil Conservation Service, local and regional planning commissions, county and state highway departments and the Water Resources Commission has developed a program for encouraging local government units to adopt soil erosion control measures. Some early examples of Council activity in this area include the following efforts:

- (1) Program participant in the Governor's Conference on Water Sediment Pollution, March 11, 1969
- (2) Participated as a specialist for the National Association of Counties Research Foundation for the preparation of a "Community Action Guidebook for Soil Erosion and Sediment Control"
- (3) Co-sponsored with the Michigan Association of Counties and the Michigan Soil Conservation Districts in the Grand River Basin a series of Soil Erosion and Sediment Control Conferences in 1971
- (4) Published an informational booklet "Soil Erosion & Sedimentation Control Program" with the assistance of Michigan Water Resources Commission, Michigan State Highway Department, Cooperative Extension Service, Soil Conservation

Service, Ingham County Road Commission, Lansing Planning Department, and the Tri-County Regional Planning Commission²¹²

The intent of this information booklet was to develop guidelines that would demonstrate proper management practices for abating soil erosion in rural and urbanizing areas. The guidelines have been made available to property owners, developers and to government units in the watershed area.

More recently, the Council has been active in encouraging support for the Soil Erosion and Sedimentation Control Act of 1972. This support is largely grounded in basic principles the Council has identified as necessary components of an effective sediment control program:

- (1) Sediment control in urban areas should be a stated policy of all local governmental units
- (2) Public information-education programs on sediment control is necessary to obtain public support
- (3) Competent technical personnel, workable procedures, regulations and enforcement are essential for a successful sediment control program
- (4) Sediment control provisions should be incorporated in the planning stages for most effective application in the construction stage of development²¹³

In furtherance of these, the Council has cosponsored a series of regional meetings to help communities become acquainted with the Soil Erosion and Sedimentation Control Act and to encourage local implementation of soil erosion regulations. The Council was also instrumental in presenting testimony for legislative enactment of the Act and in providing comments on the preparation of the Administrative

²¹²Michigan Grand River Watershed Council. Paper presented at a General Meeting, September 20, 1972.

²¹³Michigan Grand River Watershed Council, Annual Report, 1969.

Rules. The most recent example of watershed council involvement in the soil erosion program has come as a result of a contractual agreement between the State of Michigan and the watershed council to have the council assist in administering the soil erosion and sedimentation control program.²¹⁴ The Council's executive secretary will be responsible for processing soil erosion and sedimentation programs filed by county agencies and other local units of government. He will also be responsible for conducting training sessions and informational meetings for enforcing agencies and other groups involved in making earth change.²¹⁵

Stream Monitoring Control Program. The watershed council, beginning in 1968, developed a stream monitoring program through the cooperation of twelve governmental units in the Grand River Basin.²¹⁶ The program involves monthly sampling and analysis of samples taken at some 100 locations.²¹⁷ Basic parameters tested monthly at these stations include temperature, dissolved oxygen, biochemical oxygen demand, hydrogen ions, and total coliforms.²¹⁸

²¹⁴Michigan Grand River Watershed Council, Newsletter, September, 1974.

²¹⁵Ibid., p. 1.

²¹⁶Michigan Grand River Watershed Council, Annual Report, 1973.

²¹⁷Center for Environmental Study. Environmental Quality Improvement through Water Pollution Control, Grand Rapids, Michigan, 1971, p. 6.

²¹⁸Michigan Grand River Watershed Council. Minutes of Annual Meeting, 1972.

The purpose of the council in establishing the program was to supplement the State's efforts in collecting, analyzing, and storing water quality data. The Department of Natural Resources and the Michigan Water Resources Commission has made available to the Council water quality monitoring equipment and has provided consulting services in the development of the program. In recognition of the value of the program, the State has certified the watershed council's stream monitoring program as a part of the Water Quality Management Plan for the Grand River Basin.²¹⁹ In addition, the Council, under the auspices of the U.S. Environmental Protection Agency, has had access to a Storet computer for storage and retrieval of the data.²²⁰

After six years of operation, five additional government units and the Center of Environmental Studies of Jackson Community College, have joined the program and are participating in collecting and analyzing data.²²¹ With the assistance of program participants and the computerized retrieval program of Storet, the watershed council hopes to continue to expand its analysis of water quality conditions in the basin, and to be better able to identify and forecast changes in these water quality conditions.

Flood Plain Control Regulations and Watershed Protection. The watershed council's involvement in flood plain management has largely

²¹⁹Michigan Grand River Watershed Council, Newsletter, September, 1974, p. 1.

²²⁰Michigan Grand River Watershed Council, Stream Monitoring Program Report, April, 1972, p. 1.

²²¹Michigan Grand River Watershed Council, Annual Report, 1973, p. 6.

taken the form of information and assistance provided local units of government in having flood plain information and hazard studies performed in their areas. The Council has assisted a number of communities in filing applications with the Department of Natural Resources to have the Army Corps of Engineers and the Soil Conservation Service perform the studies. The studies are designed to produce technical reports that will enable communities to adopt and enforce flood plain management programs.²²²

In conjunction with these flood management programs, the watershed council has encouraged communities in flood hazard areas to participate in the federal flood insurance program. Local community support, however, has been mixed on this, evidenced by the reluctance of some communities to adopt local regulations, a condition necessary for qualification in the program. The watershed council has a continuing role to play in encouraging those communities not already included to join the program before it expires to new applicants in 1975.

The watershed council has also participated in flood plain management through its involvement in P. L. 566 Watershed Protection and Flood Prevention programs. The program provides for a cost-share arrangement with local communities and property owners interested in water and land management improvement programs. Several programs have been conducted on the Grand, Red Cedar, Looking Glass, Flat and Maple River Watersheds. Watershed council input has come as a result of designation by the Michigan Soil Conservation Service

²²²Michigan Grand River Watershed Council, Newsletter, October, 1973, p. 1.

as a participant on the Watershed Technical Review Committee.²²³ The Committee is responsible for conducting field investigations and submitting reports to the State Soil Conservation Committee to help it determine the feasibility for federal cost-sharing of local projects.²²⁴

Grand River Basin Study. The Grand River Basin was one of sixteen basins in the nation designated by Congress to have a Type II study.²²⁵ The watershed council was selected to represent local government units in the development of the river basin plan through its participation on the Grand River Basin Coordinating Committee. The Council was given the responsibility of devising and managing an extensive information program of presenting the suggested plan to local government units and the public. A series of public information meetings was conducted to help government units interpret reports and to determine how they could best benefit from the recommendations and the suggested programs. The Grand River Basin Study, when completed, will consist of the main report and ten volumes of appendices. The compiled volumes will contain the following reports:

- Volume I: Main Report
- Volume II: Appendix A (History of the Investigation)
- Volume III: Appendix C (Climate) and Appendix D (Surface Water Hydrology and Hydraulics and Fluvial Sediment)
- Volume IV: Appendix E (Ground Water and Geology) and Appendix F (Mineral Resources)

²²³Michigan Grand River Watershed Council, Newsletter, September, 1973, p. 2.

²²⁴Ibid.

²²⁵Michigan Grand River Watershed Council, The Role of Michigan Communities to Combat the Water Pollution Problem, 1971, p. 2.

Volume V:	Appendix G (Water Supply and Stream Quality) and (Health Guidelines)
Volume VI:	Appendix H (Flood Control) and Appendix I (Navigation)
Volume VII:	Appendix J (Recreation), Appendix K (Fish and Wildlife) and Appendix L (Power)
Volume VIII:	Appendix M (Agriculture)
Volume IX:	Appendix N (Water Laws)
Volume X:	Appendix O (Economic Base Study)
Volume XI:	Appendix P (Basin Plan Formulation Criteria) and Appendix Q (Alternative Plans)

The watershed council is currently negotiating with the Army Corps of Engineers to announce a completion date and the availability of the report for local review and comment. The watershed council will hold a second round of public information meetings on the final report during the 180-day public review period. The council will then continue in its role as representative and spokesman of local government units in the Basin by assisting government units in interpreting the plan and in coordinating their efforts in implementing the recommendations of the plan.

Watershed Planning and Management Program. The watershed council's technical committee has developed a conceptual framework for an educational-planning tool to be used by government units, organizations, and general public in the basin.²²⁶ The educational planning tool suggested by the Committee would be developed and operated in cooperation with the Environmental Simulation Laboratory, University of Michigan and the Center for Environmental Study in Grand Rapids. It is proposed that the tool would help inform watershed constituents of the many interrelationships involved in watershed management.

²²⁶Michigan Grand River Watershed Council. Annual Report, 1973, p. 8.

The committee is currently exploring private funding sources after attempts to secure federal funds proved unsuccessful.²²⁷ The committee believes the program would provide the council with an educational tool to help people recognize the problems of multi-interests and concerns for resource management.²²⁸ Upon receipt of funds for developing the program, it is expected to take one year to operationalize the educational tool. At that time, the council believes it will have started on an effective program for planning and managing the water quality in the basin; a program the council believes should be readily adaptable to other river basins of the state and the country.

West Michigan Water Supply Study. An early focus of the Grand River Watershed Council was the study of future water supply needs of the west central Michigan area. A Technical Advisory Committee was established in 1967 to examine expected growth in this area and to make a determination on the feasibility (in terms of costs) of supplying Lake Michigan water to a twelve county area.²²⁹ Funds for the study were solicited from a number of organizations including:

W. K. Kellogg Foundation
 Consumers Power Company
 American Bank & Trust Company, Lansing
 Security National Bank, Battle Creek

²²⁷ Michigan Grand River Watershed Council, Agenda of Annual Meeting, May 9, 1974, Sec. 6.

²²⁸ Ibid.

²²⁹ Michigan Grand River Watershed Council, Lake Michigan Water Supply for West Central Michigan, 1971, p. 1.

Michigan National Bank
 Michigan Consolidated Gas Company
 Union Bank & Trust
 General Motors Company²³⁰

Based on costs, the study found that for all areas except Grand Rapids and Wyoming, the costs were higher than those currently being borne for producing and softening water from existing ground water sources.²³¹ The study went on to recommend, however, that should communities consider this in the future, the cost of supplying from the existing systems will no longer be the most economical.²³²

Stream Appreciation Programs. Beginning in 1968, the watershed council established a stream appreciation program for improving public awareness of problems and needs in the watershed and along the Grand River and its tributaries. As initially developed, the program called for an eight-point action program for action by communities within the basin area. The program included:

<u>Program</u>	<u>Purpose</u>
(1) Stream Cleanup	Physical Improvement
(2) Boating, Trips and Excursions	Educational, Recreational
(3) Streamside Park Development	Physical Improvement
(4) Stream Nuisance Monitoring	Educational
(5) Fish Planting, Fishing Contests	Educational
(6) Conservation Projects	Physical Improvement
(7) Special Studies--Academic	Educational
(8) The River in Community Drama	Recreational

²³⁰Michigan Grand River Watershed Council, Report of the Technical Advisory Committee, 1971, p. F-1.

²³¹Michigan Grand River Watershed Council. Lake Michigan Water Supply for West Central Michigan, 1971, p. 37.

²³²Ibid.

Municipal and private groups have been encouraged to sponsor special activities to develop programs and opportunities that will provide the public with a greater awareness of their local water resources.

The best example of a stream appreciation, public action program occurred in 1973 with the Council's promotion of the Alpha 37 canoe trip of the Grand River. A ten-day itinerary was planned with "stop-off" points keyed to generate local involvement and interest. A variety of organizations, groups, and individuals participated in planning the program and in developing activities for stopping points. A spinoff of the Alpha 37 canoe trip was the preparation of canoe maps from Michigan Center to Grand Haven.²³³ The maps were prepared by the Council under the sponsorship of the Michigan Department of Natural Resources. The maps, available free from the Council's office, show park sites and facilities, dams and points for portage, and other information for convenient canoeing.²³⁴

Other Inputs. In addition to the aforementioned activities and programs of the Grand River Watershed Council, the Council has also been involved in:

- (1) Natural Rivers Planning for the Rogue and Thornapple Rivers
- (2) Sponsoring regional awareness meetings of council programs
- (3) Review of:
 - (a) dredge and fill applications required by the Inland Lakes and Streams Act
 - (b) Applications for National Pollutant Discharge Elimination System (NPDES) permits required of all municipal, industrial, and commercial dischargers to surface waters
- (4) Obtaining recognition of watershed councils in the state's water programs and strategies for fiscal year 1975

²³³Michigan Grand River Watershed Council, Newsletter, October, 1973, p. 2.

²³⁴Ibid.

- (5) Sponsoring a Water and Land Resource Utilization Simulation (WALRUS) workshop for schools, political, professional and citizen groups. The purpose of the workshop is to seek awareness by the participants in the impact of public and private decisions on water pollution²³⁵
- (6) Participating as representative of Michigan's Watershed organizations on the Department of Natural Resources Public Participation Committee

Reflecting on the activities, programs and accomplishments of the Grand River Watershed Council, it becomes evident that the council has followed a strong approach toward acting as a service agency to the local units of government that support it. In terms of relating what the council has done to provisions in the enabling legislation that make certain functions possible, the council's application of these provisions is best represented by the water monitoring, water supply, flood control and soil erosion studies, reports and activities the council has conducted or requested be conducted. Another strong area of emphasis by the council has been in cooperating with federal and state agencies in performing studies and in cooperating with organizations, group and government units in developing water and land management improvement programs. The council is expected to continue its emphasis in these areas of involvement in an effort to improve participation and support of council activity. The council is also working to achieve broader recognition of the watershed water quality management planning.

²³⁵Michigan Grand River Watershed Council, Newsletter, November 1973, p. 2.

Huron River Watershed Council

The Huron River Watershed (see Figure 11) is situated in the southeast corner of lower Michigan and occupies a largely urban area of 892 square miles in Washtenaw, Livingston, Oakland and Wayne Counties.²³⁶ From near Ann Arbor to the mouth, the watershed basin narrows where the river has cut its channel. Above this portion of the basin, the watershed fans out into a more rural area from which most of the total drainage comes.

Organized under Act 253 in 1965, the Huron River Watershed Council draws its representatives from local units of government in four counties (Wayne, Washtenaw, Oakland and Livingston) 10 cities and villages and 13 townships.²³⁷ Membership on the council is voluntary as is funding which is based on an assessment of 6¢ per capita for each local unit of government, excluding counties which have been assessed according to a flat rate.²³⁸ (A new assessment schedule has been developed by the executive committee and approved by the representatives that will maintain the 6¢ per capita assessment for villages, cities and townships but counties will be assessed according to the population and land area in the watershed. The new county formula is 3¢ per capita plus \$1.50 per square mile, with a \$6,000 ceiling on total assessment for each county.)²³⁹

²³⁶ Huron River Watershed Council, Minutes of the Organizational Meeting, (Ann Arbor: June 3, 1975).

²³⁷ Huron River Watershed Council, Information Brochure, (Ann Arbor: Huron River Watershed Council, 1968), p. 2.

²³⁸ Huron River Watershed Council, Internal Memorandum, (Ann Arbor: September 27, 1973), p. 4.

²³⁹ Huron River Watershed Council, Recommended Dues Schedule, (Ann Arbor: Huron River Watershed Council, May 1974), p. 1.

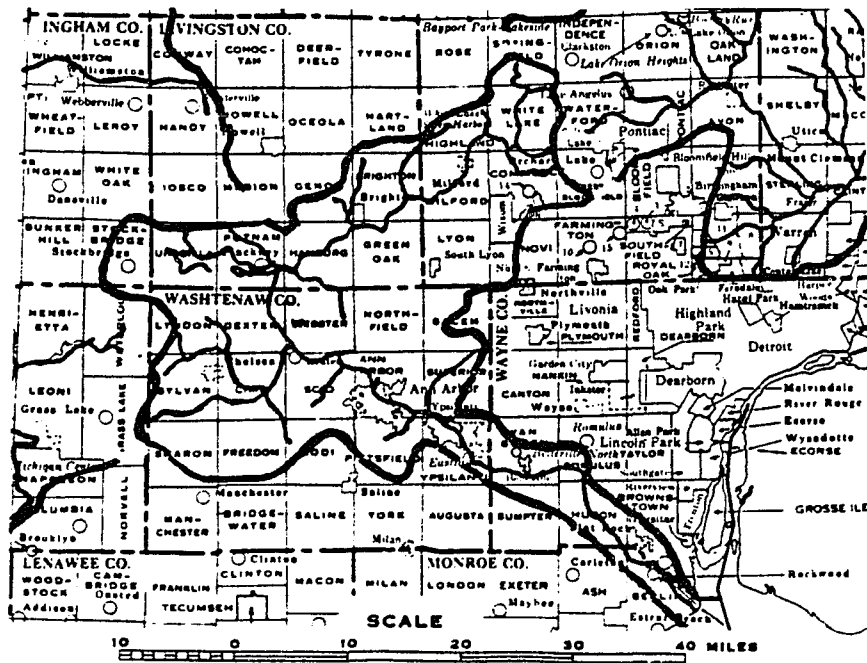


Figure 11. Huron River Watershed

The original impetus for the council's formation came from the Huron River Intergovernmental Committee formed in 1958 under Act 200. The group was formed primarily to study area problems relating to wastewater disposal, water withdrawal, low flow, etc. The Intergovernmental Committee helped lay the foundation for a coherent water use policy for the Huron. In order that it might continue in these efforts, the Committee decided to organize on a more permanent basis under Act 253.²⁴⁰ As a result of this, the original study function of the group was expanded to include advisory, educational and planning functions.

In an effort to "promote cooperation among local governments in river management," the Huron River Watershed Council set upon defining its goals in light of the more expanded provisions set forth in Act 253. The Council, in 1968, adopted a goals statement entitled Water Use and Resource Management Goals for the Huron Watershed.²⁴¹ In this statement, the following goals were outlined as areas in which the council could become involved through its advisory-planning capacity:

- (1) Waste water disposal
- (2) Storm water runoff and surface drainage
- (3) Community water supply
- (4) Recreational use of water
- (5) Irrigation and industrial use

²⁴⁰State of Michigan. Local River Management Act, Act 253, P.A. of 1964 (as amended), p. 1.

²⁴¹Huron River Watershed Council, Water Use and Resource Management Goals for the Huron River Watershed (Ann Arbor: Huron River Watershed Council, 1968).

- (6) Conservation of natural resources and wildlife
- (7) Stream flow
- (8) Floodplain control
- (9) Water quality
- (10) Public education and citizen participation

In adopting these goals, the council took on the responsibility of providing leadership and resources necessary to constructively seek the wise and orderly use and development of the Huron River. The Council endeavored to meet this responsibility by conducting, encouraging, coordinating and reviewing studies and plans regarding the water and related land resources of the watershed, and by keeping the public informed of watershed conditions and of proposals which may affect these conditions. The council performs this latter function by preparing reports, making recommendations regarding public policies and programs, conducting informational meetings for council members and the general public, responding to requests for information and assistance and by publishing a periodic newsletter.

Since 1965, the Huron River Watershed Council has directed its efforts at providing research and public information, and in providing opportunities for evaluating inquiries and public forums on many watershed issues and problems. The executive committee, the council's policy-making arm, provides the policy guidance for the council and helps direct attention toward particular issues and problems.

A review of the major activities and programs of the council will follow with the emphasis falling on some of the more recent examples of inputs the council is making in the area of water quality management. Included here is work being done by the council in helping

bring the Huron River under Natural Rivers Protection and in working with local government units in establishing a flood warning system.

Other major activities of the watershed council include (in some sort of chronological order):

- 1965- : Evaluation of the Mill Creek Metropark and Impoundment proposed by the Army Corps of Engineers
- 1968- : Participation in the Southeastern Michigan Water Resources Study
- 1972- : Evaluation of the Pointe Mouillee Diked Disposal Facility
- 1968-1973: Evaluation of the proposed Southeastern Michigan Regional Wastewater Treatment Plan
- 1969-1971: Research performed on Inland Lakes and Shorelands (Special Project)
- 1974- : Research being conducted on selected Creeksheds (Special Project)
- 1972- : Assistance to Local Government Units in the Areas of floodplain planning, insurance, and flood monitoring
- 1972- : Support for bringing the Huron into the Natural Rivers System
- 1973- : Researching the need for a water supply and drought flow study

Brief descriptions of the form and extent of council activity in each of the areas mentioned will be provided here. Where an issue, problem or activity spans several years or has not yet been completed, a general overview will be made as well as an update of the status of the particular issue, problem or activity.

