

Heron Lake Water Management Study

**WORK PROGRAM SUBMITTED TO
THE LEGISLATIVE COMMISSION
ON MINNESOTA RESOURCES**

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JULY 1980

**MINNESOTA DEPARTMENT OF NATURAL RESOURCES
MIDDLE DES MOINES WATERSHED DISTRICT**

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PROGRAM TITLE: HERON LAKE WATER MANAGEMENT STUDY

LAWS 1980, CHAPTER 614, SECTION 16

I. Financial

A. Budget (State funds only)

1. Total State Appropriation: \$75,000

2. Major Budget Categories:

(a) DNR unclassified salary and fringe	\$26,848	
Sr. Hydrologist expenses	<u>5,652</u>	
	\$32,500	Sub Total

(b) Consultant Services	\$42,500	
	<u>\$75,000</u>	Total

B. Budget (Non-State funds)

1. Middle Des Moines W.S. Dist. \$50,000 Local Match Contribution

2. Major Budget Category:

(a) Consultant Services	\$32,500
(b) Administrative Costs	\$17,500

C. Total Available Funds - State and Local \$125,000

II. PROGRAM DESCRIPTION

A. Program Goals and Objectives

Goals and Objectives: To conduct a local-state water management study of Heron Lake which will be used as a basis for developing alternative means for maintenance of adequate water level and aquatic growth conditions on North Heron Lake for waterfowl management purposes and water level and water quality conditions on South Heron Lake for improvement for fisheries management purposes.

To perform a study which will include the collection and evaluation of resource information which will provide essential technical facts and an assessment of the problems of Heron Lake. Heron Lake problems include sedimentation, land use, water quality, lake use, fish and wildlife values, flooding and low flows and low water level considerations.

The study will include the following 7 major components:

1. Description and evaluation of land uses and practices, land treatment needs, sedimentation and soils which must be considered in addressing solutions.
2. Description and evaluation of climatological data.
3. Description of the physical character of the Heron Lake system.

4. Description and evaluation of the water quality of Heron Lakes and the streams which provide water to Heron Lakes.
5. Description and evaluation of the Hydrologic conditions of the Heron Lake system including development of a monitoring system and Hydrologic models.
6. Description and evaluation of the character, extent, frequency and damages of floods affecting the Heron Lake system.
7. Description and evaluation of Fish and Wildlife values of Heron Lakes.

The study products will include a report describing the Heron Lake system, an assessment of the problems of Heron Lakes and a listing of possible alternative non-structural and structural means which could be considered in seeking solutions to the problems. After the study is completed, the possible alternative measures will then be further analyzed by the DNR and the Watershed District and discussed with the local people in respect to the most feasible, practical and effective measures which are acceptable to the DNR and the Watershed District and which should be implemented to solve the problems. The amount and degree of information provided by the study will depend on the amount of federal agency assistance which is provided to complement and supplement the DNR and Watershed District efforts. This is especially in regard to: land use practices, land treatment needs, sedimentation and soils, anticipated to be provided by the U.S. Soil Conservation Service through cooperative agreement with local Soil and Water Conservation District people; water quality aspects proposed to be accomplished under a PCA-EPA cooperative program with technical assistance under the Clean Water Act, PL 95-217, Section 314; and flood studies anticipated to be provided through a technical assistance program by the U.S. Corps of Engineers, Rock Island District.

In the event that all or any parts of the study involving federal agency assistance are not provided within the proposed time frame of the study, the DNR and Watershed District will use the best available information and provide, in the final study report, evaluations of the involved factors based on that information. Study components for which additional information may be provided through federal assistance programs at times after the study is completed will be utilized by the DNR and Watershed District after the study, in their deliberations on the selected measures to solve the problems. If it is determined that supplemental studies will be provided through Federal Agency assistance after the study completion date the DNR and Watershed District will delay the final analysis and alternative solution process until such data are available.

There are no further studies anticipated. There may, however, be requests to the Legislature for state funding assistance to the Watershed District in implementing specific selected structural measures after the study has been completed and an agreed upon program has been developed to solve the Heron Lake problems.

- B. Anticipated time schedule for completion of the study is 16 months from the date of commencement of the study subject to LCMR work program approvals.
- C. Federal, State and Local cooperation and coordination:
 1. Land use, treatment needs, sedimentation and soils proposed to be accomplished through cooperative efforts by U.S. Soil Conservation Service acting through Soil and Water Conservation Districts for Jackson, Nobles, Murray and Cottonwood Counties.

