

MINUTES OF THE MEETING OF THE APPROPRIATIONS COMMITTEE  
March 17, 1981

The Appropriations Committee met on Tuesday, March 17, 1981, in Room 104 of the Capitol Building at 8:00 a.m. with CHAIRMAN ART LUND presiding and fifteen members present (REP. HEMSTAD was absent).

CHAIRMAN LUND opened the hearing on HB 709.

HOUSE BILL 709

REP. TED NEUMAN, sponsor, presented the bill which would appropriate funds to the Department of Natural Resources for various projects. He explained that the purpose of the Renewable Resources Development Program is to utilize funds provided by the coal severance tax to promote the development of Montana's renewable resources. It will ensure that the quality of existing public resources such as land, air, water, fish, wildlife, and recreational opportunities are not significantly diminished by developments. The program may provide funds for the purchase, lease, or construction of projects for conservation, management, utilization, development, or preservation of land, water, fish, wildlife, and other renewable resources in our state. It is used for the feasibility and design studies for such projects. It may be used for the rehabilitation, expansion, or modification of existing projects and for other purposes approved by the legislature. There is a criteria for rejection of projects also. If a project is solely for research, it will not be funded. If a project's primary benefits are nonpublic and financially not feasible, it will not be funded. Projects must come under the definition of renewable resource projects.

The department does encourage projects which will show benefits that could be potentially statewide; primarily public; projects that will conserve energy and resources; encourages applications for loans rather than grants; encourages projects in which the local group provides some of the funding; and, except in unusual circumstances, recommends that no more than 20 percent of the total funds will go to a single project.

Speaking as a proponent was DALE MARZER of Cascade County, who explained the Muddy Creek project. He said the sediment problem must be solved by stopping the erosion. This funding is a necessary part of the project. See Exhibit 1.

ED NORLAND supported the Buffalo Rapids irrigation project which operates in the Glendive area. It includes 35 acres of ground which takes in the town of Fallon. It has been of great benefit to the area and he asked for support of the funding.

RON PAGE, the East Bench project coordinator, explained his project. This project provides a substantial savings in energy. There is a limited supply of energy in that area and so it is important to do so. There is also a savings of water by eliminating surface ditches. This project cannot proceed without this funding.

WALTER MORRIS, President of the Board of Directors of the East Bench Project, supported the request also. He stated the project is truly an asset through the savings of water and power.

REP. STOBIE asked if this amount is being matched with private funds. The answer was that about \$51,000 are matched through a water and power resources loan. Between the grant and the loan, the project will survive.

REP. HURWITZ asked what the primary crop is. The answer was grain and alfalfa hay. MR. MORRIS also stated that the loan is a 40-year one which will be repaid.

REP. KERRY KEYSER supported the funding saying that a great deal of power is saved by this project and that it is worthwhile.

DUANE ROBERTSON, Chief of the Solid Waste Bureau, explained the program for recycling and resource recovery. See Exhibit 2.

REP. LUND questioned that this is the second request for a grant for this project. MR. ROBERTSON replied that the previous funds were received for planning and this is for implementation.

REP. DAN YARDLEY supported the program.

KIP WALTHER, Water Quality Bureau, presented the plans for feasibility and design for the implementation of water quality plans. See Exhibit 3. He stated that some counties receive funding but need the matching funds.

DAN WARSDALL, the City Manager of Anaconda, spoke in support of the grant to Anaconda-Deer Lodge for the Georgetown Lake weed control project. The lake is being overrun by weeds and the problem must be handled.

REP. JOE KANDUCH also spoke in favor of the grant. He gave a brief background of the problem saying that the weeds started taking over about three years ago and the local people have been trying to reach a solution ever since.

The next project was the Bluewater Project in Carbon County. See Exhibit 4. Speaking in support was DON PHILLIPS who stated that he represented landowners in the area. He felt some of the problems of silt in the Yellowstone River could be stopped with Bluewater project.

ALBERT BOWENS said there is a need to stabilize the creek.

JIM YEDLICKA, head of the Carbon County Soil District, said several studies have been made in the area. It is a problem of the streambank and fencing. The Fish and Game Department will help with fencing.

REP. THOFT asked how the stabilization will occur. The answer was with the use of steel pilings. Also with the use of large boulders to check erosion.

REP. BARDANOUE asked about the uncapped well. MR. YEDLICKA said a company drilled for oil and struck artesian springs. They attempted to cap it but were unsuccessful. The water is now used for irrigation purposes.