Evaluation of the Mill Creek Impoundment and Metropark. As early as 1965, the Army Corps of Engineers became interested in conducting studies on the feasibility of constructing an impoundment on Mill Creek for the purpose of improving water-based recreation in Lima and

Freedom Townships in western Washtenaw County.²⁴² The idea was picked up and developed by the Huron Clinton Metropolitan Authority (HCMA). Original watershed council involvement took the form of a public information meeting held to discuss the proposal, together with position statements issued on the water resource implications of the impoundment. Following review of the environmental impact statement prepared for the project, the council took the following position in conditional support of the project.

The impoundment is not opposed by the Huron River Watershed Council as long as it can be shown:

- (1) Surface and subsurface drainage are not adversely affected
- (2) Water quality and quantity impacts downstream from the impoundment are not adverse
- (3) Sanitary wastes generated by park users do not adversely affect Mill Creek and the Huron River²⁴³

As a result of further study of the environmental impacts of the proposed impoundment, the project is still under review and has not yet been funded by the U.S. Bureau of Outdoor Recreation.

The Metropark, planned in conjunction with the reservoir, is in the same position, with the grant application of the HCMA still under review by the Michigan Department of Natural Resources and the Southeast Michigan Council of Governments (SEMCOG).

Participation in the Southeastern Michigan Water Resources Study. The Council has been active in the Coordinating Committee for the long-range Southeastern Michigan Water Resources Study being jointly carried out by local, state and federal agencies under the

²⁴² Huron River Watershed Council, Annual Report, (Ann Arbor: Huron River Watershed Council, 1972), p. 4.

²⁴³ Ibid.

leadership of the Corps of Engineers. Watershed council input has been primarily through the executive secretary and the contributions he has been able to make on the study's Environmental Quality and Public Participation Subcommittees.²⁴⁴

Evaluation of the Pointe Mouillee Diked Disposal Facility. Watershed council involvement on this issue has been primarily through extensive review and comments made on the planning procedures and environmental impact statements presented by the Army Corps of Engineers. The proposal calls for building a diked area of approximately 470 acres on existing marshland and Lake Erie bottomland to contain mercury-contaminated dredge spoil from the Detroit and Rouge Rivers.²⁴⁵ The Council began its involvement by disseminating background information on the proposal and its potential environmental effects. Largely as a result of the pressure the council was able to stimulate, a new public hearing on the proposal was held.

The Council registered a number of comments on the draft environmental impact statement. Among the major questions raised were:

- (1) Loss of marshland and Lake Erie bottomland, and subsequent adverse effects on fish and wildlife habitat
- (2) Possible adverse impacts resulting from the proposed peninsula in Lake Erie
- (3) Possible contamination of water, flora and fauna from toxic substances in the dredge spoil
- (4) Principle of using a wildlife habitat as a disposal site²⁴⁶

²⁴⁴Huron River Watershed Council, Annual Report, (Ann Arbor: Huron River Watershed Council, 1971), pp. 3-4.

²⁴⁵Huron River Watershed Council, Annual Report, (Ann Arbor: Huron River Watershed Council, 1973), p. 3.

²⁴⁶Ibid.

The council submitted a detailed statement to the Corps, addressing these questions and the overall policy considerations as well as specific points noted in the environmental impact statement. The Corps, as a result of comments received, has now released a final impact statement. The statement has been generally accepted by the Department of Natural Resources and construction is expected to move forward in the spring of 1975.²⁴⁷

Proposed Southeastern Michigan Wastewater Management Plan. The Huron River Basin portion of this plan, adopted by the Michigan Water Resources Commission in September 1971, calls for the construction of a large interceptor sewer to serve western Wayne, southwestern Oakland and eastern Washtenaw Counties, transporting sewage to a large treatment plant at the mouth of the Huron River.²⁴⁸ After treatment there, the effluent would be discharged into Lake Erie offshore from the Pointe Mouillee Marsh area. The watershed council did not formally take a position on the proposal but it did submit a request to the EPA to prepare an environmental impact study on the plan prior to approval. As a result of this request, a draft statement was prepared and released to the public in February 1973.²⁴⁹

Subsequent to this, public hearings have been held and additional reactions to the draft environmental impact statement and alternative plans have been taken.

²⁴⁷ Huron River Watershed Council. Annual Report, (Ann Arbor: Huron River Watershed Council, 1974), p. 6.

²⁴⁸ Huron River Watershed Council, Annual Report, (Ann Arbor: Huron River Watershed Council, 1972), p. 4.

²⁴⁹ Huron River Watershed Council, Minutes of an Executive Committee Meeting, May 3, 1973.

Research Performed on Inland Lakes and Shorelands. Through their Special Projects function, the watershed council was awarded a grant from the Office of Water Research and Technology to conduct a two-year research effort designed to develop a working program for effectively educating property owners about the inland lake environment. Approximately 3000 property owners on five inland lakes in the watershed participated.²⁵⁰ The study produced several reports designed to serve as information handbooks to landowners. Materials developed were printed and distributed by the Michigan State Cooperative Extension Service and by the watershed council.²⁵¹

Research Being Conducted on Selected Creeksheds. The watershed council is currently involved in a second OWRT study designed to identify values relevant to creeksheds and explore the forces and institutions that influence them.²⁵² A second objective of the study is to develop strategies for creekshed protection in selected areas representing rural, urban and fringe situations.

It is intended that the research will produce a description of a strategy or technique for involving local citizens and public officials in area water resource management problems as well as

²⁵⁰Huron River Watershed Council. Your Effective Involvement in Improving and Protecting the Quality of the Environment of the Huron River Watershed, (Ann Arbor: Huron River Watershed Council, 1971), p. 2.

²⁵¹Huron River Watershed Council. Annual Report, (Ann Arbor: Huron River Watershed Council, 1971), p. 5.

²⁵²Huron River Watershed Council. What is the Future of the Creeks in the Huron River Watershed? (Ann Arbor: Huron River Watershed Council, 1974), p. 2.

to produce a collection of written and graphic materials designed to relate local water resource management problems to concerns of local area residents and officials.²⁵³

Assistance to Local Units of Government in Flood Plain Control.

The watershed council first began its program in this area in 1969 with its Flood Damage Avoidance Project. As part of the program, the watershed council purchased and installed three rain gauges for the purpose of correlating data from other stations by the Weather Service in the process of making flood predictions. Together with this, the council had worked in developing a telephone warning system where various designated people would be called on to relay information to authorities and individuals in flood prone areas. This was a desirable service but has since fallen into somewhat of a dormant state of operation, largely as a result of minimal flooding problems over recent years. Probably the most significant role the council has played in the area of flood control has been in pushing local units of government into applying for federal flood insurance. The council has provided information and assistance to local units applying for federal flood insurance. Ann Arbor was among those units assisted by the watershed council and as a result of their acceptance into the program, the Department of Housing and Urban Development is now responsible for working with Ann Arbor in identifying the floodplain area and in scientifically determining where the flood

²⁵³ Huron River Watershed Council, Summary of Objective-Creeksheds Project, (Ann Arbor: Special Projects Office, 1974), p. 2.

hazard areas are. Once the scientific data has been collected on Ann Arbor and other communities brought into the program, flood plain ordinances can be developed.

Support for Bringing the Huron River into the Natural Rivers Program. In 1970, the Michigan Legislature passed the Natural Rivers Act²⁵⁴ in order to establish a system for the preservation and protection of Michigan rivers. Some 37 rivers were chosen for study as rivers meeting the natural and scenic qualities outlined in the Act. The Huron River was one of five rivers in southern Michigan chosen for study under the "country scenic" classification.²⁵⁵

The watershed council became involved through its efforts in soliciting resolutions from local government units (statements of support that were necessary before the Department of Natural Resources would agree to begin the study of the Huron.) The council has also organized a public meeting for the purpose of gaining additional support for the program and for laying the groundwork for development of the long range management plan. The council is now coordinating local initiative and work through a committee chosen to assist the DNR in the development of the management plan. The status of the committee's work has been to outline what should be included in the plan and to identify land uses that exist in the area of the river to be protected by the program.

²⁵⁴State of Michigan, Natural Rivers Act, Act 231, P.A. of 1970.

²⁵⁵State of Michigan, Office of Planning Services, Questions and Answers Concerning the Huron River and the Natural Rivers Program, (Lansing: Office of Planning Services, 1974), p. 1.

Research the Need for a Water Supply-Drought Flow Study. At the request of the Washtenaw County Board of Public Works, the Watershed Council was asked to consider sponsoring a comprehensive water supply-drought flow study of the Huron River. Results of the study were intended to serve as a basis for a council request that the Water Resources Commission establish minimum low flow on the river.

The council, fearing repercussions of too early a decision, decided to open the question to discussion. A public forum held to discuss the issue identified the need for a study that would update existing water supply and flow information by taking into account changing uses of the river, increased demands, etc. The watershed council received a mandate to prepare an outline for such a study and investigate methods of having the study performed.

The council reestablished its Technical Advisory Committee for the purpose of beginning the review and collection of all available data relating to water supply and drought flow on the Huron River.

In addition to the preceding activities and issues, the watershed council has been involved in a number of education-information related activities. Included here is watershed council activity in assisting with the planning for the remodeling of Barton Power House as a museum to exhibit historical information on the Huron. In addition, there is a special projects proposal to establish a summer youth employment program focusing on the local environment, a project to be financed by federal funds.

Based on review of the activities and issues discussed, it appears that the contribution the watershed council has made to

water quality management has been largely in the form of information, education and advisory roles it has been able to play. Most of the activity has been issue-oriented as opposed to service or program-oriented.

The watershed council has shown that there is a definite role for it to play, especially in those areas where other agencies or government units are not currently providing a service. In areas such as flood warning and natural rivers planning, the watershed council can play its most important roles. Both of these programs depend on local government coordination and cooperation; the watershed council can serve to bring together and direct local initiative and thereby achieve some useful functions.

Analysis of Watershed Councils Established Under Act 253,P.A. of 1964Introduction to the Analysis of Surveys

In addition to reviewing council activities and functions, several surveys were conducted of watershed councils established under Act 253. These surveys attempted to further evaluate the degree of impact each council has had on contributing to more effective water quality management. Among those surveyed were the executive secretaries of the three study councils (the Clinton, Grand and Huron River Watershed Councils), the representatives to the councils and the units of government that support the councils. The first of the surveys, that of the executive secretaries, provided a reference point to which the comments made by representatives and units could be compared for differences and similarities in opinion regarding council performance and operation. The separate surveys of representatives and units of government were analyzed individually and then compared, once again noting when and where there was a difference of opinion regarding some aspect of council operation.

The results presented in this report provide an overview of how various groups perceive watershed council operation and performance. Their reactions, together with the examination of activities, functions and features of the study councils, will form the basis for an evaluation aimed at determining the degree of impact each council has made in contributing to more effective water quality management.

Survey of Executive Secretaries

The executive secretaries of the Clinton, Grand and Huron River Watershed Councils were asked to assign weighted values to a list of activities, functions, and features (variables) of watershed councils granted by enabling legislation. They were asked to rank the ten variables in descending order of importance according to the degree of effectiveness they believed each variable has on affecting water quality management in their watershed. They were also requested to list any additional variables not presently allowed by the enabling legislation that they would like to see made available to their watershed council.

Table 1 shows how each of the three executive secretaries perceived the relative importance of each of the variables listed.

Analysis of these rankings shows that agreement on the relative importance of each of the variables to water quality management was mixed, with full or close agreement reached on only five of the ten variables. Of those five variables, full agreement was reached only on variable number nine. The remaining five variables, representing some consensus of opinion, concern those variables considered to be of less importance. The Clinton River Watershed Council, the most recently formed of the three, placed a greater emphasis on funding, membership and coordination as variables making a contribution to water quality management. The Grand and Huron Councils emphasized information-education functions, activities, and features as most important in contributing to water quality management. The Huron Council also gave funding a high rating.

Table 1. Rankings of Variables

<u>Variables</u>	<u>Weighted Values</u>		
	<u>Clinton</u>	<u>Grand</u>	<u>Huron</u>
1. Availability and Source of Funds	1	8	2
2. Membership Number (Actual and Potential), Turnover, Involvement, Leadership, etc.	2	7	7
3. Conduct Studies of Water Resources in the Watershed	5	6	4
4. Cause to be Conducted Studies; Contracts	6	5	5
5. Prepare Reports	8	4	8
6. Request the Water Resources Commission to Perform Streamflow Level Studies	9	10	9
7. Creation of River Management Districts	10	9	10
8. Advise Local, State, Federal Units of Government as to Council Views of Watershed Problems and Needs	7	1	1
9. Coordinate, Cooperate with other Units of Government in: (a) Handling Mutual Problems (b) Providing for Water Quality Sampling	3	3	3
10. Public Information and Education Services and Programs	4	2	6

Due to the variation present in these rankings it was determined impractical to consider taking an average value and proceeding with this as a reference model. Rather, each ranking was preserved and utilized as a separate model for evaluating individual council activity. The models were also used as points of comparison to responses that came in from surveys of representatives and units of government.

In addition to this comparative value, the additional variables listed by the executive secretaries were used to identify and pinpoint limitations in the enabling legislation. Among the variables named as desirable and not currently allowed by the legislation were:

- (1) Secured financial support, derived in part by taxes and from state contributions
- (2) Required membership
- (3) Decentralized management
- (4) Legitimizing councils as planning agencies

This identification of the needs of watershed councils was then compared with responses to similar questions posed to representatives and units of government.

Survey of Representatives to Watershed Councils

Selection of Respondents and Review of Return Patterns. A reaction-attitude survey of representatives to the Clinton, Grand and Huron River Watershed Councils (see Appendix A, page 238) was conducted primarily for the following reasons:

- (1) To identify water quality-related issues and problems in each of the study watersheds

- (2) To determine how well the watershed councils were performing a service or otherwise making a contribution to better water quality management
- (3) To solicit suggestions for change and recommendations for improvement in council operations

The first order of business was to determine how many units of government were eligible for representation on the council as a result of the fact that they had paid their annual dues or had indicated they intended to. It was determined, based on information made available by the councils, that as of February 1974 there were 112 units of government represented on the three councils.²⁷² The Grand River Watershed Council was represented by 50 units, the Huron by 26 and the Clinton by 36 (see Appendix C, pages 253-255).²⁷³

The determination that there were 165 representatives on the councils at the time the survey was run was based on the unit's estimated membership. A breakdown shows the Grand River Watershed Council with 70 representatives, the Huron with 35, and the Clinton with 60.²⁷⁴

All 165 representatives were sent questionnaires. Table 2 indicates the general response and return rates. (An overall return rate of 49% representing 80 of the 165 questionnaires distributed) was achieved as a result of this survey. First and second followups

²⁷²Listings provided by Executive Secretaries of the Grand, Huron, and Clinton Watershed Councils.

²⁷³Ibid.

²⁷⁴Ibid.

were timed to coincide with the receipt of the greatest number of returns, approximately 10 days after each mailing.²⁷⁵ Incomplete responses ran highest in the second mailing (17) yet the number of complete responses obtained for the survey represented nearly 64% of the questionnaires returned.

Table 2. Response and Return Rates

	original first mailing	first followup	second followup	Totals	% Rate of return (to nearest %)
Number Complete Responses	30	13	8	51	31
Incomplete Responses	6	17	6	29	18
Questionnaires Returned	36	30	14	80	49
Questionnaires Not Returned	129	99	85	85	51
Total Number of Mailings	165			165	(total) 100%

Table 3 gives a breakdown of how well representatives from each of the watershed councils responded to the questionnaire. It also compares response and return rates. Proportionately speaking, representatives from the Huron River Watershed Council returned the most questionnaires for a rate of return of 54%.

Table 4 (see page 171) was prepared to identify how representative responses varied with respect to types of member units on each

²⁷⁵Irving Howards and Edward Kaynor, Institutional Patterns in Evolving Regional Programs for Water Resource Management. (Amherst, Massachusetts: University of Massachusetts, 1971), p. 228.

Table 3. Comparison of Response and Return Rates

	<u>1st Mailing</u>			<u>1st Followup</u>			<u>2nd Followup</u>			<u>Totals</u>			<u>Percentages</u>		
	Grand Huron Clinton			Grand Huron Clinton			Grand Huron Clinton			Grand Huron Clinton			Grand Huron Clinton		
Number Complete Responses	12	7	11	5	4	4	4	3	1	21	14	16	30	40	27
Incomplete Responses	2	3	1	8	1	8	4	1	1	14	5	10	20	14	17
Questionnaires Returned	14	10	12	13	5	12	8	4	2	35	19	26	50	54	44
Questionnaires Not Returned	56	25	48	43	20	36	35	16	34	35	16	34	50	46	56
Total Number of Mailings	70	35	60	70	35	60	70	35	60	70	35	60	100	100	100

council. This information on units responding through their representatives, was in turn plotted out on maps of each of the three councils (Figures 12, 13, and 14). Examination of Table 4 and Figures 12-14, shows that city representatives on the councils proportionately returned the most questionnaires. This breakdown of government unit response rates will be useful later in this analysis in evaluating and understanding the kinds of responses. It will also aid in identifying where in the watershed and among what types of units more participation and interest in council activity may be needed.

Table 4. Variation in Response with Respect to Member Units

A. Clinton B. Huron C. Grand	County Representatives			City Representatives			Township Representatives			Village Representatives			Totals		
	A*	B	C	A	B	C	A	B	C	A	B	C	A	B	C
Number of Complete Responses	2	4	3	11	6	12	2	4	5	1	0	1	16	14	21
Incomplete Responses	2	1	5	3	1	8	3	3	0	1	0	1	9	5	14
Questionnaires Returned	4	5	9	14	7	19	5	7	5	2	0	2	26	19	35
Questionnaires not Returned	13	3	9	16	3	17	4	7	5	2	3	4	34	16	35
Total No. of Mailings	17	8	18	30	10	37	9	14	9	4	3	6	60	35	70

* Two counties are eligible for membership to the Clinton River Watershed Council: Macomb and Oakland County. Only Oakland was a member at the time the survey was begun and it dropped its membership prior to the completion of the survey.