2. Climatological data to be accomplished by DNR with major input from the office of the State Climatologist.
3. Physical character studies such as watershed maps, lake maps, land use maps, stream and lake inventory maps to be accomplished by DNR with major input from the DNR Office of Planning.
4. Water quality studies proposed to be accomplished under PCA-EPA cooperative program with technical assistance under Clean Water Act PL 95-217, Section 314 subject to priority designation by PCA and approval by EPA.
5. Hydrologic data studies to be accomplished by consultant employed by Middle Des Moines Watershed District with cooperation and assistance from DNR field staff person.
6. Flood analyses and evaluation studies proposed to be accomplished under technical assistance program by U.S. Corps of Engineers, Rock Island District with cooperation from W.S. District consultant subject to U.S.C.E. approvals and work schedules.
7. Fish and Wildlife values to be accomplished by DNR based on present information with input from Division of Fish and Wildlife and the U.S. Fish and Wildlife Service.

The overall coordination of the various components will be provided by the Middle Des Moines W.S. District acting through its consultant in cooperation with the DNR Division of Waters field person and DNR Policy and Planning Section.

Throughout the study efforts the Middle Des Moines W.S. District and the DNR will cooperate in a local-state effort which will include further coordination and cooperation with the following:

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|--------------------|---|
| Federal Agencies- | U.S.S.C.S., U.S.G.S., S.S.C.E., U.S. EPA,
U.S. Fish and Wildlife Service, U.S. ASCS,
U.S. ARS. |
| State Agencies- | Agriculture, PCA, Soil and Water Conservation
Board, Water Resources Board. |
| Regional Agencies- | Region 8, Southwest RDC. |
| Local Agencies- | Soil and Water Conservation Districts in Jackson,
Nobles, Murray and Cottonwood Counties, County
Commissioners of Jackson, Nobles, Murray and
Cottonwood Counties, Cities of Heron Lake, Okabena
Brewster, Lakefield and Worthington, Township
officials of each township within the study area. |

Local citizens will be fully informed and involved in all aspects of the study effort and alternative development through meetings, information releases and personal contacts by the Middle Des Moines W.S. District and its consultants and the DNR field representative.

- D. Former funding source - None for studies of this nature. Other structural measures have included use of lake improvement grant funds pursuant to Laws 1973, Chapter 720, Section 43, Subd. 2, paragraph G.
- E. Current funding for related activities - None.

- F. Staffing plan - Unclassified Sr. Hydrologist position to be employed by DNR - Division of Waters for 1 year. Employee to be stationed in the field in the Heron Lake area. (see attached position description)
- G. Contract services - Consultant to be hired by Middle-Des-Moines W.S. District to act as technical coordinator, to perform hydrologic data aspects and to integrate inputs from various study components.

Contractual services will represent approximately 60% of the project costs.

POSITION DESCRIPTION **A**

EMPLOYEE'S NAME

AGENCY/DIVISION DNR/WATERS		ACTIVITY Policy and Planning Heron Lake Watershed Management	
CLASSIFICATION TITLE Sr. Hydrologist (unclassified)	WORKING TITLE (if different)	POSITION CONTROL NUMBER	
PREPARED BY Gene H. Hollenstein	PREVIOUS INCUMBENT none	APPRAISAL PERIOD	to
EMPLOYEE'S SIGNATURE (this position description accurately reflects my current job)	DATE	SUPERVISOR'S SIGNATURE (this position description reflects the employee's current job) <i>Gene Hollenstein</i>	DATE 6-18-80

POSITION PURPOSE

This position exists to provide technical and policy level liaison and technical assistance in hydrologic/hydraulic analysis with the Middle Des Moines Watershed District in conduct of local-state water management planning studies of Heron Lake and the Heron Lake Watershed pursuant to authority in Section 16, Chapter 614, Laws of 1980.

REPORTABILITY

Reports to: Gene H. Hollenstein, Section Chief, Policy and Planning Section, Division of Waters, DNR

Supervises: No supervision of state employees

DIMENSIONS

Budget: \$125,000, including \$75,000 state funds and \$50,000 local watershed funds.

Clientele: DNR, Middle Des Moines River Watershed District, other local governmental agencies, citizens and legislators in the Heron Lake area.