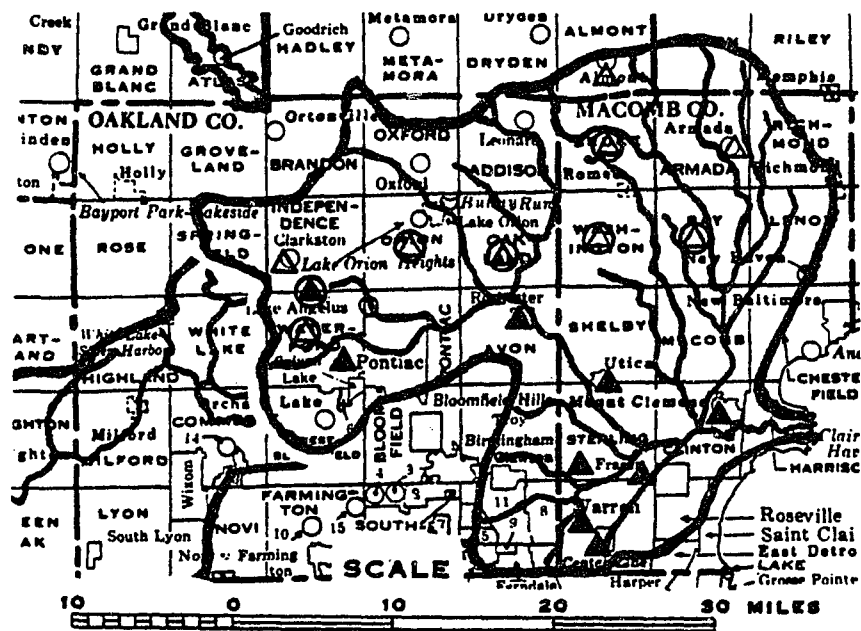






Figure 12. Clinton River Watershed Council Member Units whose Representatives Responded to the Questionnaire

-  Villages
 Cities
 Townships
 Counties

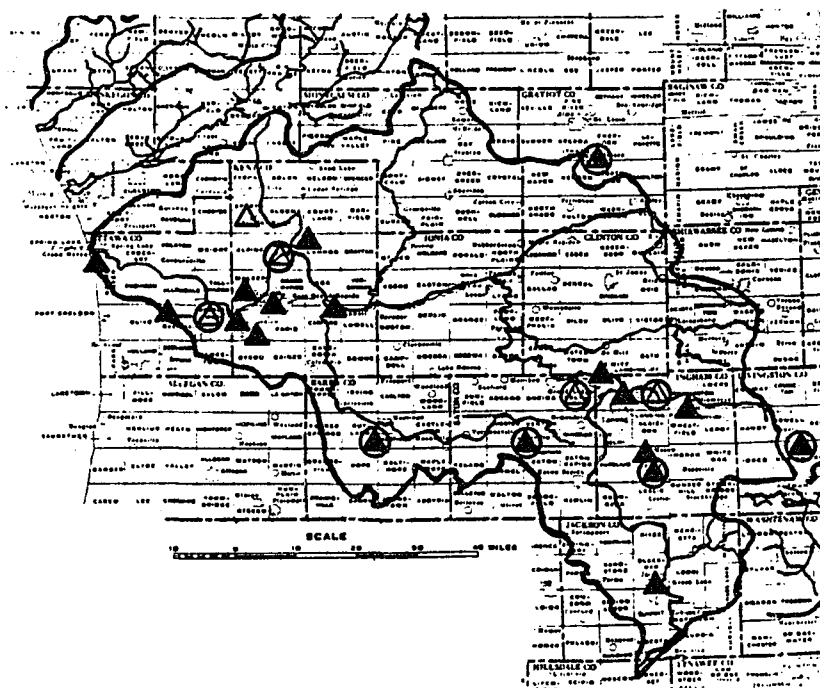


Figure 13. Grand River Watershed Council Member Units whose Representatives Responded to the Questionnaire

- △ Villages
- ▲ Cities
- ⊙ Townships
- ⊙ Counties

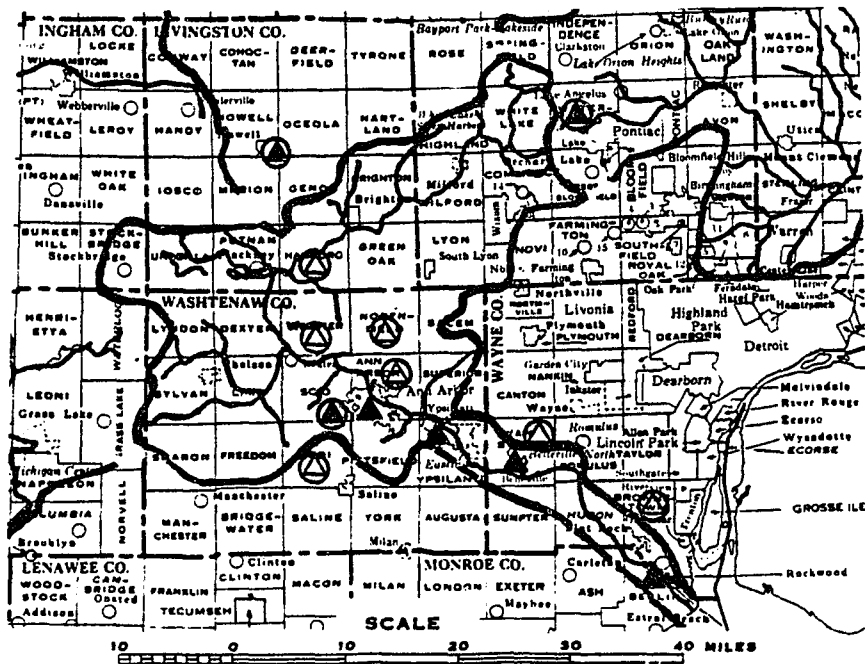


Figure 14. Huron River Watershed Council Member Units whose Representatives Responded to the Questionnaire

- △ Villages
- ▲ Cities
- ⊙ Townships
- ⊙ Counties

Analysis of the Returns

Analysis of the questionnaires administered representatives of each of the three watershed councils established under Act 253 began with a review of the questionnaire as a whole. Questions 1 and 10 were then singled out for more specific analysis and comparison. Percentage and frequency distributions formed the basis for analyzing the responses.

General Review. Some general observations were made of the responses from the questionnaire, highlights of which will be presented here. A more complete display of response patterns is available in Appendix D of this report (see Table 19, page 256), where the overall and individual council responses have been tallied and displayed for each question.

In general, the responses that came in to the questionnaires administered the representatives were supportive of the council's role and of the need to continue their operation. Water quality was most frequently cited as the most pressing issue in the watersheds, with representatives from the Clinton Watershed Council most in agreement. Table 5 gives the percentage results of how representatives responded to this question, and to the question of whether or not the watershed council was playing a role there. Representatives from the Huron and Clinton River Watershed Councils were most convinced that the councils were playing a role.

The reactions in Table 6, were given when the representatives were asked whether or not the watershed council had a place in water quality management, and what that role might be. The Huron River Watershed Council received the most favorable response to supporting

Table 5. Response Characteristics: Issues and Roles

	Categories of Responses	%* Overall	% Grand	% Huron	% Clinton
A. What is (are) the most pressing issue(s) in your watershed?	(a) waste water management	42	36	60	37
	(b) water quality	55	47	55	67
	(c) land use	28	31	25	26
	(d) water quantity	23	11	55	15
B. Is the watershed council playing a role there?	(a) yes	60	47	75	67
	(b) no	22	31	15	15

* an average value for the three watershed councils

Table 6. Response Characteristics: Water Quality Management Roles

	Categories of Responses	% Overall	% Grand	% Huron	% Clinton
A. Is there a place for your watershed council in water quality management?	(a) yes	67	61	90	60
	(b) no	7	8	5	7
If yes, what should that role be?	(a) provide information and education	46	36	60	48
	(b) advocate, assist, cooperate	46	44	50	44

* an average value for the three watershed councils

the place of the council in water quality management. Analysis of the second of these two questions (Table 6) reveals that representatives of the three councils are evenly split on what the role of the council should be in water quality management. However, both roles are complementary in that they emphasize service functions.

Representatives were later asked to respond to several questions relating to watershed council effectiveness (Table 7).

Again, the representatives from the Huron River Watershed Council appear to be most convinced that the council has been doing an effective job. When asked about the need for improvement, 85% of the Huron's representatives believed there was such a need. It is interesting to note that 53% of the representatives believed that improvement was most necessary in operation as opposed to organization. More involvement scored consistently higher than all other suggestions for improving council effectiveness. Improving the flow of information and education materials ran close behind with 27% of the respondents choosing this. Choosing these two suggestions supports the roles cited earlier by the representatives in Table 6.

Based on review of the preceding information, it appears that watershed councils, as viewed by the representatives, do have a role to play in water quality management. By better than a 2/3 margin, the councils were rated as having performed effectively and were expected to be able to continue to do so. Rather than calling for changes in the enabling legislation, the majority of the representatives responding felt the councils could best improve themselves by changing their internal operation to become more involved in issues and problems facing the watershed. Increased involvement and awareness

Table 7. Response Characteristics: Council Effectiveness

Categories of Responses		% Overall	% Grand	% Huron	% Clinton
Generally speaking, do you believe your council has been and can continue to be an effective group?	(a) yes	67	64	80	63
	(b) no	8	8	10	7
Is there room for improvement?	(a) yes	70	72	85	56
	(b) no	1	3	0	0
If yes, in what area or areas:	(a) statutory, organiza- tional	46	44	55	41
	(b) operational	53	56	60	44
Suggestions for improving effectiveness:					
(a)	improve information, education flow	27	31	40	15
(b)	more involvement in issues, problems	38	39	40	33
(c)	increase level of funding	19	22	30	7
(d)	increase available authority	18	22	15	15
(e)	improve coordination with other groups	8	11	15	0

were felt to be most important to improving the information-education and advisory roles cited as being what the council could do best toward contributing to better water quality management.

Review and Analysis of Responses to Questions 1 and 10. Questions 1 and 10 were singled out for more specific review and analysis as a result of the expected contribution that responses to these questions would make to the evaluation.

The approach taken was much the same as that followed with the previous review of questions. Overall and individual council percentage and frequency characteristics were compiled and analyzed.

Table 8 gives the overall percentage and frequency characteristics of questions 1a. - 1e. relating to council service. The response pattern generally shows a small majority of representatives reacting favorably to council service with a rating of adequate. In the adequate category "representing interests of your unit" and "responding to problems and issues" had the highest ratings with 61% and 58%, respectively. Responses were relatively evenly split between the more than and less than adequate choices, hovering in the 10-12% bracket for each of the five questions relating to council service. Tables 20-22 (see Appendix D, pages 264-266) provide a breakdown of responses by individual councils. Sixty-three percent of the representatives from the Huron River Watershed Council supported the adequate rating, while 58% and 46% of the representatives from the Grand and Clinton River Watershed Councils gave the same rating.

The comparison of the responses given to question 1 with those of question 10 relating to council involvement is shown in Table 9. Overall, 50% of the representatives responding believed the watershed

Table 8. Response Characteristics: Council Service

HOW WELL HAS THE WATERSHED COUNCIL:

- a. represented the interests of your unit
- b. responded to problems and issues in your watershed
- c. perceived problems and issues in your watershed
- d. performed in terms of making effective contributions to water quality management issues and problems
- e. communicated with your unit

more than adequate		adequate		less than adequate		no response	
a. 5	6	51	61	10	12	17	21
b. 7	8	48	58	10	12	18	22
c. 10	12	43	52	12	14	18	22
d. 8	10	43	52	13	16	19	23
e. 9	11	44	53	12	14	18	22
Number of Respondents	Percent **	Number of Respondents	Percent	Number of Respondents	Percent	Number of Respondents	Percent

* Based on a return rate of 49% or 83 of 165 questionnaires mailed (see Table 3).

** Rounded to nearest percent.

council has been involved in the various activities listed. Representatives cited that the councils have been most involved in citizen education and in promoting wise development (57%). The councils have been least involved in soil erosion control (34%). The results of the analysis of council involvement would tend to support the 55% adequate rating received by the councils for question 1 (how well the councils have provided a service).

Tables 23-25 (see Appendix D, pages 267-269) break down the overall characteristics presented here into responses from each of the individual councils. Regarding council involvement, 57% of the representatives to the Huron Council believe the council has been involved as compared to 49% and 48% from the Grand and Huron Councils. Responses show that the Huron Council has been most involved in promoting wise development and use, whereas 58% and 63% of the representatives from the Grand and Clinton say most involvement among the three councils has been in the area of soil erosion control, with only 35%, 42%, and 22% of the representatives to the Huron, Grand and Clinton River Watershed Councils saying the Council has been involved.

Table 9 shows approximately 64% of those responding felt that the watershed councils should be involved in the various activities listed. Comprehensive stream monitoring and soil erosion control were given the smallest margin of approval at 58% and 57%, respectively. (Notice, however, the 23% increase over have the councils been involved in soil erosion control to should the councils be involved.) A similar rise was also noted for assisting in programs for better waste water disposal. Most of the other activities

Table 9. Response Characteristics: Council Involvement

Regarding the following areas that have, in varying degrees, some bearing on water quality management:

- | | |
|---|---|
| a. Assisting communities in the development of flood plain ordinances and controls | f. Promoting wise development and recreational use of river and land resources |
| b. Assisting communities in the development of soil erosion, sedimentation control ordinances | g. Promoting better water quality standards |
| c. Comprehensive stream monitoring | h. Promoting better water quality management and use |
| d. Citizen education and awareness of issues in the watershed | i. Informing public agencies and requesting that studies be performed |
| e. Encouraging and supporting proposals for better waste water disposal | j. Encouraging and enlisting citizen and community support for conservation and preservation of natural resources |

	Has the watershed council been involved						Should the watershed council be involved						How:					
	YES		NO		NO RESPONSE		YES		NO		NO RESPONSE		Direct**		Indirect***		NO RESPONSE	
a.	45	54	12	15	26	31	51	61	2	3	30	36	25	30	26	31	32	39
b.	28	34	25	30	30	36	47	57	7	8	29	35	23	28	25	30	35	42
c.	46	55	12	14	25	30	48	58	4	5	31	37	36	43	11	13	36	43
d.	47	57	9	11	27	33	53	64	1	1	29	35	45	54	6	7	32	39
e.	40	48	14	17	29	35	58	70	1	1	24	29	32	39	17	20	34	41
f.	47	57	11	13	25	30	57	69	0	0	26	31	35	42	16	19	32	39
g.	40	48	13	16	30	36	54	65	2	2	27	33	35	37	11	13	41	49
h.	40	48	10	12	33	40	55	66	0	0	28	34	28	34	17	20	38	46
i.	45	54	10	12	28	34	52	63	4	5	27	33	40	48	8	10	35	42
j.	42	51	15	18	26	31	55	66	1	1	27	33	41	49	9	11	33	40
	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%

* See Table 3 for information on return and response rates for the entire questionnaire.

** Direct -- Council takes initiative.

*** Indirect -- Council supports or encourages agency activity.

experienced about a 10% change in the number of representatives saying the councils should be involved. There were no negative differences; generally, none of the representatives felt activity in these areas should decrease.

More specific identification of the individual council responses to this part of question 10 is available in Tables 23, 24, and 25 (see Appendix D). This analysis reveals that nearly 75% of the Huron's representatives on the Huron Council rated promoting wise development (90%) and encouraging better wastewater disposal (85%) as the most important activities the Council should become involved in. (This is, in part, a reflection on the development pressures building along the river and of the increasing concern over waste loads on the river below Ann Arbor.) Establishing community and citizen support drew an 80% response. Differences between what the Council has been involved in and what it should be involved in showed the greatest increase in support for the following activities:

- Soil erosion control - 30% increase
- Stream monitoring - 25% increase
- Encouraging better wastewater management - 30% increase
- Promoting wise development - 25% increase

The representatives on the Grand River Watershed Council said the Council should be most involved in promoting wise development, encouraging better wastewater disposal, and informing public agencies (64%). The remaining activities drew a close 58-61% rating. The representatives on the Grand River Watershed Council are just about evenly divided on the need for all the activities. Regarding differences in response between what the Council has been involved in, 20% more representatives felt the Council should become more involved

in informing public agencies, encouraging citizen support, promoting better water quality standards and assisting communities in soil erosion and sedimentation control.

Representatives from the Clinton River Watershed Council believe the council should be most involved in encouraging proposals for better wastewater management and in promoting better water quality standards (67%). In comparison, only 44% of the representatives felt the council should be involved in assisting communities in soil erosion and sedimentation control. This percentage, however, represents the greatest increase (22%) between what the council has been involved in to what the council should be involved in.

In suggesting how the watershed councils should be involved in the activities listed, 40% of the representatives responding indicated they would like to see the watershed council take a direct approach (Table 9). In other words they would like the council to take the initiative. Alternatively, only 17% felt the watershed councils should adopt a more indirect approach to involving itself in these activities, with the least amount (7%) saying they felt citizen education should be indirect (where the council supports or encourages agency activity.) All three councils favored the most indirect involvement in developing floodplain and erosion control ordinances, feeling that this is more appropriately the job of an agency or government unit.

Review of Tables 23-25 shows a breakdown by individual council on how representatives wanted to see involvement implemented. Response from representatives to the Huron Council showed that 70% wanted direct involvement by the council in encouraging and enlisting community

support, with 65% of the representatives also favoring direct involvement in citizen education and awareness programs. Forty-three percent of the representatives felt the approach taken in floodplain and erosion-sedimentation control assistance should be indirect. These statistics show that representatives on the Huron Council want to see more direct council involvement in programs designed to improve citizen and community awareness of what they perceive to be pressing problems in development and wastewater disposal in the Huron Watershed.

Representatives on the Grand River Watershed Council, (53% of those responding) believe citizen education should receive the most direct attention. Indirect approaches to assisting communities in soil erosion-sedimentation and floodplain controls were favored by 31% of those responding.

Citizen education and awareness was chosen by 48% of the Clinton River Watershed Council representatives as an activity that the council should be directly involved in. A similar trend was evident in their support for indirect involvement in floodplain and soil erosion-sedimentation control assistance. Concern by representatives on the Clinton River Watershed Council parallels responses from the Grand and Huron Councils in that all three reflect a desire for more direct involvement by the council in programs designed to improve citizen and community education and awareness of problems and issues in the watershed.

Review of the preceding information reveals that representatives from all three councils believe the councils have been involved in water quality management, primarily through the education-information

and advisory functions they have played. Representatives among the councils attached somewhat different significance to specific problems, though the focus was on wastewater management, public awareness, and promoting wise development. The percentage of representatives from the Huron Council asking for better wastewater disposal (85%) and wise development (90%) was highest. The representatives from the Clinton and Grand River Watershed Councils attached somewhat less significance to these problems with 67% and 59% of Clinton's representatives and 64% of Grand's representatives citing wastewater disposal and promoting wise development as areas where the council should be most involved. In all, representatives from the three councils would like to see the councils take more initiative to make more information available to agencies and to the public; to get more people interested and involved in problems and issues facing the watershed is one area where the watershed council has a direct responsibility and role to play in water quality management.

Survey of Government Units: Review and Analysis of Responses

As pointed out earlier, 112 units of government were identified as represented on the three watershed councils established under Act 253. All of these units were contacted in this survey in an attempt to determine how responses of government officials (those sitting on city and village councils, county and township boards) compared with those made by representatives to the watershed councils. The questionnaire administered these units was basically an abbreviated version of the one administered to the representatives.

The number of questionnaires returned was 27% of those mailed. The bulk of the information derived from this small survey comes largely

from the responses provided by the units responding from the Huron and Grand River Watershed Councils. Nothing was prepared on the responses obtained from units in the Clinton River Watershed Council due to the very light response from the units there (11%). Outside of some problems the Council has been having with Oakland County which may be contributing to problems developing with other units, no apparent reason exists for the small return.

An examination and comparison of the responses from the units was made, and then compared to the responses from representatives of these units on the council. For the most part, the responses that came in from officials in these units were more critical of what services the council has provided. Problems cited were similar to both groups and suggestions for improvement and change pretty much followed those offered earlier by the representatives. One thing that stood out with responses from the units was a distinct interest and concern for getting more information on what the councils are doing.

Evidence exists that units are lacking in sufficient information on the council's activities. Several units indicated they had received no recent information on the council and that they were generally unaware of council activity. Tables 10 and 11 compare responses of the units with those of the representatives to question 1 concerning council service. It is evident that there is a difference of opinion in service provided, with the units giving the less favorable reactions. For example, representatives to the Huron River Watershed Council see the Huron's record of representing interests of the units and of performance as primarily adequate (75%, 65%) while

Table 10. Comparison of Responses: Member Units and Representatives on the Huron Council

Representatives Response Characteristics	1. HOW WELL HAS THE WATERSHED COUNCIL:	more than adequate		adequate		less than adequate		no response	
		#	%	#	%	#	%	#	%
	a. represented the interests of your unit	0	0	15	75	1	5	4	20
	b. responded to problems and issues in your watershed	0	0	13	65	4	20	3	15
	c. perceived problems and issues in your watershed	4	20	9	45	4	20	3	15
	d. performed in terms of making effective contributions to water quality management issues and problems	0	0	13	65	4	20	3	15
	e. communicated with your unit ** . .	1	5	13	65	3	15	3	15
		#	%	#	%	#	%	#	%
Units Response Characteristics	1. HOW WELL HAS THE WATERSHED COUNCIL:	more than adequate		adequate		less than adequate		no response	
		#	%	#	%	#	%	#	%
	a. represented the interests of your unit	2	25	2	25	4	50	0	0
	b. responded to problems and issues in your watershed	3	38	2	25	3	38	0	0
	c. perceived problems and issues in your watershed	1	13	4	50	3	36	0	0
	d. performed in terms of making effective contributions to water quality management issues and problems	2	25	2	25	4	50	0	0
	e. communicated with your unit ** . .	1	13	5	63	2	25	0	0
		#	%	#	%	#	%	#	%

* Unit response was solicited from those officials sitting on the local governing Councils and Boards (City and Village Councils, Townships and County Boards).

** Figures are based on a return rate of 27% or 8 of 27 questionnaires distributed. It is acknowledged that this sample is small and that it may not be statistically representative of all the member units on the Council.

Table 11. Comparison of Responses: Member Units and Representatives on the Grand River Council

Representatives Response Characteristics	1. HOW WELL HAS THE WATERSHED COUNCIL:	more than adequate		adequate		less than adequate		no response	
		#	%	#	%	#	%	#	%
	a. represented the interests of your unit	2	6	23	64	4	11	7	19
	b. responded to problems and issues in your watershed . . .	2	6	23	64	2	5	9	25
	c. perceived problems and issues in your watershed	2	5	21	61	3	8	9	25
	d. performed in terms of making effective contributions to water quality management issues and problems	4	11	16	44	6	17	10	28
	e. communicated with your unit **	1	3	20	56	6	17	9	25
		#	%	#	%	#	%	#	%
Units Response Characteristics	1. HOW WELL HAS THE WATERSHED COUNCIL:	more than adequate		adequate		less than adequate		no response	
		#	%	#	%	#	%	#	%
	a. represented the interests of your unit	0	0	9	66	3	20	2	13
	b. responded to problems and issues in your watershed . . .	2	13	8	53	3	20	2	13
	c. perceived problems and issues in your watershed	0	0	8	53	4	27	3	20
	d. performed in terms of making effective contributions to water quality management issues and problems	0	0	8	53	3	20	4	27
	e. communicated with your unit **	2	13	7	47	3	20	3	20
		#	%	#	%	#	%	#	%

* Unit response was solicited from those officials sitting on the local governing Councils and Boards (City and Village Councils, Township and County Boards).

** Figures are based on a return rate of 27% or 15 of 51 questionnaires distributed. It is acknowledged that this sample's small and that it may not be statistically representative of all the member units on the Council.

only 25% of the units believe the council has done an adequate job in these areas. On the other hand, 50% of the units believe the job done has been less than adequate. Ironically, representatives and units on both councils were in general agreement on the council's communication with their constituents. Outlying units on both councils were quicker to identify the communication factor as a problem. Comparison of representatives' responses on the Grand River to the remaining parts of question 1 shows the two groups to be relatively similar in their responses overall.

Both the Grand and Huron River Watershed Councils suffer from this information supply problem, though it appears, on the basis of the difference in opinion between the representatives and the units, that the Huron Council has the more serious problem of the two. It seems that more information would be desirable in both cases but the questions that must first be answered are: 1. How much information are the councils currently generating? and, 2. How much of this information gets to governing boards of these units from either their representatives on the council or through the mail? Once this is determined, then an approach can be developed to help close this information gap. It may, in large part, be a supply problem that is responsible for the less than adequate ratings given council service by the units. Where there has been little correlation in responses given by units and by representatives, it appears poor communication, and perceptions based on limited information, have been contributing factors in the councils receiving lower ratings by the units than by the representatives.

This variation in response was evident in question 2 where the units were asked if the watershed councils were playing a role in certain problems that were identified as water quality issues in the watershed. Units on the Huron Council reacted with 60% saying "no." Units on the Grand River Watershed Council registered a 33% negative response. In contrast, representatives' answers to the same question showed 47% responding "yes" on the Grand River Watershed Council and 75% answering "yes" for the Huron Council.

Conclusions drawn from this small sample seem to indicate that units of government that support the councils are generally less impressed with the services provided and the benefits received from the contributions they make. This feeling is most evident with the units associated with the Huron River Watershed Council. The less than adequate ratings given, however, appear to be, at least in part, due to the lack of information on what the council is doing. There is more visible evidence of information generation and flow on the Grand River Watershed Council which may have been responsible for the similar, more positive reactions given there by both representatives and units on questions concerning council service.

It would seem necessary, in any case, that the councils set about determining whether or not the lower ratings given by the units to council service are in any way related to poor communication and information. If this is found to be the case, then it is most likely the result of a combination of little feedback to the units from the representatives and too little initiative on the part of the council to generate and make available information to its constituents.

On the other hand, lower ratings by the units, especially on the Huron Council, on how well the council has represented the interests of the units and performed in terms of making a contribution to water quality management issues and problems may in fact be due to too little council activity. This could also be the case as more involvement in issues and problems was most frequently cited by representatives in their suggestions for improving council effectiveness.

If the reactions presented here are representative of a majority of units on the councils, then the following would seem appropriate. The councils should make contact with the units individually in an effort to find out how they feel about the services the council is providing, and what they could do to improve the level and quality of service currently being provided the units. In this way, the councils could help better insure that the services provided are what the units that support them would both need and like to see. The end product is that the information flow, currently cited as insufficient, could be expected to improve with more frequent contacts and with evidence that the councils were providing a service that the units desired. What this suggestion would require, in essence, is more coordination, cooperation, and sharing of council responsibilities among the representatives on the council. The extent to which the representatives were willing to organize and share these responsibilities, would determine how well this program succeeded in carrying the council to the units.

Summary

The conclusion, based on the results of the preceding surveys is that watershed councils, largely through their information, education, and advisory functions, have made and can continue to make an impact on water quality management. Analysis of the surveys showed that while respondents were in agreement that an impact had been made, they did believe that the councils varied in the extent of impact each was able to provide. Where variation did exist, it was traced largely to differences between councils in extent of council activity, involvement, and information generated and distributed. Where there was less visible evidence of these factors, responses (especially those coming in from the governmental units) tended to be more critical of the job the council has done. This was expressed in terms of both the quality and level of service provided, as well as in terms of the involvement the council had in water quality-related issues and problems in the watershed.

Consistency and reasonableness of responses to the surveys form the basis for verifying that the councils have been able to contribute to water quality management. An examination of responses to questions concerning council effectiveness will also be used to develop recommendations.

THE CASE FOR A COOPERATIVE APPROACH BY
MICHIGAN WATERSHED COUNCILS: THE MICHIGAN
ASSOCIATION OF WATERSHED COUNCILS

An Overview of the Development, Purpose and
Success of the Association

The idea that a program of communication, cooperation and interaction among existing watershed councils be established to assist in the preservation of state-wide water quality was first suggested at a workshop of organized river watershed councils held in 1970.²⁵⁶ As a result, a steering committee was chosen for the purpose of studying the possibility of a formal state-wide association that would help promote cooperation and coordination among the State's watershed councils.

A number of recommendations were offered on what the purposes of the association should be and what groups should be allowed to maintain membership. Recommendations for purposes and objectives revolved around having it serve as a coordinating unit, an information clearinghouse, a source of assistance to watershed organizations in development of programs, and as a local arm of state agencies in assisting and advising them on local matters.²⁵⁷

²⁵⁶Conference of Organized River Watershed Councils, September 24, 1970.

²⁵⁷Huron River Watershed Council, Minutes of Executive Committee Meeting, October 25, 1971, p. 1.

The Grand and Huron River Watershed Councils first took the position that membership should not necessarily be restricted to organizations formed under Act 200 or Act 253. It was their suggestion that membership not be designated to exclude groups organized as private associations or through some other legislative mechanism, but rather to open membership to organizations which have similar purposes, goals, and perspectives. Examples of possible organizations included:

- (1) Watershed Councils per Act 253, Public Act of 1964
- (2) Intermunicipality Committees per Act 200, Public Act of 1957
- (3) Watershed Associations per Federal Public Law 566
- (4) County Department of Public Works per Act 185, Public Act of 1957
- (5) Water Management Districts per Act 40, Public Act of 1956
- (6) River Management Districts per Act 253, Public Act of 1964
- (7) Surplus Water Boards per Act 20, Public Act of 1964
- (8) Soil Conservation Districts per Act 297, Public Act of 1957
- (9) County Planning Commissions per Act 282, Public Act of 1945
- (10) Regional Planning Commissions per Act 281, Public Act of 1945; Act 302, Public Act of 1947; and Act 147, Public Act of 1939
- (11) Social Authorities²⁵⁸

Their reasoning was that member units should be those whose purpose is to encourage the development of public management programs.²⁵⁹

An Association of Watershed Organizations was formally organized on April 10, 1972.²⁶⁰ The purposes and objectives are:

- (1) To promote the concepts and goals of coordinated water and land resource planning and programs
- (2) To encourage the formation of voluntary public and private watershed organizations

²⁵⁸ Ibid., p. 2.

²⁵⁹ Michigan Grand River Watershed Council, Outline for the Proposed Michigan Watershed Association, (Lansing, Michigan: Michigan Grand River Watershed Council, 1971), p. 1.

²⁶⁰ Michigan Association of Watershed Organizations, Organization Bylaws, April 10, 1972.

- (3) To assist watershed organizations to develop programs and policies of benefit to their members and their watershed
- (4) To promote communication and interaction on matters that concern watershed organizations
- (5) To assist and encourage federal, state, and local governments to develop programs and policies for watershed management and protection²⁶¹

It was also decided that founding membership would be limited to watershed organizations established under Act 200 or 253 and incorporated non-profit watershed councils. Associate memberships (non-voting) were extended to several agencies and organizations. Included were:

- (1) Cooperative Extension Service
- (2) Michigan Department of Natural Resources
- (3) Soil Conservation Service
- (4) Other agencies which may be called upon from time to time for technical assistance²⁶²

Built into the bylaws, however, was a provision that would make possible a more expansive membership if and when it was decided by the Association that a group expressing a desire to join was in agreement with the purposes, goals, and perspectives of the Michigan Association of Watershed Organizations.²⁶³

The Association was to be managed by a six-man executive committee which would be largely responsible for setting the direction of the Association as well as handling all financial matters and transactions.²⁶⁴ The funds available to the executive committee were those to be derived from annual dues of \$25 paid by organizations wishing to maintain voting privileges in the Association.²⁶⁵

²⁶¹Ibid., p. 1.

²⁶²Ibid., p. 2.

²⁶³Ibid.

²⁶⁴Ibid., p. 5.

²⁶⁵Ibid., p. 5.

By and large, the Michigan Association of Watershed Organizations has adapted a rather low key approach in its activity. This has, to a large degree, been the result of poor participation at Association meetings and lack of general agreement as to the Association's activities. The purposes and objectives outlined in the bylaws of the Association depend on participation from members for any activity that takes place. The executive committee has demonstrated most of the initiative that has been generated to date. Outside of six meetings held since the Association was first formed, the Association does not really have much to call upon as far as accomplishments are concerned. The Association has placed its greatest emphasis on discussing legislation and in reviewing problems within the watersheds. No real formal action has generally followed due to this lack of visible cooperation and participation in sharing some of the responsibilities for making the Association operate.

Concerned over poor attendance and participation in the Association, the Executive Committee decided in March 1973, to distribute a questionnaire to individual members in an attempt to determine their attitude about various concerns and issues.²⁶⁶ The following questions were asked:

- (1) Is there a need for MAWO?
- (2) Should MAWO: have an active role in legislative matters?
be providing information to member organizations on legislative matters?
lobby on legislative matters?
provide information on watershed management programs?
provide information on DNR programs and proposals?
provide information on programs of member organizations?
be involved in natural resource problems around the State
such as the Williamsburg disaster?

²⁶⁶Ibid., p. 6.

develop operating relationships with other State departments?
 allow each member organization to have a member on the
 Executive Committee?
 adopt a position on the Watershed District proposal?
 favor the Watershed District proposal?
 follow the procedures for determining policies as prepared
 by Gordon Hayward for the annual meeting?
 only meet on an annual basis?²⁶⁷

As of September 25, 1973, more than two months after the questionnaires were to be returned, only four of the 12 watershed councils sent questionnaires had returned them.²⁶⁸ The general opinion of those responding (Grand, Ausable, Muskegon, and Clinton) ran strongly in favor of continuing the MAWO and having it provide information, establish relationships with state agencies and support legislation.²⁶⁹ Overall, however, discussion of the results of the questionnaire among the three councils in attendance at the next meeting of the Association, showed that it appeared most councils were negative on the need for an association or simply did not wish to participate because of a lack of interest or absence of a tangible reason(s) for them to become actively involved.²⁷⁰ Also suggested during the course of that December meeting was the recommendation that the next meeting of the Association emphasize doing something positive and something that would help attract more interest among watershed organizations in attending and participating in future Association activity.

²⁶⁷ Ibid., p. 1.

²⁶⁸ Interview with John Kennaugh, Executive Secretary, Michigan Grand River Watershed Council, September 25, 1973.

²⁶⁹ Ibid.

²⁷⁰ Michigan Association of Watershed Organizations, Minutes of General Meeting, Clare, Michigan, December 19, 1973.

A program was planned for the next annual meeting (March 1974) at which time representatives from eight of the organizations agreed to present a brief discussion of some activity or current issue within their watershed. The meeting served two primary purposes: it provided for an informational exchange and the opportunity to further discuss the future role of the Michigan Association of Watershed Organizations. It was generally agreed in the discussion that the Association needed to make some changes in its organization if it was to continue. One of the principal problems acknowledged during the discussions was finding someone with the time and interest to help develop more frequent contacts, to supply information and to organize and plan meetings that would better reflect the interests and desires of all watershed organizations.

The members present at this meeting were not able to reach a firm decision on the actions to be taken to improve the Association. Given the nature of the Association, the fact that it operates on voluntary participation, and the fact that it has inadequate funds available to secure the services of an individual to perform these activities, such a decision could not be reached. It was decided to continue meeting only as the need arose.²⁷¹

As a result of this, it appears that the Association will continue primarily on an inactive basis. It is evident, on review of the preceding information, that the Association has not been able to bring about the degree of cooperation and coordination anticipated nor has it been able to individually or collectively provide assistance to member

²⁷¹Michigan Association of Watershed Organizations, Minutes of Annual Meeting, Mt. Pleasant, Michigan, March 28, 1974.

watershed organizations in their efforts to improve water quality.

The resources at the Association's disposal are inadequate, in terms of individual commitment and funding, to support an active program. With the decision to meet only as necessary, it might be useful to consider a less formal operating arrangement until such time as it becomes necessary to formally reorganize because of improved participation or an important issue.

If the Association wishes to maintain a formal framework, it is suggested that soliciting new members among similarly-motivated organizations be established. Increased membership could help provide a healthy stimulus to organizations and planning as well as helping to promote cooperation between councils. It could also help improve interest, participation, and financial support of Association activity. It is suggested that committees be established to handle areas of responsibilities and to deal with issues and topics that are identified to be of mutual concern and interest if the formal approach is taken.

Regardless of whether the Association decides to be formal or informal in its operation, it needs to define its role. The Association needs to decide the role it wishes to play if it is to accomplish anything on a voluntary basis. It will be necessary to examine those areas where the Association feels it can fulfill some need or provide a service; be it legislative review, advice and assistance, a base for information exchange, or role-sharing with state agencies. Depending on the extent of activity the Association wants to become involved in, it might consider investigating outside funding sources, locating and utilizing state computer facilities (STORET, WISE), sponsoring

publication of a natural resources information directory, and taking advantage of high altitude imagery available in Michigan to help individual councils identify problem areas and particular kinds of land uses. These kinds of considerations and actions could help the Association to achieve the cooperation among councils that it needs to make a contribution to state-wide water quality management planning.

CONCLUSIONS AND RECOMMENDATIONS

The primary objective of this report has been to examine the ability of eight Michigan watershed councils to make inputs in basin water quality management plans within constraints imposed by existing legislation. Differences in enabling act provisions made it necessary to separate the watershed councils according to their respective organizational frameworks. The approach selected to evaluate councils organized under Act 200 concentrated on review of available literature. Watershed councils formed under Act 253, however, were evaluated on the basis of comparisons made between a series of surveys as well as on the basis of an extensive literature review. As a result of the wider availability of information, the accessibility of paid staff, and the more specific nature of enabling act provisions, watershed councils organized under Act 253 were analyzed more extensively.

Despite the issue that the Michigan Association of Watershed Organizations was largely unsuccessful in its efforts to provide a collective basis for water quality improvement, it has been shown that the individual watershed councils have made an impact on water quality management planning. The nature of this impact was traced largely to information-education functions and to providing a forum for discussion of problems. Watershed councils were found to vary in their fulfillment of these functions largely as a result of differences in:

- (1) enabling act provisions
- (2) level and type of membership involvement
- (3) leadership continuity
- (4) executive committee direction and perception
- (5) character of the watershed (rural or urban)
- (6) approach taken: problem-service approach vs. issue approach
- (7) willingness to seek out financial aid and physical support from other groups and organizations
- (8) level of communication with constituents, the state government, and other watershed councils

More specific discussion of these general conclusions will focus on watershed councils formed under Act 253. It is intended, however, that comments and suggestions offered may supplement conclusions and recommendations drawn previously for councils organized under Act 200.

Overall, this report does not call for legislative changes. Emphasis, however, is placed on more complete utilization and application of existing legislative provisions. The underlying response from legislators and respondents to the surveys is that up to this point in time, watershed councils have not shown that they have fully utilized resources at their disposal. Prior to suggesting legislative changes, councils need to demonstrate more effective use of existing resources. In the comments obtained, it is apparent that respondents feel watershed councils do not need more authority but rather need to direct their attention toward more actively involving their members in projects and activities. Respondents feel the watershed councils have a role and service to play, but not in a direct pollution control capacity. Rather, the essential function of the council is felt to lie in advising, informing, educating, and in providing a forum for

discussion. The result of emphasizing more actively-involved membership instead of pushing for more authority will be to encourage new membership, to develop more extensive programs of activities and to secure additional funding through new membership dues and solicitation of grants.

At some future point in time, however, when legislative changes become politically more attractive, and/or watershed councils take on a larger role in water quality management, then it might be feasible to recommend that recognized statutory weaknesses and deficiencies associated with watershed council legislation be corrected. The major statutory weaknesses involve limited authority and lack of an adequate funding base. Currently, all watershed council powers are permissive; there are no mandatory powers. Councils have no authority to approve or disapprove of projects. What this means is that no one needs to get watershed council approval to do anything and that no one really has to take their advice. As river and watershed management become more important to the continued regulation and control of water quality, it might then be appropriate to recommend vesting more authority in watershed councils.

On the other point, lack of an adequate funding base, watershed councils currently have no power to assess taxes nor do they have any assured funding source. All contributions come as a result of voluntary commitments of member units of government. Built into this approach is a responsibility on the part of watershed councils to convince member units of the worthwhileness of their contributing to the council's operation. Given that much of what watershed councils do is not really tangible in form, but rather information and

advisory, then it is understandable that this voluntary funding approach affects the extent to which the councils can become involved in issues and problems facing their watershed.

In spite of these recognized statutory weaknesses, there is much watershed councils can do to minimize the impact of these and other statutory deficiencies. The focus of attention will be directed at membership and revenue; attempting to show how more members could contribute to new strength, involvement and additional revenue.

As of April 1974, there were 112 participating units on the Clinton, Grand and Huron River Watershed Councils (see pages 253-255). Their participation is based on statements in Act 253 that allow membership under the following conditions:

- (a) Each local government using the river for water supply or waste disposal shall appoint 1 representative for each 20,000 population or fraction thereof. The governing body of each local government shall determine the method by which its representatives shall be selected.
- (b) Each county having 15% or more of its area in the watershed shall appoint 1 representative, and 1 additional representative for each 20,000 population or fraction thereof which aggregate total shall be computed from population of eligible townships not otherwise represented. Such townships shall be eligible under this section if they shall have 15% or more of their respective areas in the basin. The methods by which the county representatives are selected shall be determined by the county board of supervisors.²⁷⁶

Reference to Tables 12, 13 and 14, provides information on population assessment and number of representatives allowed for each participating unit on each council. In the case of the Huron River Watershed Council, an adjusted assessment has been prepared based on a revised

²⁷⁶ State of Michigan, Local River Management Act, Act 253, Public Act of 1964 (as amended), Section 4a. and 4b., pp. 1-2.

assessment schedule adopted by the council in June 1974. In the following figures, please note: Items in parentheses indicate changes that should be made by each council.

The information presented in the following figures will now be compared with information on potential membership and revenue. Considered here will be all remaining units of government in each of the three watersheds. Each of these currently non-participating units of government has the potential of becoming a member by virtue of the fact that it meets the conditions spelled out in Section 4a.-4b.²⁷⁷ or that it can show a general interest as required in Section c.:

(c): Any local agency wholly or partly within the basin may appoint a representative to the council upon a finding by the council that the agency is so affected by or concerned with the use and development of water resources in the basin as to warrant representation. If any township is represented under this subdivision, its population shall not be counted in determining the eligible total representatives of its county.²⁷⁸

Essentially, this statement makes possible membership by any unit of government interested in or concerned with the use and development of water resources in the watershed. Generally, representation under Section c. is determined by a consideration of the following factors:

- (1) Planned future use of the river for water supply of waste disposal
- (2) Percentage of area in the basin
- (3) Use of the river for purposes not mentioned in (a), such as irrigation and recreation
- (4) Effects of river flow (flooding and low flow) and general water quality
- (5) Land use

²⁷⁷ State of Michigan, Local River Management Act, Act 253, P.A. of 1964 (as amended), Section 4a. & 4b., pp. 1-2.

²⁷⁸ Ibid.