POSITION DESCRIPTION B

EMPLOYEE'S NAME

POSITION CONTROL NUMBER

Resp. No.	PRINCIPAL RESPONSIBILITIES, TASKS AND PERFORMANCE INDICATORS	Priority	% of Time	Discretion
	<p>To assist in establishment and collection of hydrologic data relating to stream flow, lake levels, water quality, land use and sedimentation so that adequate hydrologic facts are available to prepare a management plan.</p> <p>Tasks:</p> <ol style="list-style-type: none"> 1. Review and analyze existing DNR data files and reports. 2. Review and analyze existing data from other state and federal agencies. 3. Work with consultants and the Middle Des Moines W.S. District in designing and collecting a stream and lake data network. 	A	20	A
2.	<p>To provide technical assistance to the Middle Des Moines Watershed District and its consultants in the hydrologic and hydraulic analyses of land and water resources problems in the Heron Lake watershed.</p> <p>Tasks:</p> <ol style="list-style-type: none"> 1. Assist in physical data collection pertinent to hydrologic and hydraulic studies. 2. Assist in computer modeling and engineering analyses of above studies. 	A	40	A
3.	<p>To serve as coordinator with local government and private consultants in order to assure good local-state planning.</p> <p>Tasks:</p> <ol style="list-style-type: none"> 1. Attend policy and planning meetings as DNR field representative 2. Provide technical and policy level comments and advice on the conduct of the watershed management planning efforts. 3. Advise the supervisor of any major policy and planning coordination problems. 	A	10	C
4.	<p>To provide field office technical advice and assistance to the public on water management planning aspects so that the public can obtain answers and provide inputs on DNR related activities.</p> <p>Tasks:</p> <ol style="list-style-type: none"> 1. Provide or seek answers from higher authorities on technical questions or problems posed by the public. 	A	10	B
5.	<p>To establish and maintain records of management planning study progress and work accomplishment so that there is accountability for the study efforts.</p> <p>Tasks:</p> <ol style="list-style-type: none"> 1. Prepare and periodically update work progress reports. 2. Monitor W.S. District and consultant work efforts and seek compliance with work plans. 	B	5	A

POSITION DESCRIPTION B	EMPLOYEE'S NAME	POSITION CONTROL NUMBER
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Resp. No.	PRINCIPAL RESPONSIBILITIES, TASKS AND PERFORMANCE INDICATORS	Priority	% of Time	Discretion
	<p>To provide inputs on DNR involvement in the management planning study at public meetings so that the public is well informed.</p> <p>Tasks:</p> <ol style="list-style-type: none"> 1. Attend public meetings. 2. Prepare commentary and discuss technical, policy and planning aspects of the study at public meetings. 	A	10	A
7.	<p>To work with the Middle Des Moines W.S. District and its consultants in administering the field operations required for the management planning study in order to meet the study objectives in an efficient and cost-effective manner.</p> <p>Tasks:</p> <ol style="list-style-type: none"> 1. Review work study budgets and plans and seek adjustments where required. 2. Maintain bookkeeping records and working files of the study. 3. Assist in W.S. District and its consultants designing and effectuating work plans and budget needs. 	B	5	C

**POSITION
DESCRIPTION** C

EMPLOYEE'S NAME

POSITION CONTROL NUMBER

NATURE AND SCOPE (relationships; knowledges, skills and abilities; problem solving and creativity; and freedom to act.)

RELATIONSHIPS: The employee provides written and oral reports and work products in communication with the various parties involved in the study including, the policy and planning section and other central offices, Division of Waters personnel; DNR regional personnel, the Middle Des Moines W.S. District and its consultants; other local government; involved Federal government personnel; local area legislators; and citizens in the area. The employee serves on local-state management committees.

KNOWLEDGE, SKILLS AND ABILITIES: The position requires good working knowledge of principles and practices of planning and state water law, sound knowledge and background in hydrologic and hydraulics. The employee must be able to communicate verbally and in writing, and must be able to effectively interact with the public.