Table 12. Current Participating Membership: Clinton River Watershed Council

<u>Counties</u>	<u>Population</u> **	<u>Number of</u> <u>Representatives</u> ***	<u>Assessment</u> ****
Macomb	625,309 (544,018)	6 (2)	\$6,253.09 (\$5,440.00)
Oakland	907,871 (435,778)	27 (2)	\$9,078.71 (\$4,357.00)
<u>Cities and Villages</u>			
Almont	1,634	1	88.24
Armada	1,352	1	73.00
Birmingham	6,542	1	353.26
Centerline	10,379	1	560.46
Clarkston	1,034	1	55.84
Fraser	4,032	1	217.70
Mt. Clemens	20,476	2	1,105.70
Pontiac	85,279	5	4,605.06
Rochester	7,054	1	380.92
Romeo	4,012	1	216.65
Sterling Heights	61,365	4	3,313.71
Utica	3,504	1	189.22
Warren	179,260	9	9,680.04
<u>Townships</u>			
Addison	2,431	1	131.27
Armada	1,601	1	86.45
Avon	24,513	2	1,323.70
Brandon	3,830	1	206.82
Bruce	2,213	1	119.50
Clinton	48,865	3	2,638.71
Harrison	18,755	1	1,012.77
Independence	16,327	1	881.66
Lenox	2,869	1	154.93
Macomb	6,140	1	331.56
Oakland	4,793	1	258.82
Orion	14,189	1	766.21
Oxford	5,953	1	321.46
Pontiac	12,646	1	682.88
Ray	2,683	1	144.88
Richmond	1,719	1	92.83
Royal Oak	6,326	1	341.60
Shelby	29,467	2	1,591.22
Washington	5,651	1	305.15
Waterford	59,123	3	3,192.64
West Bloomfield	28,563	2	1,542.40
		80(61)	\$52,299.09 (\$46,764.29)

* Based on information provided to April 1974.

** Based on 1970 census figures derived from the County and Regional Fact Book Series, Michigan State University, Cooperative Extension Service, Department of Resource Development, 1973. Population has been adjusted to reflect percent of county in the watershed (Macomb, 87%; Oakland, 48%).

*** For counties, one representative plus one each for every 20,000 population or fraction thereof of townships NOT OTHERWISE REPRESENTED; for townships, cities, and villages, one representative for each 20,00 population or fraction thereof. In computing county representation, the Council has mistakenly counted townships already represented individually.

**** Based on an assessment schedule charging counties \$.01 per capita and cities, villages and townships \$.054 per capita.

Table 13. Current Participating Membership: Grand River Watershed Council

<u>Counties</u>	<u>Population</u> **	<u>Number of</u> <u>Representatives</u> ***	<u>Assessment</u> ****
Barry	20,858	3	1,042.90
Eaton	24,591	3	1,229.55
Gratiot	6,612	2	330.60
Ingham	21,857	3	1,092.85
Livingston	8,649	2	432.45
Montcalm	22,188	3	1,109.40
Ottawa	29,828	3	1,491.40
<u>Cities and Villages</u>			
Belding	5,121	1	256.05
Caledonia	716	1	35.80
Carson City	1,217	1	60.85
Cedar Springs	1,807	1	90.35
Coopersville	2,129	1	106.45
E. Grand Rapids	12,565	1	628.25
East Lansing	47,540	3	2,377.00
Edmore	1,149	1	57.45
Ferrysburg	2,196	1	109.80
Fowlerville	1,978	1	98.90
Grand Haven	11,844	1	592.20
Grand Ledge	6,032	1	301.60
Grand Rapids	197,649	10	9,882.45
Grandville	10,764	1	538.20
Greenville	7,493	1	374.65
Hastings	6,501	1	325.05
Hudsonville	3,523	1	176.15
Ionia	6,361	1	318.05
Jackson	45,484	3	2,274.20
Kentwood	20,310	2	1,015.50
Lake Odessa	1,924	1	96.20
Lansing	131,403	7	6,570.15
Lowell	3,068	1	153.40
Mason	5,468	1	273.40
Middleville	1,865	1	93.25
Nashville	1,558	1	77.90
Rockford	2,428	1	121.40
Ravenna	1,048	1	52.40
Saranac	1,223	1	61.15
Spring Lake	3,034	1	151.70
St. Johns	6,672	1	333.60
Sanfield	497	1	24.85
Walker	11,492	1	574.60
Williamston	2,600	1	130.00
Woodland	473	1	23.65
Wyoming	56,560	3	2,828.00
<u>Townships</u>			
Delhi	13,795	1	689.75
Delta	17,396	1	869.80
Georgetown	17,615	1	880.75
Lansing	11,127	1	566.35
Meridan	23,817	2	1,190.85
Plainfield	16,935	1	846.75
		84	\$42,948.00

* Based on information provided to April 1974.

** Population in watershed area, 1970 census data.

*** For counties, one representative plus one each for every 20,00 population or fraction thereof of townships NOT OTHERWISE REPRESENTED; for townships, cities, and villages, one representative for each 20,000 population or fraction thereof.

**** Based on an assessment schedule charging cities, villages, and townships \$.05 per capita and counties according to the population of townships not already counted at a rate of \$.05 per capita.

Table 14. Current Participating Membership: Huron River Watershed Council

<u>Countries</u>	<u>Population</u> **	<u>Number of</u> <u>Representatives</u> ***	<u>73-74</u> <u>Assessment</u> ****	<u>74-75</u> <u>Adjusted</u> <u>Assessment</u> *****	<u>Net Change</u>
Livingston	29,833	2 (3)	1,240.00	1,500.00	+ 260.00
Oakland	72,477	3 (5)	2,480.00	2,471.00	- 9.00
Washtenaw	183,199	2	4,960.00	6,000.00	+1040.00
Wayne	30,331	1 (3)	2,480.00	1,500.00	- 980.00
<u>Cities and Villages</u>					
Ann Arbor	99,797	4 (5)	5,981.82	5,981.82	0
Belleville	2,406	1	144.36	250.00	+ 105.64
Brighton	2,457	1	147.42	250.00	+ 102.58
Chelsea	3,444	1	231.48	250.00	+ 18.52
Dexter	1,729	1	103.74	250.00	+ 146.26
Flat Rock	5,643	1	338.58	338.58	0
Rockwood	3,225	1	187.14	250.00	+ 62.86
Wolverine	4,301	1	258.06	258.06	0
Lake					
Ypsilanti	29,538	2	1,772.28	1,772.28	0
<u>Townships</u>					
Ann Arbor	3,589	1	215.34	250.00	+ 34.66
Brighton	5,882	1	352.92	352.92	0
Brownstown	7,088	1	420.72	420.72	0
Dexter	2,238	1	134.28	250.00	+ 115.72
Hamburg	5,481	1	328.86	328.86	0
Lima	1,695	1	76.86	250.00	+ 173.14
Lodi	1,934	1	116.04	250.00	+ 133.96
Northfield	3,975	1	238.50	250.00	+ 11.50
Superior	5,562	1	333.72	333.72	0
Van Buren	13,162	1	789.22	789.22	0
Webster	1,981	1	118.86	250.00	+ 131.44
Ypsilanti	33,194	2	1,991.64	1,991.64	0
		34 (40)	\$25,441.84	\$26,789.32	+1347.48

* Based on information provided to April 1974.

** Population in watershed area, 1970 census data.

*** For counties, one representative plus one each for every 20,000 population or fraction thereof of townships NOT OTHERWISE REPRESENTED; for townships, cities, and villages, one representative for each 20,000 population or fraction thereof.

**** Based on an assessment schedule charging cities, villages and townships \$.06 per capita and counties according to a flat rate based on percent of area in the watershed.

***** Cities, villages and townships at \$.06 per capita with a maximum and minimum rate of \$6000 and \$250; counties according to population and land area in the watershed at a rate of \$.03 per capita plus \$1.50 per square mile (\$6000.00 maximum, \$1,500.00 minimum).

- (6) Proposed impoundment areas
- (7) Other factors that may be pertinent in the particular situation under consideration²⁷⁹

The only real limitation here in opening membership to concerned and interested units of government is the extent to which the watershed council is willing to interpret these general guidelines.

In considering the value of extending membership to other units of government, two considerations should be made:

- (1) The additional revenue that would be made available to the watershed council from new members
- (2) More importantly, the additional representation and participation in watershed council activity

In relating these considerations to the watershed councils, the following information was derived. The bulk of additional potential representation and revenue was found to be associated with units of government made eligible for membership on the watershed councils by virtue of Section 4c.²⁸⁰ Based on information obtained from the Water Quality Control Section, Bureau of Water Management, Department of Natural Resources and the Water Supply Section of the Environmental Health Bureau, State Health Department, it was determined that few additional government units would be made eligible for membership under Section 4a.²⁸¹ Tables 15-17 identify additional representation

²⁷⁹ Huron River Watershed Council, Organization Bylaws, 1968.

²⁸⁰ State of Michigan, Local River Management Act, Act 253, P.A. of 1964 (as amended), Section 4c., p. 2.

²⁸¹ Generally, most units that use the rivers for water supply or waste disposal are either already members or listed as potential members. In the Huron River Watershed, however, there are five units of government that use the river for sewage disposal and that currently are not members. These units are: Village of Milford, City of S. Lyon, City of Wixom, Commerce Township and Pittsfield Township. The combined additional revenue available to the Huron River Watershed Council if these units joined would be \$2404.46.

and revenue from government units made eligible for membership on each of the three watershed councils largely by virtue of Section 4c.

Where a non-participating unit qualifies for membership under Section a., that unit will be identified by an asterisk (*). Listed are those government units for which population figures were available.²⁸²

Useful to keep in mind is that as townships are added as individual members, it will be necessary to downwardly adjust county population for assessment and representation purposes. The population of townships choosing not to join individually will continue to be counted as part of the county population. It is acknowledged that the addition of townships as individual members will have an effect on the total number of representatives and revenue coming in from the counties. The extreme possibility of all townships becoming individual members would necessitate a change in the legislation that would base county representation and assessment on something other than the population of townships not currently members. One approach might be to allow the same number of representatives for each county in the watershed and to assess counties on a per capita basis according to the total population of all non-participating units of government. In any case, it is suggested watershed councils apprehensive about encouraging more townships to become individual members consider the

²⁸² Sources consulted included:

Michigan State Cooperative Extension Service, County and Regional Fact Books, Department of Resource Development, East Lansing, Michigan, 1973.

U.S. Bureau of the Census, 1970 Census of Population, Number of Inhabitants, Final Report PC (1)-A 24 Michigan, U.S. Government Printing Office, Washington, DC, 1971; U.S. Department of the Interior, Geological Survey, The National Atlas of the United States, Washington, DC, 1970.

Table 15. Potential Representation and Revenue: Clinton River Watershed Council

<u>Cities and Villages</u>	<u>Population</u>	<u>Number of Representatives</u>	<u>Assessment*</u>
Berkley	22,618	2	1,221.37
Berville	200	1	10.80
Clawson	17,617	1	951.32
Drayton Plains	16,462	1	888.95
Hazel Park	23,784	2	1,284.34
Huntington Woods	8,536	1	460.94
Keego Harbor	3,092	1	166.97
Lake Angelus	573	1	30.94
Lake Orion	2,921	1	157.73
Madison Heights	38,599	2	2,084.35
New Haven	1,855	1	100.17
Orchard Lake	1,487	1	80.30
Oxford	2,536	1	136.94
Pleasant Ridge	3,989	1	210.01
Roseville	60,529	4	3,268.57
Royal Oak	85,499	5	4,616.95
Sylvan Lake	2,219	1	119.83
Troy	39,419	2	2,128.63
Washington	1,563	1	84.40
<u>Townships**</u>			
Springfield	4,388	1	236.95
		<u>31</u>	<u>\$18,240.46</u>

* Based on an assessment schedule charging cities, villages and townships \$.054 per capita

** Minimum of 15% of township area in watershed

Table 16. Potential Representation and Revenue: Grand River Watershed Council

<u>Cities and Villages</u>	<u>Population</u>	<u>Number of Representatives</u>	<u>Assessment</u> *
Alta	250	1	12.50
(*) Ashley	521	1	26.05
Bancroft	724	1	36.20
Byron Ctr.	655	1	32.75
(*) Casnovia	403	1	20.15
Clarksville	346	1	17.30
Comstock	5,766	1	288.30
Cutlerville	6,267	1	313.35
Dansville	486	1	24.30
(*) Dewitt	1,829	1	91.45
(*) Diamonddale	970	1	48.50
Dowling	100	1	5.00
Eagle	175	1	8.75
(*) Eaton Rapids	4,494	1	224.70
(*) Elsie	988	1	49.40
(*) Fowler	1,020	1	51.00
Freeport	501	1	25.05
Fruitport	1,409	1	70.45
Grass Lake	1,061	1	53.05
Holt	6,980	1	349.00
Hubbardston	403	1	20.15
Jenison	11,266	1	563.30
(*) Kent City	686	1	34.30
(*) Laingsburg	1,159	1	57.95
(*) Leslie	1,894	1	94.70
(*) Lyons	758	1	37.90
(*) Maple Rapids	683	1	34.15
Marne	500	1	25.00
(*) McBride	272	1	13.60
Middleton	500	1	25.00
Morrice	734	1	36.70
(*) Muir	617	1	30.85
(*) Mulliken	454	1	22.70
Okemos	7,770	1	388.50
(*) Ovid	1,650	1	82.51
(*) Parma	880	1	44.00
(*) Perrington	489	1	24.45
(*) Perry	1,531	1	76.55
(*) Pewamo	498	1	24.90
(*) Pierson	193	1	9.65
(*) Portland	3,817	1	190.85
(*) Potterville	1,280	1	64.00
Rives	350	1	17.50
(*) Sand Lake	380	1	19.00
Sheridan	653	1	32.65
Springport	723	1	36.15
(*) Stanton	1,089	1	54.45
Stockbridge	1,190	1	59.50
Trufant	250	1	12.50
(*) Vermontville	857	1	42.85
Walker	11,492	1	574.60
(*) Webberville	1,251	1	62.55
(*) Westphalia	806	1	40.30
Woodbury	125	1	6.25
		<u>54</u>	<u>\$4,607.76</u>

* Based on an assessment schedule charging cities, villages and townships at a rate of .05 per capita.

** Potential membership exists by virtue of Sec 4a.

Table 16 (cont'd.).

<u>Townships</u>	<u>Population</u>	<u>Number of Representatives</u>	<u>Assessment</u>
In Barry County:			
Baltimore	1,482	1	74.10
Castleton	2,611	1	130.55
Carlton	1,533	1	76.65
(*) Hastings	2,159	1	107.95
Hope	1,783	1	89.15
Irving	1,282	1	64.10
Johnson	2,388	1	119.40
Maple Grove	1,111	1	55.55
Orangeville	1,932	1	96.60
Rutland	2,107	1	105.35
Thornapple	3,363	1	168.15
Woodland	1,776	1	88.80
Yankee Springs	1,482	1	74.10
In Clinton County:			
(*) Bath	4,832	1	241.60
Bengal	1,005	1	50.25
Bingham	1,561	1	78.05
Dallas	2,182	1	109.10
(*) Dewitt	9,909	1	495.49
Duplain	2,221	1	111.05
Eagle	1,594	1	79.70
Essex	1,435	1	71.75
Greenbush	1,626	1	81.30
Lebanon	673	1	33.65
Olive	1,907	1	95.35
Ovid	3,017	1	68.35
Riley	1,222	1	61.10
Victor	1,522	1	76.10
(*) Watertown	3,146	1	157.30
Westphalia	806	1	40.30
In Eaton County:			
Benton	1,754	1	87.70
Carmel	1,539	1	76.95
Chester	1,205	1	60.25
Eaton	2,104	1	105.20
Eaton Rapids	2,066	1	103.30
Hamlin	1,621	1	81.05
Kalamo	1,310	1	65.50
Oneida	2,635	1	131.75
Roxand	1,671	1	83.55
Sunfield	1,710	1	85.50
Vermontville	1,734	1	86.70
Windsor	4,483	1	224.15
In Gratiot County:			
Elba	1,544	1	77.20
(*) Fulton	1,904	1	94.20
Hamilton	513	1	25.65
Newark	1,047	1	52.35
New Haven	915	1	45.75
(continued)			

(*) Potential membership exists by virtue of Sec 4a.

Table 16 (con't.).

<u>Townships</u>	<u>Population</u>	<u>Number of Representatives</u>	<u>Assessment</u>
In Ingham County:			
Alaledon	2,487	1	124.35
Aurelius	1,987	1	99.35
Bunkerhill	1,464	1	73.20
Ingham	1,498	1	74.90
Leroy	2,598	1	129.90
Leslie	1,718	1	85.90
Locks	1,370	1	68.50
Onondaga	1,981	1	99.05
Stockbridge	2,526	1	126.30
Vevay	1,916	1	95.80
Wheatfield	1,177	1	58.85
White Oak	875	1	43.75
Williamston	2,847	1	142.35
In Ionia County:			
Berlin	2,213	1	110.65
Boston	2,751	1	137.55
Campbell	1,560	1	78.00
Danby	1,621	1	81.0
(*) Easton	3,908	1	195.40
(*) Ionia	2,444	1	122.20
Keene	947	1	47.35
Lyons	2,882	1	144.10
N. Plains	1,165	1	58.25
Odessa	3,103	1	155.15
Orange	866	1	43.30
Orleans	1,707	1	85.35
Otisco	1,479	1	73.95
Ronald	1,244	1	62.20
Sebewa	944	1	47.20
In Jackson County:			
Blackman	16,997	1	849.85
Columbia	4,523	1	226.15
Grass Lake	2,970	1	148.50
Henrietta	3,594	1	179.70
Hanover	2,533	1	126.65
(*) Leoni	13,953	1	697.65
Liberty	1,840	1	92.00
Napolean	5,500	1	275.00
Parma	2,138	1	106.90
Riveo	2,708	1	135.40
Sandstone	2,743	1	111.85
Spring Arbor	5,650	1	282.50
Springport	1,879	1	93.95
(*) Summit	21,754	1 (2)	1,087.70
Tompkins	1,832	1	91.60
In Kent County:			
(*) Ada	4,479	1	223.95
(*) Algoma	3,088	1	154.40
(*) Alpine	8,163	1	408.15
(*) Bowne	1,429	1	71.45
(*) Byron	7,493	1	379.65
Caledonia	3,842	1	192.10
(*) Cannon	3,690	1	184.50
(*) Cascade	5,243	1	262.15
(*) Gaines	8,794	1	439.70
(*) Grand Rapids	6,823	1	341.15
Grattan	1,893	1	94.65
Lowell	3,068	1	153.40
Nelson	1,938	1	96.90
Oakfield	2,159	1	107.95
Solon	2,114	1	105.70
Sparta	6,466	1	323.30
Spencer	1,458	1	72.90
Tyrone	2,638	1	131.90
(continued)			

(*) Potential membership exists by virtue of Sec 4a.

Table 16 (cont'd.).

<u>Townships</u>	<u>Population</u>	<u>Number of Representatives</u>	<u>Assessment</u>
In Livingston County:			
Conway	1,160	1	58.00
Handy	3,556	1	177.80
Howell	5,224	1	261.20
Marion	2,668	1	133.40
Iosco	817	1	40.85
In Montcalm County:			
Belvedere	1,345	1	67.25
Bloomer	1,152	1	57.60
Bushnell	1,025	1	51.25
Cato	2,205	1	110.25
(*) Crystal	1,781	1	89.05
Day	1,180	1	59.00
Douglas	1,118	1	55.90
Eureka	1,938	1	96.90
Evergreen	1,842	1	92.10
Fair Plain	1,087	1	54.35
Home	2,487	1	124.35
Maple Valley	1,476	1	73.80
Montcalm	1,984	1	99.20
Pierson	1,261	1	63.05
Pine	984	1	49.20
In Muskegon County:			
Casnovia	1,879	1	93.95
Fruitport	1,488	1	74.40
Moorland	2,403	1	120.15
Ravenna	2,051	1	102.55
Sullivan	10,241	1	512.05
In Ottawa County:			
(*) Allendale	3,553	1	177.70
Blendon	2,927	1	146.35
Chester	1,786	1	89.30
Crockery	2,861	1	143.05
Georgetown	17,615	1	880.75
Grand Haven	5,489	1	274.45
Jamestown	2,926	1	146.30
Polkton	1,962	1	98.10
Robinson	2,051	1	102.55
Spring Lake	8,013	1	400.65
Tallmadge	4,883	1	244.15
(*) Wright	2,983	1	149.15
In Shiawassee County:			
Antrim	1,277	1	63.85
Bennington	1,973	1	98.65
Fairfield	964	1	48.20
Middlebury	1,362	1	68.10
Owosso	4,002	1	200.10
Perry	2,598	1	129.90
Sciota	1,054	1	52.70
Shiawassee	2,549	1	127.45
Woodhull	2,609	1	130.45
		154	\$21,984.69

(*) Potential membership exists by virtue of Sec 4a.

Table 17. Potential Representation and Revenue: Huron River Watershed Council

<u>Cities and Villages</u>	<u>Population</u>	<u>Number of Representatives</u>	<u>Assessment*</u>
Commerce	3,500	1	250.00
Dixboro	350	1	250.00
Gregory	300	1	250.00
(*) Milford	4,699	1	281.94
New Boston	900	1	250.00
New Hudson	600	1	250.00
Pinckney	921	1	250.00
Romulus	2,500	1	250.00
S. Rockwood	1,477	1	250.00
(*) S. Lyon	2,675	1	250.00
(*) Wixom	2,010	1	250.00
Wolverine Lake	4,301	1	258.06
<u>Townships**</u>			
(*) Commerce	18,857	1	1,131.42
Freedom	1,267	1	250.00
Genoa	4,800	1	288.00
Green Oak	7,598	1	455.88
Hartland	2,630	1	250.00
Highland	8,372	1	502.32
Huron	8,030	1	481.80
Lyndon	1,373	1	250.00
Lyon	4,500	1	270.00
Milford	7,256	1	435.36
Novi	182	1	250.00
(*) Pittsfield	8,185	1	491.10
Putnam	3,354	1	250.00
Romulus	22,879	2	1,372.74
Salem	3,001	1	250.00
Sharon	831	1	250.00
Springfield	4,388	1	263.28
Sumpter	8,091	1	485.06
Sylvan	5,086	1	305.16
Unadilla	1,793	1	250.00
West Bloomfield	13,504	1	810.24
White Lake	14,311	1	858.66
		35	\$13,191.02

* Based on an assessment schedule charging cities, villages and townships \$.06 per capita with a maximum and minimum rate of \$6,000 and \$250.

** Minimum of 15% of township area in watershed.

(*) Potential membership exists by virtue of Sec 4a.

the value of additional representation and participation. Effectively used, additional members could provide a stronger base for involvement in projects and activities as well as for advocating state financial support and working on securing grants and special project funding.

The point in comparing actual and potential representation and revenue figures for the Clinton, Grand and Huron River Watershed Councils is to show just how much additional members and revenue are available to each of these three councils. Table 18 illustrates this point.

In proposing that these watershed councils consider encouraging new members, it is acknowledged that the councils will have to be prepared to convince potential members of the value and benefits to them in joining. Several factors have been shown to have an effect on this. Largely as a result of comments obtained in interviews and surveys, the following have been identified as factors watershed councils need deal with in order to boost their credibility, encourage participation and improve on their ability to effectively contribute to water quality management planning:

- (1) Encourage more participation and role-sharing by representatives in council activities
- (2) Providing for the accountability of representatives
- (3) Demonstrating that the watershed council performs a useful service not provided elsewhere
- (4) Establishing closer working relationships with other watershed councils and with state agencies

The first of these factors is a key to carrying the watershed council to prospective member units and convincing them of the council's

Table 18. Comparison of Actual and Potential Representation and Revenue

	A C T U A L		P O T E N T I A L	
	Number of Representatives	Revenue	Number of Representatives	Revenue
Clinton River Watershed Council	61	\$46,764.29	31	\$18,240.46
Grand River Watershed Council	84	\$42,948.00	208	\$26,592.45
Huron River Watershed Council	40	\$26,789.32	35	\$13,191.02

* Refers only to additional membership and revenue

worth. A few well-chosen, short-term action programs having general appeal and benefit would help the watershed council in its efforts to encourage more participation. A major limiting factor, however, has been the general unwillingness of council representatives to actively share in the responsibilities of the council. The executive secretary, as the only paid staff member, has the bulk of the responsibility for operating the watershed council. Much of the blame for inaction falls on him. The resources to further improve the nature and scope of the council's operation are largely beyond his reach. It is necessary to mobilize council representatives to assist him in his efforts. One approach that could be implemented to help accomplish some role-sharing is through the formation of committees. The Grand River Watershed Council and to a lesser extent the Clinton and Huron River Watershed Councils have developed finance, recreation, watershed management and technical advisory committees. By and large, their function has been to accomplish a particular task or special project. At the direction of the executive secretary and the executive committee, it is suggested that functions currently being performed by special committees be evaluated and expanded to include more of the ongoing activities of the council. Committees could be set up to serve as "sub-councils" to include establishment of a speaker's bureau. In addition to assigning each committee member with specific responsibilities in line with the function of the committee, members could serve as representatives of the executive secretary by maintaining personal contact with government units and by periodically meeting with these units to discuss problems and what kinds of services the unit would like to see the council supply.

This would help stimulate two-way communication between the watershed council and its member government units as well as helping insure that programs the council develops are in line with what local units want and are willing to support.

Another factor having an effect on how much the watershed council can contribute to better water quality management planning involves the accountability of representatives. Currently there is no mechanism for insuring that representatives report back to their respective units of government. Responses obtained in the surveys pointed to a basic lack of understanding among government units of what kinds of activities the councils are involved in. This lack of understanding was not shown to be related exclusively to the amount of information being produced. It is suggested that watershed councils evaluate the current procedure for appointing representatives to their constituent units of government in an effort to improve on the understanding units have of council activity as well as on the communication and information flow taking place.

Potential member units of government also need to be convinced that the watershed is a viable planning unit and that the watershed council has a service to provide that is currently not available elsewhere. Watershed councils are set up according to natural boundaries and as such help provide for internalizing regional problems. With the growing emphasis on the need for state authorities to relate to regional areas and for units of government to have a forum for discussion, then watershed councils could be said to be viable institutions. On the second point, the watershed councils provide a variety of useful services. In addition to buffering forces and

institutions involved in water resources planning, the council creates a good beginning for making choices that a greater authority may follow up on. Councils provide a device where government units can thrash out and debate fundamental questions of water policy. According to Lyle Craine, the most important role for watershed councils is in those areas where other government units are not relating to water problems.²⁸³ For example, SEMCOG and HCMA, as regional planning authorities, have substantial funding and formal approval powers but their emphasis in relating to local units of government is largely outside the area of water resources. Watershed councils, on the other hand, serve a constructive purpose in that they specialize in water resources and, hence, are able to provide a service local units of government can call upon in dealing with water related issues and problems.

A fourth factor involved in watershed council efforts to boost membership, participation and credibility involves the position councils maintain with each other and with state agencies. Outside of periodic contacts made at meetings of the Michigan Association of Watershed Organizations, watershed councils were found to have little communication with each other. This is unfortunate in light of the experiences and information that could be shared. Watershed councils should periodically meet and discuss mutual problems and interests. Since it is a mutual problem, it is suggested that there might be some value in watershed councils meeting and actively

²⁸³ Interview with Dr. Lyle Craine, University of Michigan, School of Natural Resources, December 4, 1973.

approaching the issue of membership and funding. With reference to the relationship the councils maintain with State agencies, this is an essential consideration and factor in long-term efforts aimed at watershed council improvement. The problem is one of minimal recognition of watershed council activity by state agencies. To date, the State has not committed itself to a cooperative approach with local units of government. The State wants to maintain local autonomy in terms of decision making, yet it is reluctant to give additional functions to watershed councils or to recognize that councils can be effective at supporting state responsibilities at the local level. The Department of Natural Resources has a pivotal role to play in whether the watershed councils can be effective. In addition to the recognition the State provides watershed councils in the Natural Rivers Act²⁸⁴ and the Inland Lakes and Streams Act,²⁸⁵ the State should augment watershed council responsibilities by allowing councils to take on a more active role in the implementation of the Soil Erosion and Sedimentation Control Act,²⁸⁶ processing of National Pollutant Discharge Elimination Permits and in providing assistance with stream monitoring and data collection.

²⁸⁴State of Michigan, Natural River Act, Act 231, P.A. of 1970, Section 3.

²⁸⁵State of Michigan, Inland Lakes and Streams Act, Act 346, P.A. of 1972, Section 6.

²⁸⁶State of Michigan, Soil Erosion and Sedimentation Control Act, Act 347, P.A. of 1972.

The basis of these concluding remarks has been to focus on more complete utilization of resources available to watershed councils.

The basic problems of these councils have been shown to center largely on:

- (1) Low level of participation be membership in watershed council activities
- (2) Inadequate communication between and among membership and government units
- (3) Inadequate communications and cooperation between the watershed councils and the state
- (4) Lack of public understanding of the role and potential usefulness of watershed councils

Based on information gathered in this report watershed councils, in general, have been shown to have made an impact on water quality management planning through their advisory and information-education functions. The councils, however, have the potential to improve on this impact. One approach is through more actively involving existing and potential membership and by maintaining more extensive communication linkages between councils, members, units of government, and state and public agencies.

The following additional recommendations represent activities and concerns watershed councils should consider in their efforts to improve their ability to provide services and to contribute to better water quality management planning:

- (1) Watershed councils should become more involved in data collection and information supply

Water resource information for urban planning is badly needed. Watershed councils are particularly suited to provide a service here

due to their focus on water resources. Watershed councils could assist planners in identifying and evaluating water related problems and in determining their relative importance.

With the assistance of state agencies, universities and other agencies and institutions, watershed councils could stimulate interest in how simulation may be utilized during the watershed planning process for: floodplain delineation, computation of monetary flood damages, analysis of structural flood control alternatives, determination of land use effects, and synthesis of low flows. According to Walesh, "applications of simulation in plan implementation include: floodway determination, encroachment studies, provision of design data for river crossings, preparation of flood insurance reports, incorporation of improved mapping and watershed changes, dissemination of flood hazard information and flood forecasting."²⁸⁷

On the subject of flooding, watershed councils could help initiate an early warning system similar to the approach suggested by the Huron River Watershed Council. Flood warning is an example of a service that is currently not provided by any agency and it is certainly an activity falling within the ability of watershed councils to perform. Councils could also become involved in flood control by collecting and distributing flood-related information to communities, by working with communities to secure funding for flood plain studies

²⁸⁷ S. G. Walesh, Journal of the Hydraulics Division, American Society of Civil Engineers, Vol. 99, No. HY9, Proceedings paper No. 10020, September, 1973.

and by advising and assisting interested communities on flood plain delineation, writing flood plain ordinances, and assisting them in locating help.

It is also recommended that watershed councils help citizens take an active role in water-related land use planning by teaching them how to inventory and evaluate natural resources in their areas. For example, the watershed councils could sponsor workshops where they inform citizens and interested groups on such things as how to use soil surveys, aerial photographs and other land use classification information. Special watershed council committees could research the information and conduct workshop sessions on any number of subject areas. For the subjects mentioned here, the information is readily available from sources like the Soil Conservation Service and the Department of Natural Resources. Aerial photographic imagery is available on much of Michigan and assistance in interpreting and gaining access to it is located in the Project for the Use of Remote Sensing in Land Use Policy Formulation at Michigan State University. This is an area watershed councils should explore because of the potential wealth of information and basic data that could assist them in watershed evaluation.

The workshop concept, given the necessary involvement of watershed council members, could significantly help establish councils as a credible information source for state agencies, local units of government, groups and citizens.

(2) Watershed councils should explore additional funding sources

Available revenue from membership has had the effect of limiting the extent to which the watershed councils have been able to get

involved in activities and projects. Councils should consider securing additional operating funds through agreements to perform special projects for interested clients, by soliciting businesses, special interest groups and foundations for funding support, by raising assessments to units for performing short term projects, and by exploring Federal and State research and planning assistance that does not require a statutory planning authority or a matching funds arrangement. One source of state funding that councils should consider more seriously is soil conservation funds. State soil conservationists have a line item in the budget to support the P.L. 566 "Small Watershed Program." Priority is given to the allocation of funds for technical assistance and engineering services. The program names township boards, river management districts, counties, certain cities, county drainage districts, inter-county drainage districts and water management districts as potential sponsors, or co-sponsors with Soil Conservation Districts for P.L. 566 watershed assistance.²⁸⁸ Watershed councils are not specifically named but it is suggested councils work with state soil conservationists on exploring the possibility of watershed councils qualifying for assistance. Even if watershed councils are unsuccessful in their bid for assistance, councils can work with units of government in their efforts to secure funds for special projects.

As evidenced in the suggestions and recommendations offered here, watershed councils have a significant role to play in watershed water quality management planning. The extent to which they can

²⁸⁸ Russell G. Hill and Eckhart Dersch, Watersheds for Water Management, Michigan State University, Cooperative Extension Service, East Lansing, Michigan, 1971, p. 11.

impact water quality management has been shown to be largely a factor of how well they utilize resources at their disposal. The future success of watershed councils is dependent on broader recognition of their abilities and on the exposure gained through more activity. Role-sharing by council representatives and state agencies will help contribute to a greater awareness of the benefits and services the watershed councils are equipped to provide.

APPENDICES

APPENDIX A
QUESTIONNAIRES AND SURVEYS

APPENDIX A. QUESTIONNAIRES AND SURVEYS

Figure 15. Information Checklist for an Interview Survey

- I. Background
 1. Council's date of formation
 2. Were you advised to form under Act 200?
 - a. By whom?
 - b. For what reasons?
 - c. Why did you ultimately decide to form under 200?
 3. Was the council aware of P.A. 253?
 - a. If yes, why did they opt for 200 as an organizational framework?
 4. What was(were) the stimulus(stimuli) for the council's formation?
 5. What were the council's goals?
 6. Have the reason(s) for the council's existence changed in any way?
 - a. Have the original goals been expanded to include new ones?
- II. Council
(objectives, roles, activities, membership, funding)
 7. What is(are) the current role(s) and objective(s) for your council?
 8. What projects and activities has your council been involved in?
 9. What has been the outcome of these projects and activities?
 10. In what areas would your council like to have an input where it presently does not?
 11. In what areas, on what kinds of issues and problems, can your council be most effective?

Figure 15 (cont'd.).

12. What does your council need to be more effective?
13. How important is membership to your ability to be effective?
14. How does your council derive its membership?
15. Has the council actively solicited new members?
16. How does the council derive its operating funds?
17. Do you feel the lack of funds and/or low membership is in some way holding back on your ability to be effective?
18. How would you propose obtaining this additional financial support?
19. What does your council need most to be an effective voice in the watershed?
20. Where can the council be most effective?

III. Assessment

21. What has been the level of involvement by your council in problems and issues facing the watershed?
 - a. In what areas has the council been most involved? least involved?
 - b. What segment of your membership generates the most involvement?
 - c. Are there reasons for this?
22. Is water quality an issue or problem in your watershed?
 - a. Where and on what issues?
 - b. Do you feel the council can react to them? How?
23. What is(are) the most pressing issue(s)/problem(s) in your watershed?
24. Is the council playing a role there? Should they? How? When?

Figure 15 (cont'd.).

25. Generally speaking, has your council favored direct or indirect involvement in issues facing the watershed? Why?
26. How has community and citizen support been for the council?
 - a. What has been done to boost community interest and awareness of council activities? Results?
27. With regard to the following, which has some bearing on water quality management?
 - a. Has the council been involved?
 - b. Should the council be involved?
 - assisting communities in developing floodplain ordinances and controls
 - assisting communities in developing soil erosion and sedimentation controls
 - assisting communities in developing plans for protection of natural and scenic rivers
 - comprehensive stream monitoring
 - citizen education and awareness of issues in the watershed
 - encouraging and supporting proposals for better waste water disposal
 - informing public agencies and requesting that studies be performed
 - promoting better water quality standards
 - promoting wise development and recreational use of river and land resources
 - promoting better water quality management, use
 - encouraging and enlisting citizen and community support for conservation and preservation of natural resources

IV. Legislation

28. Reaction, reflection on P.A. 200--advantages, disadvantages, suggestions for change
29. Reaction to P.A. 253--advantages, disadvantages, suggestions for change

Figure 15 (cont'd.).

V. 253 Councils

30. Are you in favor of legislation that would give watershed councils a greater voice in watershed planning for quality safeguards and future use?

If yes, what form do you feel this legislation should take?

31. Are you familiar with what the 253 councils can be/are involved in and the results of their activities?

a. With which councils are you most familiar?

32. Have you solicited support, advice, information or assistance from any of them?

a. On what?

b. Which councils?

c. Their response?

33. Is there a common ground for 200, 253 councils communicating? What is it?

34. Would closer communication, cooperation with these 253 councils help to improve on your council's ability to be effective?

If yes, how would you suggest this take place?

35. How could 253 councils be of the most value to 200 councils?

VI. Michigan Association
of Watershed Organiza-
tions

36. Are you familiar with this organization, its goals and purposes?

37. What has been your council's participation in it?

38. Do you support it financially? In theory?

39. What could it do to gain broader support among its members?

APPENDIX A. QUESTIONNAIRES AND SURVEYS

Figure 16. Weighted Value of Watershed Council Activities, Functions and Features

Instructions: Listed below are several activities, functions and features (later called "variables") of watershed councils granted by enabling legislation. Please examine this list and add any other variables made possible by legislation which you feel are important.

According to the degree of effectiveness each variable has on affecting water quality management in your watershed, rank the variables in descending order of importance. Place number 1 in the "weighted value" column adjacent to the most important variable, number 2 adjacent to the variable next in importance and continue downward to 10. If you added variables, be sure to include these in your ranking. In this case your numbers will, of course, exceed 10 and go on to 11, 12, 13, or 14, etc. Please assign a different number to each variable listed, no matter how fine the distinction may be.

	Weighted Value:
1. Availability and source of funds	_____
2. Membership number (actual and potential, turnover, involvement, leadership, etc.)	_____
3. Conduct studies of water resources in the watershed	_____
4. Cause to be conducted studies-contracts	_____
5. Prepare reports	_____
6. Request the water resources commission to perform streamflow level studies	_____
7. Creation of river management districts	_____
8. Advise local, state, federal units of government as to council views of watershed problems and needs	_____
9. Coordinate, cooperate with other units of government in handling mutual problems and providing for water quality sampling	_____
10. Public information and education services and programs	_____

Please list activities, functions and features you would like to see available to your watershed council but not presently allowed by enabling legislation. Limit these variables to those impacting on

Figure 16 (cont'd.).

water quality management in your watershed. Rank these variables in the "weighted value" column in the same manner as you did in the above section.

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

Please return by January 25, 1974, to:

Edward Hood
Department of Resource Development
324 Natural Resources Building
Michigan State University
East Lansing, Michigan 48824

Submitted by: Name, Watershed Council:

APPENDIX A. QUESTIONNAIRES AND SURVEYS

Figure 17. Watershed Council Member Unit Survey

Name of Government Unit: _____

more than adequate less than
adequate adequate

1. How well has the watershed council:

represented the interests of your unit
perceived water quality management problems and issues
responded to water quality management problems and issues
performed in terms of making effective contributions to water quality management problems and issues in your unit
communicated with your unit (if less than adequate, how could it improve?)

Comment:

In order of priority:

2a. What are the most pressing water quality management problems, issues in your unit? 1.
2.
3.

b. Is the watershed council playing a role in bringing attention to or correction of any of these?

yes no

c. In which of those you indicated 1.() 2.() 3.()

d. Should the watershed council play a role? yes no

e. In which of those you indicated 1.() 2.() 3.()

f. How?

- | | |
|---------------------------|----|
| 1. advice and assistance | 1. |
| 2. planning | 2. |
| 3. conduct studies | 3. |
| 4. education | 4. |
| 5. other (please specify) | 5. |

3. Is your unit satisfied with the amount and type of benefits received from the financial contribution it makes to the watershed council? yes no

Figure 17 (cont'd.).

Brief Comment:

4. How could the watershed council be of the most benefit and service to your unit?
5. What changes would you recommend in watershed council performance in order to bring it more in line with your unit's expectations?

APPENDIX A. QUESTIONNAIRES AND SURVEYS

Figure 18. Questionnaire Administered Council Representatives

Name: _____

Representing: _____
(name of watershed council)

more than	adequate	less than
adequate		adequate

1. How well has the watershed council:

represented the interest of your unit,
responded to problems and issues in
your watershed,
perceived problems and issues in your
watershed,
performed in terms of making effective
contributions to water quality manage-
ment issues and problems,
communicated with your unit*

* (if less than adequate, how could it improve?)

2. What is (are) the most pressing issue (s) in your watershed?

- a. Is the watershed council playing a role there? yes no
- b. Should they? If yes, how?

3. Is there a place for your watershed council in water quality
management? If yes, what should that role be?

yes no

4. Is water quality management an issue in your watershed? If yes,
what are the water quality management issues?

yes no

Figure 18 (cont'd.).