PROBLEM SOLVING: The position requires the development of excellent public relations in seeking solution to various technical and policy level problems such as determination of optional data needs within budgetary constraints; explaining and justifying policy decisions which may adversely affect some private interests; assisting in hydrologic and hydraulic analyses of water resources problems related to Heron Lake and its watershedbalancing natural resources environmental interests and private interests; and explaining and justifying the need for meeting specific management objectives based on feasibility and practicality. The employee has considerable latitude on working with the Middle Des Moines W.S. District and its consultants on technical study aspects. Most policy matters require involvement with regional and control office DNR personnel. Any proposals which would deviate from or might require changes in Division of Waters policy require approval from the Director and appropriate section Supervisors. The employee should be free to propose innovative technically oriented methods and techniques to be employed during the progress of the study.

FREEDOM TO ACT: The employee has considerable freedom in regard to communications with the W.S. District, its consultants and local people on technical aspects of the management study. The employee must make frequent oral and written contact on policy matters with the Director and Policy and Planning Section Supervisor and must communicate orally and in writing with other DNR regional personnel. The employee cannot establish policy procedures or major work program changes without central office approval. The employee is also bound by the laws, rules and policies of the DNR especially relating to MS 105 and MS 104.

DEPARTMENT OF NATURAL RESOURCES

Office Memorandum

TO : Wayne Frankenberg
Fiscal

DATE: May 2, 1980

FROM : Larry Seymour
Director
Division of Waters

PHONE: 6-4810

SUBJECT: SPENDING PLAN FOR HERON LAKE WATER MANAGEMENT PLANNING STUDY, DNR
POSITION PURSUANT TO CHAPTER 614, SECTION 16, LAWS OF 1980

Below is the spending plan for the above.

Object Class

02 Salary (unclassified)	\$22,947	Sr. Hydrologist-Range 16I-4th step
Fringe benefits	\$ 3,901	Estimated at 17%
	<u>\$26,848</u>	
20 Telephone & Postage	\$ 460	
21 In-State Travel	\$ 1,800	
301 Supplies & Materials Central Stores	\$ 1,500	
40 Equipment	\$ 1,892	

Totals for all classes is \$32,500.

This budget is based on the provision of suitable field office facilities in the area by the Middle Des Moines Watershed District.

LDS/GHH:ph

May 29, 1980

The managers of the Middle Des Moines Watershed District held a special meeting with the Lake Improvement Committee and Gene Hallenstein of the Department of Natural Resources, Division of Waters. Managers present were J. B. Miranowski, Raymond Crowley, Raymond Goedtke, and Arthur Ahrens. Leland Pohlman was not present. Others in attendance were Rep. George Mann, Viet Ngo of McCombs-Knutson Engineering, F. W. Bertels, Lakefield, David Pohlman, Lakefield, Willard Kolander, Lakefield, Arnold Hussong, Okabena, Bob Rickert, Okabena, Roy Lillo, Heron Lake, Arnie Anderson, Lakefield, and David Henning, Lakefield.

Chairman Miranowski called the meeting to order at 8 p.m.

He informed the group that the \$75,000 appropriated by the legislature would be dispensed under the auspices of the LCMR.

Mr. Gene Hallenstein outlined the program as drawn up with the DNR and the McCombs-Knutson engineering firm. This is intended as a guideline for our consideration. Land use, fish and wild life, dredging, contouring to prevent flooding and siltation, and water levels should all be included in order to improve and preserve Heron Lake. Mr. Hallenstein stated that the success of this extensive program would depend on the cooperation of everyone living in the area.

He also stated that all plans would be subject to the approval of the LCMR and the executive secretary, Mr. Hanson. He added that the Watershed should also designate funds for the study before plans would be approved.

Mr. Hallenstein suggested that all SCS technicians in the four counties where most of the work would be done should become involved. New ASCS maps would be of great value in this study.

Mr. Joel Schilling of the MFCA would become involved in the pollution control. Water quality will also enter into this project, and all other things mentioned above would enter into the coordination of the program.

If we could also involve the Army Corp of Engineers, Mr. Hallenstein stated, more funds may be available with the following percentage: 70% Federal, 15% State, 15% local.

Rep. George Mann brought out the fact that goals and priorities should be established.

F. W. Bertels stressed the fact that control of the study and the monies appropriated should remain in the hands of the Watershed managers.

It was suggested that perhaps a hydrologist would be needed for consultation as the study progresses.

The representative of McCombs-Knutson, Viet Ngo, stated that all things should be coordinated to cover all aspects in order to make this project beneficial and to put all things into one complete package. He stated that the DNR representative to be placed here should spend much of his time with the people of the locality and with the managers of the Watershed District.

Arthur R. Ahrens

Secretary