5. Do you feel your watershed council can, in some way, react to these issues? If yes, how?
- yes no
6. As a means of providing the watershed council with greater ability to impact water quality management, do you feel the river management district concept, as provided in the enabling legislation, is a feasible alternative and that it should be exercised by your council? Why or why not?
7. Does your unit feel its money is being spent well in contributing to the support of the watershed council?
- yes no
- a. If no, are the amount and type of benefits received the issue? yes no
- b. if no, what is(are) the issues?
8. Would you like to see the watershed council's direction changed in some way? If yes, in what way?
- yes no
9. Generally speaking, do you believe your council has been and can continue to be an effective group?
- yes no
- a. Is there room for improvement in your watershed council? yes no
- b. If yes, in what area(s): 1. statutory _____
2. organizational _____
3. operational _____
- c. Suggestions for improving council's effectiveness
- d. Assuming funding arrangements were changed so as to increase the financial resources available to the watershed council, would this measurably improve on their ability to effectively contribute to better water quality management?
- yes no

10. Regarding the following areas that have, in varying degrees, some bearing on water quality management:

	Has the watershed council been involved		Should the watershed council be involved		How:	
	YES	NO	YES	NO	Direct*	Indirect**
a. Assisting communities in the development of flood plain ordinances and controls						
b. Assisting communities in the development of soil erosion, sedimentation control ordinances						
c. Comprehensive stream monitoring						
d. Citizen education and awareness of issues in the watershed						
e. Encouraging and supporting proposals for better waste water disposal						
f. Promoting wise development and recreational use of river and land resources						
g. Promoting better water quality standards . . .						
h. Promoting better water quality management and use						
i. Informing public agencies and requesting that studies be performed						
j. Encouraging and enlisting citizen and community support for conservation and preservation of natural resources						

*Direct - Council takes initiative

**Indirect - Council supports current agency activity

APPENDIX B

WATERSHED COUNCILS AND ENABLING LEGISLATION

APPENDIX B. WATERSHED COUNCILS AND ENABLING LEGISLATION

Figure 19. Michigan Watershed Councils and Related Organizations

September 1974 FORMED UNDER ACT 253:

Clinton River Watershed Council

Peggy Johnson, Executive Secretary
8215 Hall Road, Utica, MI 48087
(313) 739-1122

Grand River Watershed Council

John Kennaugh, Executive Secretary
3322 W. Michigan Avenue
Lansing, MI 48917
(517) 489-0514

Huron River Watershed Council

Owen Jansson
415 W. Washington
Ann Arbor, MI 48103
(313) 665-0514

FORMED UNDER ACT 200:

Ausable River Watershed Study

Willard Bosserman, Secretary
Box 507, Roscommon, MI 48653
(517) 275-5043

Boardman River Advisory Council

George Sarns, Chairman
1816 River Road
Traverse City, MI 49684

Elk River Watershed Council

Earl Dunn, Chairman
Rt. #2, Williamsburg, MI 49690
(616) 267-5956

Jordan River Watershed Council

Ed Rebman, Secretary
Charlevoix County Extension Agent
Federal Bldg., Boyne City, MI
49712 (616) 582-6232

Figure 19 (cont'd.).

Kearsley Creek Preservation Council
Robert Williams, Chairman
503 Main Street, Davison, MI 48423
(313) 653-4181

FORMED AS NON-PROFIT ORGANIZATIONS:

Muskegon River Watershed Council
Lane Rushmore, Secretary
Fremont Community Building
Fremont, MI 49412
(616) 924-0500

Pere Marquette Watershed Council
John M. Keene, President
Wilbur Street
Big Rapids, MI 49307
(616) 796-8017

Upper St. Joe River Valley
Environmental Council
Charles Rockhold
5051 Pleasant Ridge Road
Quincy, MI 49082
(517) 639-8261

White River Watershed Council
Wesley Cooper, President
Rt. #2, Fremont, MI 49412
(616) 924-5300 (or 924-3606)

FOR INFORMATION ON STATE ASSISTANCE:

J. Mark Hargitt
Water Development Services Division
Department of Natural Resources
Mason Building
Lansing, MI 48926
(517) 373-1950

APPENDIX B. WATERSHED COUNCILS AND ENABLING LEGISLATION

Figure 20. State of Michigan, Act 200, Public Acts 1957

An Act to provide for the creation by 2 or more municipalities of an intermunicipality committee for the purpose of studying area problems; and to provide authority for the committee to receive gifts and grants.

The People of the State of Michigan enact

123.631 Intermunicipality area problem study committee; definition of municipalities. [M.S.A. 5.2450 (1)]

Sec. 1. As used in this act, "municipalities" means any city, village, township, chartered township or other incorporated political subdivision of this state.

123.632 Same; organization; purposes [M.S.A. 5.2450 (2)]

Sec. 2. The governing bodies of any 2 or more municipalities, by resolution, may establish and organize an intermunicipality committee, to be known as the intermunicipality committee; for the purpose of studying area governmental problems of mutual interest and concern, including such matters as facility studies on sewers and sewage disposal, water, drains, roads, rubbish, and garbage disposal, recreation and parks, and ports, and to formulate recommendations for review and action thereon by the member governing bodies.

123.633 Same; surveys, recommendations, reports. [M.S.A. 5.2450 (3)]

Sec. 3. The intermunicipality committee may employ personnel to coordinate and conduct all types of surveys and studies relating to the mutual problems of its member municipalities or may enter into agreements for such surveys and studies to be conducted by other public or private agencies. It shall adopt, by resolution of a majority of its full membership, any recommendation for submission to the several member governing bodies. It may publicize its purposes, objectives and findings, and may distribute reports thereon. It shall make an annual report of its activities to the several member governing bodies.

123.634 Same; funds. [M.S.A. 5.2450 (4)]

Sec. 4. For the purpose of providing funds to meet the expenses of the intermunicipal committee, the member governing bodies, by resolution, may authorize the allocation of municipal funds for such purpose. The proportion of the total amount of funds to be provided by each member municipality shall be based on the recommendation of

Figure 20 (cont'd.).

the intermunicipality committee, or shall be provided for in the bylaws of the committee, which shall have been approved by the member governing bodies.

123.635 Same; contributions of service of personnel, equipment, office space [M.S.A. 5.2450 (5)]

Sec. 5. Services of personnel, use of equipment and office space and other necessary services may be accepted from member municipalities and may be considered as a part of the financial support of that municipality.

123.636 Same; gifts and grants from governmental units and from private sources [M.S.A. 5.2450 (6)]

Sec. 6. The intermunicipal committee may accept gifts and grants from the federal government, state government and local governments, also from private individuals, foundations or agencies, if the grants are made for furtherance of the objectives for which the committee is established.

Approved June 4, 1957.

APPENDIX B. WATERSHED COUNCILS AND ENABLING LEGISLATION

Figure 21. State of Michigan, Act 253, Public Acts of 1966 (as amended)

An Act to enable local units of government to cooperate in planning and carrying out a coordinated water management program in the watershed which they share.

The People of the State of Michigan enact

323.301 Local river management act; short title.

Section 1. This act shall be known and may be cited as the "local river management act."

323.302 Same; definitions.

Sec. 2. As used in this act:

- (a) "Council" means a watershed council created under the terms of this act.
- (b) "District" means a river management district established under the terms of this act.
- (c) "Board" means a river management board created as the governing body of a river management district in accordance with the terms of this act.
- (d) "Commission" means the state water resources commission.
- (e) "Watershed" means the drainage area of a stream.
- (f) "Local governments" means cities, villages, counties, townships and charter townships.
- (g) "Local agencies" means local governments, special districts or other legally constituted agencies of local government exercising powers which may affect water resources.
- (h) "River management" means the control of river flow by the operation of dams, reservoirs, conduits and other man-made devices in order to improve and expand the uses of the river for those who depend upon it for a variety of private and public benefits.
- (i) "Level of stream flow" means a measure of water quantity including the amount of water passing a designated point over a designated period and the levels of lakes which are an integral part of the surface drainage system of the watershed.

323.303 Watershed council; creation, organizational meeting, notice.

Sec. 3. (1) To promote cooperation among local governments in river management, a watershed council shall be established by the commission upon a petition from 3 or more local governments lying wholly or partially in the watershed as defined in the petition. The petition shall provide a statement of necessity, a description of general purposes and functions to be performed, a description of the area, including a

Figure 21 (cont'd.).

map, and a list of all local governmental units, lying wholly or partly within the watershed, which shall be eligible for membership on the watershed council.

(2) Upon finding that the petition is in conformance with this statute the commission shall adopt an order establishing the council, schedule an organizational meeting, and notify all local governments eligible for membership by registered mail. The date for such meeting shall be not less than 60 nor more than 90 days after the date of mailing the notice.

323.304. Watershed council; membership, local or county representatives, appointment.

Sec. 4. (1) The watershed council shall be composed of representatives of local governments within the watershed who shall be appointed and maintain membership in the council in the following manner:

(a) Each local government using the river for water supply or waste disposal shall appoint 1 representative for each 20,000 population or fraction thereof. The governing body of each local government shall determine the method by which its representatives shall be selected.

(b) Each county having 15% or more of its area in the watershed shall appoint 1 representative, and 1 additional representative for each 20,000 population or fraction thereof which aggregate total shall be computed from population of eligible townships not otherwise represented. Such townships shall be eligible under this section if they shall have 15% or more of their respective areas in the basin. The methods by which the county representatives are selected shall be determined by the county board of supervisors.

(c) Any local agency wholly or partly within the basin may appoint a representative to the council upon a finding by the council that the agency is so affected by or concerned with the use and development of water resources in the basin as to warrant representation. If any township is represented under this subdivision, its population shall not be counted in determining the eligible total representatives of its county.

Term, eligibility to vote

(2) Representatives on the watershed council shall be appointed for 2 years, but shall be subject to replacement at the pleasure of the appointing authority. No representative shall be eligible to vote on the council unless the local government he represents has met its financial obligations to the council.

River management boards.

(3) Representatives to the watershed council may also represent their local governments if so designated thereby on river management boards established in accordance with this act.

323.305 Same; bylaws, budget, annual meeting, officers

Sec. 5. In carrying out its authorized functions, the council shall:

(a) Adopt bylaws which shall govern its operations.

(b) Prepare an annual operating budget, including apportionment of costs to member governments.

Figure 21 (cont'd.).

map, and a list of all local governmental units, lying wholly or partly within the watershed, which shall be eligible for membership on the watershed council.

(2) Upon finding that the petition is in conformance with this statute the commission shall adopt an order establishing the council, schedule an organizational meeting, and notify all local governments eligible for membership by registered mail. The date for such meeting shall be not less than 60 nor more than 90 days after the date of mailing the notice.

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(a) Each local government using the river for water supply or waste disposal shall appoint 1 representative for each 20,000 population or fraction thereof. The governing body of each local government shall determine the method by which its representatives shall be selected.

(b) Each county having 15% or more of its area in the watershed shall appoint 1 representative, and 1 additional representative for each 20,000 population or fraction thereof which aggregate total shall be computed from population of eligible townships not otherwise represented. Such townships shall be eligible under this section if they shall have 15% or more of their respective areas in the basin. The methods by which the county representatives are selected shall be determined by the county board of supervisors.

(c) Any local agency wholly or partly within the basin may appoint a representative to the council upon a finding by the council that the agency is so affected by or concerned with the use and development of water resources in the basin as to warrant representation. If any township is represented under this subdivision, its population shall not be counted in determining the eligible total representatives of its county.

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River management boards.

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(a) Adopt bylaws which shall govern its operations.

(b) Prepare an annual operating budget, including apportionment of costs to member governments.

Figure 21 (cont'd.).

(c) Hold an annual meeting at which time it shall elect a chairman, vice-chairman and secretary-treasurer, submit an annual report to the member governments and adopt an annual budget which constitutes the council's authorization of activities for the year.

323.306 Same; permissive powers.

Sec. 6. A watershed council may perform the following:

(a) Conduct, or cause to be conducted, studies of the water resources of the watershed, including investigations of water uses, water quality and the reliability of the water resource.

(b) Prepare periodic reports concerning, among other things, trends in water use and availability, emerging water problems and recommendations for appropriate public policies and programs necessary to maintain adequate water resources for the watershed area.

(c) Request the commission to survey the watershed for the purpose of determining minimum levels of stream flow necessary for health, welfare and safety as provided in sections 13 through 18.

(d) Recommend the creation of a river management district or districts under the provisions of sections 7 through 12 when the need for river management seems to warrant such an action.

(e) Advise agencies of federal, state and local governments as to the council's view of the watershed's problems and needs.

(f) Cooperate with federal, state and local agencies in providing stream gauges, water quality sampling stations, or other water resource data-gathering facilities or programs that aid the council in its responsibility for studying and reporting on water conditions.

(g) Employ an executive secretary and such other professional, administrative or clerical staff, including consultants, as may be provided for in an approved budget.

(h) Establish such subcommittees or advisory committees as are deemed helpful in the discharge of its functions.

(i) Establish special project funds as needed to finance special studies outside its annual budget capacity and for this purpose the council may accept gifts and grants from private individuals, corporations and local, state or federal governments.

323.307 River management district; establishment, powers, consolidation, coordination.

Sec. 7. The governing bodies of any two or more local governments may petition the water resources commission to establish a river management district in order to provide an agency for the acquisition, construction, operation and financing of water storage and other river control facilities necessary for river management. The petition shall be accompanied by a statement of necessity, a description of the district purposes, functions and operating procedures, which shall include methods of financing capital improvements and of apportioning benefit charges, and a general plan of development. Not later than 60 days following receipt of such a petition the commission shall fix the time and place for a public hearing thereon and shall publish notice of the hearing. The notice shall be published

Figure 21 (cont'd.).

twice in each county involved in at least 1 newspaper of general circulation in the county. At the hearing the applicant and any other interested party may appear, present witnesses and submit evidence. Following the hearing, the commission may adopt an order establishing the district and publish notice thereof in the manner provided for publication of notice of hearing, upon finding the following conditions:

(1) That the proposal is consistent with the public interest in the conservation, development and use of water resources, and the proposed district is geographically suitable to effectuation of the district purposes.

(2) That the establishment and operation of the district will not unreasonably impair the interests of the public or of riparians in lands or waters or the beneficial public use thereof, and will not endanger public health or safety.

No management district shall be created which affects any city now or hereafter having a population of more than 1,500,000 except with the concurrence of the governing body of this city.

Prior to approving the establishment of a district consisting of a portion of a river basin, the commission shall determine the feasibility of establishing the district to include the entire river basin or as large a portion of the basin as is possible. Approval of districts consisting of a portion of a river basin shall be on the basis that at such time as in the judgment of the commission it becomes feasible to form a district including the entire river basin, the river management boards shall initiate proceedings to combine the smaller districts into larger districts or into an entire watershed-wide district.

Any plans for a river management district shall be coordinated with plans of adjacent river basins, organizations or agencies and with any comprehensive regional master programs for river management.

323.308 Same; organizational meeting, board, officers, membership, voting rights.

Sec. 8. Within 60 days after the adoption of an order establishing a district the commission shall schedule an organizational meeting of the district board and shall provide notice thereof by registered mail to the governing bodies of all local governments comprising the district. The date for such meeting shall be not less than 60 nor more than 90 days after the date of mailing the notice. At the meeting the executive secretary of the water resources commission shall serve as temporary chairman. The board shall elect a chairman, vice-chairman, secretary and treasurer and adopt by-laws.

A district shall be governed by a river management board composed of representatives of local governments within the district. The representation of each local government on the board may be provided as part of the operating procedures submitted to the commission in the petition of local governments made in accordance with section 7. If the composition of the board is not so designated, representation shall be established under the provisions of section 4.

Representatives on the river management board shall be appointed for 2 years but shall be subject to replacement at the pleasure of

Figure 21 (cont'd.).

the appointing authority. No representative shall be eligible to vote on the board unless the local government he represents has met its financial obligations to the district.

Representatives to the river management board may also serve as representatives of their local governments if so designated thereby on the watershed council.

323.309 Same; powers of board.

Sec. 9. A river management board may perform any of the following:

(a) Conduct continuing study of river use requirements and needs for river management within its area of jurisdiction; analyze alternative methods of meeting needs; and develop and adopt a river management program, including plans for constructing, operating and financing water storage and river control structure and negotiating coordinated policies and programs relating to river use among local governments within the district.

(b) Impound and control the waters of the river system within the district, subject to minimum levels of stream flow established pursuant to sections 13 and 14, through acquisition, construction, maintenance and/or operation of water storage reservoirs, dams or other river control structures as necessary to assure adequate quantity, quality and stability of river flow to protect the public health, welfare and safety. A river management district shall not release water in such an amount as to produce or increase flooding or otherwise damage downstream interests.

(c) Contract with or enter into agreement with the federal government or any agency or department thereof or with other governmental agencies or with private individuals or corporations which may maintain and operate reservoirs and control structures or which may construct, maintain and operate new reservoirs and control structures as necessary to carry out the purposes of this act.

(d) Perform, with respect to the area within the district, the functions assigned to a watershed council by sections 3 through 6 whenever a relevant watershed council has not been formed, or if the appropriate watershed council's failure to act impairs the functions and programs of a district.

323.310 Same; corporate powers; financing.

Sec. 10. A district formed under this act is a body corporate with powers to contract; to sue and be sued; to exercise the right of eminent domain; to apportion administrative costs and benefit charges for river management and related facilities among the local government members which costs shall be payable from general funds or taxes raised by the local governments; to collect revenues for services rendered by the exercise of its functions; to issue bonds; to apply for and receive grants, gifts and other devises from any governmental agency, or from the federal government; and to exercise such other powers as necessary to carry out the purposes of this act. The river management district shall have no direct taxing power.

Figure 21 (cont'd.).

323.311 Same; board, duties, bylaws, budgets, assessments, annual meeting, records.

Sec. 11. A river management board shall:

- (a) Adopt bylaws to govern its operations.
- (b) Prepare an annual operating budget and levy an annual assessment of local government members to cover costs of organizing, developing plans and maintaining general overhead administration.
- (c) Adopt and maintain a schedule of benefit assessments upon local governments in the district levied to help defray the costs of capital improvements, which schedule, shall constitute a legal obligation upon those assessed.
- (d) Hold an annual meeting at which it shall report to its members and to the watershed council, elect officers and adopt an annual budget.
- (e) Maintain a public record of its transactions.
- (f) Do all other things necessary for the operation of the district.

323.312 Executive secretary, additional staff.

Sec. 12. The executive secretary of a watershed council may serve as executive secretary to the river management board. If no relevant watershed council exists, or if the executive secretary of a watershed council is otherwise unavailable, the board may employ an executive secretary. In addition, the board may employ such additional staff as it may determine within its approved budget.

323.313 Minimum level of stream flow; industrial use of water.

Sec. 13. Upon request of a council or a board, the commission shall determine, within the watershed subject to the council, the minimum level of stream flow necessary to safeguard the public health, welfare and safety, but no determination or order shall prevent any industry along the stream from using water from the stream for industrial use sufficient for the industry's requirement if all the water so used is returned to the stream within 72 hours of the taking.

323.314 Same; order of determination, notice, review.

Sec. 14. In carrying out its authority to determine minimum levels of stream flow, the commission, after public hearing, shall adopt an order of determination setting forth minimum levels at such locations as necessary to carry out the purposes of this act. Notice of such order of determination shall be published and the order may be reviewed in the circuit court in accordance with Act No. 197 of the Public Acts of 1952 upon petition filed by any person within 15 days following the last date of such publication.

323.315 Same; request to watershed council for determination.

Sec. 15. A river management board may request a watershed council to seek a determination of minimum levels of stream flow in accordance with sections 13 and 14, or the board may request the commission to make such determinations whenever no watershed council has

Figure 21 (cont'd.).

been formed for the larger watershed of which the district is a part, or when an appropriately established council fails to act within 90 days upon the district's request.

323.316 Measurement of stream flow, lake levels, and water quality.

Sec. 16. The commission may maintain such gauges and sampling devices to measure stream flow, lake levels and water quality as are necessary to carry out the purposes of this act, and may enter at all reasonable time in or upon any public property for the purpose of inspecting and investigating conditions relating to carrying out the provisions of this act.

323.317 Water resources commission, approval of plan, supervision over functioning of district.

Sec. 17. The commission may cooperate and negotiate with any government, unit of government, agency thereof, or with any person in establishing and maintaining gauges and sampling devices to measure stream flow, lake levels or water quality or in carrying out any other provision of this act. When requested by a council or board, the commission shall provide technical advice and assistance in the preparation of a river management plan of the district. No river management plan shall be placed into effect until it shall have been approved by the commission as conforming to the stated objectives of the petition. The commission shall maintain supervision over the functioning of the district to the extent it deems necessary for the purpose of insuring conformance with the plan in the public interest.

323.318 Same; rules and regulations.

Sec. 18. The commission shall make rules and regulations in accordance with the provisions of Act No. 88 of the Public Acts of 1943, as amended, being sections 24.71 to 24.82 of the Compiled Laws of 1948, and subject to Act No. 197 of the Public Acts of 1952, as amended, being sections 24.101 to 24.110 of the Compiled Laws of 1948.

323.319 Same; powers under other acts not abridged.

Sec. 19. Nothing in this act shall be construed so as to abridge the authority vested in the commission by Act No. 245 of the Public Acts of 1929, as amended, being sections 323.1 to 323.12 of the Compiled Laws of 1948. Permits granted by the commission in accordance with Act No. 143 of the Public Acts of 1959, being sections 323.251 to 323.258 of the Compiled Laws of 1948 shall not be affected by this act. The granting of future permits under Act No. 143 of the Public Acts of 1959 shall proceed without regard to anything contained in this act.

323.320 State health commissioner; powers unaffected.

Sec. 20. The functions, powers and duties of the state health commissioner as provided for by Act No. 98 of the Public Acts of 1913, as amended, being sections 325.201 to 325.214 of the Compiled Laws of 1948, shall remain unaffected by this act.

APPENDIX C

LISTS OF GOVERNMENT UNITS REPRESENTED
ON WATERSHED COUNCILS

APPENDIX C. LISTS OF GOVERNMENT UNITS REPRESENTED
ON WATERSHED COUNCILS

Figure 22. Member Units: Clinton River Watershed Council

Counties

Oakland

Cities

Birmingham
Centerline
Fraser
Mt. Clemens
Pontiac
Rochester
Sterling Heights
Utica
Warren

Villages

Almont
Armada
Clarkston
Romeo

Townships

Addison	Orion
Armada	Oxford
Avon	Pontiac
Brandon	Ray
Bruce	Richmond
Clinton	Royal Oak
Harrison	Shelby
Independence	Washington
Lenox	Waterford
Macomb	West Bloomfield
Oakland	

*Based on information made available by the watershed council as of
February 1974

APPENDIX C. LISTS OF GOVERNMENT UNITS REPRESENTED
ON WATERSHED COUNCILS

Figure 23. Member Units: Grand River Watershed Council

Counties

Barry	Kent
Eaton	Livingston
Gratiot	Montcalm
Ingham	Ottawa

Cities

Belding	Hudsonville
Carson City	Ionia
Cedar Springs	Jackson
Coopersville	Kentwood
E. Grand Rapids	Lansing
E. Lansing	Lowell
Ferrysburg	Mason
Grand Haven	Rockford
Grand Ledge	St. Johns
Grand Rapids	Walker
Grandville	Williamston
Greenville	Wyoming
Hastings	

Villages

Cadedonia	Ravenna
Edmore	Saranac
Fowlerville	Spring Lake
Lake Odessa	Sunfield
Middleville	Woodland
Nashville	

Townships

Delhi
Delta
Georgetown
Lansing
Meridian
Plainfield

*Based on information made available by the watershed council as of
February 1974.

APPENDIX C. LISTS OF GOVERNMENT UNITS REPRESENTED
ON WATERSHED COUNCILS

Figure 24. Member Units: Huron River Watershed Council

Counties

Livingston
Oakland
Washtenaw
Wayne

Cities

Ann Arbor
Belleville
Brighton
Flat Rock
Rockwood
Ypsilanti

Villages

Chelsea
Dexter
Wolverine Lake

Townships

Ann Arbor
Brighton
Brownstown
Dexter
Hamburg
Lima
Lodi
Northfield
Scio
Superior
Van Buren
Webster
Ypsilanti

*Based on information made available by the watershed council as
of February 1974.

APPENDIX D
QUESTIONNAIRE RESPONSES

Table 19. Overall Response Characteristics of Watershed Council Representatives

QUESTIONS	CATEGORIES OF RESPONSES *	Watershed Councils							
		Overall		Grand		Huron		Clinton	
		No.	%	No.	%	No.	%	No.	%
1E. If Communication from your unit was <u>less than adequate</u> , how could it be improved?	a) increase flow of communication.	11	13	6	17	4	20	1	4
	No Response	72	87	30	83	16	80	26	96
	b) increase size of staff.	9	11	4	11	1	5	4	15
	No Response	74	89	32	89	19	95	23	85
2A. What is(are) the most pressing issue(s) in your watershed:	a) waste water management	35	42	13	36	12	60	10	37
	No Response	48	58	23	64	8	40	17	63
	b) water quality	46	55	17	47	11	55	18	67
	No Response	37	45	19	53	9	45	9	33
	c) land use	23	28	11	31	5	25	7	26
	No Response	60	72	25	69	15	75	20	74
	d) water quantity	19	23	4	11	11	55	4	15
	No Response	64	77	32	89	9	45	23	85

* Individual representative responses were sorted and placed in identified general categories.

Table 19 (cont'd.)

QUESTIONS	CATEGORIES OF RESPONSES *	Watershed Councils							
		Overall		Grand		Huron		Clinton	
		No.	%	No.	%	No.	%	No.	%
3A. Is there a place for your watershed council in water quality management?	a) yes	56	67	22	61	18	90	16	60
	b) no	6	7	3	8	1	5	2	7
	No Response	21	25	11	31	1	5	1	33
3B. IF YES, what should that role be?	a) provide information and education	38	46	13	36	12	60	13	48
	No Response	45	54	23	64	8	40	14	52
	b) advocate, assist, cooperate	38	46	16	44	10	50	12	44
	No Response	45	54	20	56	10	50	15	56
4A. Is water quality management an issue in your watershed?	a) yes	49	59	18	50	18	90	13	48
	b) no	14	17	8	22	1	5	5	19
	No Response	20	24	10	28	1	5	9	33
4B. IF YES, what are the water quality management	a) water quality	33	40	11	31	14	70	8	30
	No Response	50	64	25	69	6	30	19	70

* Individual representative responses were sorted and placed in identified general categories.

Table 19 (cont'd.)

QUESTIONS	CATEGORIES OF RESPONSES *	Watershed Councils							
		Overall		Grand		Huron		Clinton	
		No.	%	No.	%	No.	%	No.	%
4B. <u>IF YES</u> , what are the water quality management issues?	b) lack of adequate control, communication	26	31	10	28	8	40	8	30
	No Response	57	69	26	72	12	60	19	70
	c) water quantity	10	12	1	3	7	35	2	7
	No Response	73	89	35	98	13	65	25	93
5A. Do you feel your watershed council can, in some way, react to these issues?	a) yes	52	63	21	58	17	85	14	52
	b) no	5	6	2	6	1	5	2	7
	No Response	26	31	13	36	2	10	11	41
5B. <u>IF YES</u> , how?	a) provide information and education	37	45	16	44	11	55	10	37
	No Response	46	55	20	56	9	45	17	63
	b) communication, cooperation, assistance	36	43	15	42	11	55	10	37
	No Response	47	57	21	58	9	45	17	63

* Individual representative responses were sorted and placed in identified general categories.

Table 19 (cont'd.)

QUESTIONS	CATEGORIES OF RESPONSES *	Watershed Councils							
		Overall		Grand		Huron		Clinton	
		No.	%	No.	%	No.	%	No.	%
5B. <u>IF YES</u> , how?	c) advocate, draw attention to	22	27	6	17	11	55	5	19
	No Response	61	73	30	83	9	45	22	82
6A. As a means of providing the watershed council with greater ability to impact water quality management, do you feel the river management district concept, as provided in the enabling legislation, is a feasible alternative and that is should be exercised by your council?	a) yes	32	38	13	36	10	50	9	33
	b) no	12	14	6	17	2	10	4	15
	No Response	39	47	17	47	8	40	14	52
6B. Why or why not?	a) authority is needed and this will provide it	12	14	5	14	1	5	6	22
	No Response	71	85	31	86	19	95	21	78
	b) not practical -- too much proliferation now	9	11	4	11	2	10	3	11
	No Response	74	89	32	89	18	90	24	89

* Individual representative responses were sorted and placed in identified general categories.

Table 19 (cont'd.)

QUESTIONS	CATEGORIES OF RESPONSES *	Watershed Councils							
		Overall		Grand		Huron		Clinton	
		No.	%	No.	%	No.	%	No.	%
7A. Does your unit feel its money is being spent well in contributing to the support of the watershed council?	a) yes	44	53	18	50	12	60	14	52
	b) no	12	14	4	11	4	20	4	15
	No Response	27	33	14	39	4	20	9	33
7B. IF NO, are the amount and type of benefits received the issue?	a) yes	6	7	3	8	2	10	1	4
	b) no	3	4	1	3	0	0	2	7
	No Response	74	89	32	89	18	90	24	89
7C. IF NO, what is(are) the issue(s)?	a) <u>how</u> money is used	12	14	5	14	1	5	6	22
	No Response	71	86	31	86	19	95	21	78
	b) availability of money	2	2	1	3	1	5	0	0
	No Response	81	98	35	97	19	95	0	0
8A. Would you like to see the watershed council's direction changed in some way?	a) yes	31	37	14	39	10	50	7	26
	b) no	21	25	10	28	3	15	8	30
	No Response	31	37	12	33	7	35	12	44

* Individual representative responses were sorted and placed in identified general categories.

Table 19 (cont'd.)

QUESTIONS	CATEGORIES OF RESPONSES *	Watershed Councils							
		Overall		Grand		Huron		Clinton	
		No.	%	No.	%	No.	%	No.	%
8B. IF YES, in what way?	a) increase existing activity, develop more "expertness"	23	28	7	19	10	50	6	22
	No Response	60	72	29	81	10	50	21	78
	b) more cooperation, communication, assistance	7	8	4	11	2	10	1	4
	No Response	76	92	32	89	18	90	26	96
	c) seek more authority	10	12	7	19	0	0	3	11
	No Response	73	88	29	81	0	0	24	89
9A. Generally speaking, do you believe your council has been and can continue to be an effective group?	a) yes	56	67	23	64	16	80	17	63
	b) no	7	8	3	8	2	10	2	7
	No Response	20	24	10	28	2	10	8	30
9B. Is there room for improvement in your watershed council?	a) yes	58	70	26	72	17	85	15	56
	b) no	1	1	1	3	0	0	0	0
	No Response	24	29	9	25	3	15	12	44

* Individual representative responses were sorted and placed in identified general categories.

Table 19 (cont'd.)

			Watershed Councils						
QUESTIONS	CATEGORIES OF RESPONSES *	Overall		Grand		Huron		Clinton	
		No.	%	No.	%	No.	%	No.	%
9C. IF YES, in what area or areas:	a) statutory organizational	38	46	16	44	11	55	11	41
	No Response	45	54	20	56	9	45	16	59
	b) operational	44	53	20	56	12	60	12	44
	No Response	39	47	16	44	8	40	15	56
9D. Suggestions for improving council's effectiveness.	a) improve information- education flow; advisory role	23	27	11	31	8	40	4	15
	No Response	60	72	25	69	12	60	23	85
	b) more involvement in issues, problems	31	38	14	39	8	40	9	33
	No Response	52	63	22	61	12	60	18	67
	c) increase level of funding; make mandatory or assured	16	19	8	22	6	30	2	7
	No Response	67	81	28	78	14	70	25	93

* Individual representative responses were sorted and placed in identified general categories.

Table 19 (cont'd.)

QUESTIONS	CATEGORIES OF RESPONSES *	Watershed Councils							
		Overall		Grand		Huron		Clinton	
		No.	%	No.	%	No.	%	No.	%
9D. Suggestions for improving council's effectiveness.	d) increase amount of authority available	15	18	8	22	3	15	4	15
	No Response	68	82	28	78	17	85	23	85
	e) improve coordination with units, agencies, other councils.	7	8	4	11	17	15	0	0
	No Response	76	92	32	89	17	85	0	0
9E. Assuming funding arrangements were changed so as to increase the financial resources available to the watershed council, would this measurably improve on their ability to effectively contribute to better water quality management.	a) yes	48	58	17	47	17	85	14	52
	b) no	13	16	12	33	1	5	5	19
	No Response	22	26	7	19	2	10	8	30

* Individual representative responses were sorted and placed in identified general categories.

Table 20. Grand River Watershed Council Representatives' Responses: Council Service

HOW WELL HAS THE GRAND RIVER WATERSHED COUNCIL:	more than adequate		adequate		less than adequate		no response	
	#	%	#	%	#	%	#	%
a. represented the interests of your unit . .	2	6	23	64	4	11	7	19
b. responded to problems and issues in your watershed	2	6	23	64	2	5	9	25
c. perceived problems and issues in your watershed	2	5	21	61	3	8	9	25
d. performed in terms of making effective contributions to water quality manage- ment issues and problems	4	11	16	44	6	17	10	28
e. communicated with your unit	1	3	20	56	6	17	9	25
	#	%**	#	%	#	%	#	%

* Based on a return rate of 50% or 36 of 70 questionnaires mailed (see Table 3).

** Rounded to the nearest percent.

Table 21. Huron River Watershed Council Representatives' Responses: Council Service

HOW WELL HAS THE HURON RIVER WATERSHED COUNCIL:	more than adequate		adequate		less than adequate		no response	
	#	%	#	%	#	%	#	%
a. represented the interests of your unit . . .	0	0	15	75	1	5	4	20
b. responded to problems and issues in your watershed	0	0	13	65	4	20	3	15
c. perceived problems and issues in your watershed	4	20	9	45	4	20	3	15
d. performed in terms of making effective contributions to water quality manage- ment issues and problems	0	0	13	65	4	20	3	15
e. communicated with your unit	1	5	13	65	3	15	3	15
	#	%	#	%	#	%	#	%

* Based on a return rate of 62%, or 20 of 35 questionnaires mailed.

** Rounded to the nearest percent.

Table 22. Clinton River Watershed Council Representatives' Responses: Council Service

HOW WELL HAS THE CLINTON RIVER WATERSHED COUNCIL:	more than adequate		adequate		less than adequate		no response	
a. represented the interests of your unit	3	11	13	48	5	19	6	22
b. responded to problems and issues in your watershed	5	19	12	44	4	15	6	22
c. perceived problems and issues in your watershed	4	15	12	44	5	19	6	22
d. performed in terms of making effective contributions to water quality manage- ment issues and problems	4	15	14	52	3	11	6	22
e. communicated with your unit	7	26	11	41	3	11	6	22
	#	%**	#	%	#	%	#	%

* Based on a return rate of 44%, or 27 of 61 questionnaires mailed (see Table 3).

** Rounded to the nearest percent.

Table 23. Huron River Watershed Council Representatives' Responses: Council Involvement

The following areas have some bearing on water quality management:

- a. Assisting communities in the development of flood plain ordinances and controls.
- b. Assisting communities in the development of soil erosion, sedimentation control ordinances.
- c. Comprehensive stream monitoring.
- d. Citizen education and awareness of issues in the watershed.
- e. Encouraging and supporting proposals for better waste water disposal.
- f. Promoting wise development and recreational use of river and land resources.
- g. Promoting better water quality standards.
- h. Promoting better water quality management and use.
- i. Informing public agencies and requesting that studies be performed.
- j. Encouraging and enlisting citizen and community support for conservation and preservation of natural resources.

Has the watershed council been involved?						Should the watershed council be involved?					How?				
yesno					no response	yesno				no response	Direct **		Indirect ***		no response
a.	11	55	6	30	3 15	13	65	2	10	5 25	6	30	9	45	5 25
b.	7	35	9	45	4 20	13	65	3	15	4 20	5	25	8	40	7 35
c.	8	40	9	45	3 15	13	65	3	15	4 20	11	55	3	15	6 30
d.	13	65	4	20	3 15	16	80	0	0	4 20	13	65	2	10	5 25
e.	11	55	5	25	4 20	17	85	0	0	3 15	8	40	7	35	5 25
f.	15	75	3	15	2 10	18	90	0	0	2 10	9	45	6	30	5 25
g.	11	55	5	25	4 20	14	70	0	0	6 30	10	50	3	15	7 35
h.	12	60	5	25	3 15	16	80	0	0	4 20	10	50	4	20	6 30
i.	13	65	3	15	4 20	13	65	1	5	6 30	12	60	2	10	6 30
j.	13	65	4	20	3 15	16	80	0	0	4 20	14	70	1	5	5 25
#	%	#	%		# %	# %	# %	# %		# %	# %	# %	# %		# %

* See Table 3 for information on the sample from which these characteristics were computed.

** Direct -- Council takes initiative.

*** Indirect -- Council supports or encourages current agency activity.

Table 24. Grand River Watershed Council Representatives' Responses: Council Involvement

The following areas have some bearing on water quality management:

- a. Assisting communities in the development of flood plain ordinances and controls.
- b. Assisting communities in the development of soil erosion, sedimentation control ordinances.
- c. Comprehensive stream monitoring.
- d. Citizen education and awareness of issues in the watershed.
- e. Encouraging and supporting proposals for better waste water disposal.
- f. Promoting wise development and recreational use of river and land resources.
- g. Promoting better water quality standards.
- h. Promoting better water quality management and use.
- i. Informing public agencies and requesting that studies be performed.
- j. Encouraging and enlisting citizen and community support for conservation and preservation of natural resources.

	Has the watershed council been involved?			Should the watershed council be involved?			How?		
	Yes	No	no response	Yes	No	no response	Direct**	Indirect***	no response
a.	20 56	4 11	12 33	22 61	0 0	14 39	11 31	11 31	14 39
b.	15 42	8 22	13 36	22 61	0 0	14 39	9 25	11 31	16 44
c.	21 58	3 8	12 33	19 53	1 3	16 44	13 36	7 19	16 44
d.	20 56	3 8	13 36	21 58	0 0	15 42	19 53	3 8	14 39
e.	18 50	4 11	14 39	23 64	1 3	12 33	13 36	6 17	17 47
f.	19 53	4 11	13 36	23 64	0 0	13 36	14 39	7 19	15 42
g.	16 44	5 14	15 42	22 61	2 6	12 33	11 31	5 14	20 56
h.	17 47	2 6	17 47	23 64	0 0	13 36	7 19	11 31	18 50
i.	16 44	6 17	14 39	22 61	2 6	12 33	17 47	4 11	15 42
j.	16 44	7 19	13 36	22 61	1 3	13 36	16 44	5 14	15 42
	# %	# %	# %	# %	# %	# %	# %	# %	# %

* See Table 3 for information on the sample from which these characteristics were computed

** Direct -- Council takes initiative

*** Indirect -- Council supports or encourages current agency activity

Table 25. Clinton River Watershed Council Representatives' Responses: Council Involvement

The following have some bearing on water quality management:

- a. Assisting communities in the development of flood plain ordinances and controls.
- b. Assisting communities in the development of soil erosion, sedimentation control ordinances.
- c. Comprehensive stream monitoring.
- d. Citizen education and awareness of issues in the watershed.
- e. Encouraging and supporting proposals for better waste water disposal.
- f. Promoting wise development and recreational use of river and land resources.
- g. Promoting better water quality standards.
- h. Promoting better water quality management and use.
- i. Informing public agencies and requesting that studies be performed.
- j. Encouraging and enlisting citizen and community support for conservation and preservation of natural resources.

	Has the watershed council been involved?						Should the watershed council be involved?						How?					
	Yes		No		no response		Yes		No		no response		Direct**		Indirect***		no response	
a.	14	52	2	7	11	41	16	60	0	0	11	41	9	30	6	22	13	48
b.	6	22	8	30	13	48	12	44	4	15	11	41	9	33	6	22	12	44
c.	17	63	0	0	10	37	16	60	0	0	11	41	12	44	1	4	14	52
d.	14	52	2	7	11	41	16	59	1	4	10	37	13	48	1	4	13	48
e.	11	41	5	19	11	41	18	67	0	0	9	33	11	41	4	15	12	44
f.	13	48	4	15	10	37	16	59	0	0	11	41	12	44	3	11	12	44
g.	13	48	3	11	11	41	18	67	0	0	9	33	10	37	3	11	14	52
h.	11	41	3	11	13	48	16	59	0	0	11	41	11	41	2	7	14	52
i.	16	59	1	4	10	37	17	63	1	4	9	33	11	41	2	7	14	52
j.	13	48	4	15	10	37	17	63	0	0	10	37	11	41	3	11	13	48
	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%

* See Table 3 for information on the sample from which these characteristics were computed

** Direct -- Council takes initiative

*** Indirect -- Council supports or encourages current agency activity

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