REP. QUILICI asked if the creek could be made to meander. MR. PHILLIPS said that was too costly.

CAROL LEE CHEEDE, Department of Natural Resources, presented the next project which is a grant to the City of Lewistown for the East Fork reservoir recreation project. It would be used to develop a recreation area near town. Total cost of the project is \$117,000 and they are asking for 25 percent of the total funding or \$28,756. The work is on access roads, campsites and public facilities.

HANK GOETZ described the grant needed to fund the Lubrecht experimental forest. It would be for the Lubrecht forest second growth management project. The funds help with thinning of the forest.

REP. VERNER BERTELSEN supported the project saying it meets well with the criteria. The farmers and ranchers cannot afford to do this type of thinning and this project is a great help in that area. It is a worthwhile project in that it proves that thinning helps the trees grow more rapidly and that the operation can be profitable.

REP. HURWITZ said he is very impressed with the project and that it should continue.

HERBERT PASHA supported the grant to the Triangle Conservation District. See Exhibit 5.

REP. MOORE questioned whether or not funds were left from a previous appropriation to this program. The answer was about \$35,000.

REP. MOORE further questioned whether or not any acres had been recovered under this program. The answer was yes, but not in all counties, and of course, not all of the acres.

REP. THOFT asked if the land can actually be reclaimed. The answer was yes by using deep rooted crops.

JIM SEWALD supported the project.

CLAIRE BARRETO presented the grant proposal for the leafy spurge weed control project. It is a perennial, noxious weed that is not localized and very difficult to control. Presently farmers are using chemicals to try to control it but are facing a losing battle. It is a cost sharing program.

JOEL SHOUSE, Director of the Blue Ribbons of the Big Sky Country Areawide Planning Organization, explained the grant requested by his organization for the Ennis Lake thermal problem control project. See Exhibit 6. Several letters and documents of support are attached as Exhibit 7.

REP. KERRY KEYSER supported the project saying the small towns in the area depend heavily upon the fishing related activities of the Ennis Lake and the thermal problem must be controlled.

DAVID KUMLIEN from the Bozeman Chamber of Commerce supported the grant saying it is necessary for that area of Montana.

REP. BARDANOUE asked if this is a private power dam. The answer was yes but that it is operated under a federal permit. Montana Power will participate in any project.

REP. BARDANOUE then asked about local contributions and was told that there has already been participation through Trout Unlimited and the Blue Ribbons people.

WILLIE MILLIRON presented the grant request relating to the rangeland resource development program. See Exhibit 8.

REP. BARDANOUVE asked how much is left to repay on the loan. The answer was that it is a 20-year loan.

PETER JACKSON supported the request saying it is an excellent program.

RON HOLLIDAY of the Fish, Wildlife, and Parks Department presented the request for a grant for the dam repairs program. See Exhibit 9.

REP. THOFT asked if the inspections by the state are contracted with the Corps of Engineers. GARY FRITZ of the Department of Natural Resources replied that a number of firms are used and that the inspections are let out to contract.

REP. BARDANOUVE asked if the staff is available to do this and would it not be better to have one agency doing it instead of two. MR. FRITZ said his department has one inspector presently. He further stated that the Fish, Wildlife and Parks Department would like to have the Department of Natural Resources do the inspecting and vice versa.

JOEL SHOUSE spoke in favor of the grant to the City of Bozeman for the Mystic Lake dam repair project. This is for a water system for the City of Bozeman. It is a secondary supply of water for the city.

DUANE ROBERTSON, Chief of the Solid Waste Bureau, presented the request for a grant to the Department of Health and Environmental Sciences for the solid waste management planning program. See Exhibit 10.

NORM PETERSON spoke in favor of the grant for streambank preservation. See Exhibit 11.

JIM YEDLICKA of the Carbon County Soil District supported the grant for small water projects construction. This is a loan program to help with construction costs. It is the only way landowners can afford to build these projects.

GARY FRITZ of the Department of Natural Resources presented the request for the grant for engineering and financial feasibility plans for a dam on Pattengail Creek. The department spent a great deal of time deciding that Pattengail Creek is the most feasible place for a dam. The total cost of building the dam would be \$35 million dollars.

REP. MOORE questioned spending \$75,000 for engineering. MR. FRITZ said the study would be used to try to secure the funding from the federal government.

GARY FRITZ of the Department of Natural Resources presented the request for development of a water use data system as recommended by the water policy review advisory council. The council recommended that one agency do the work on this type of project.

MR. FRITZ presented the grant request for a program to implement the Carey Act which established a mini Sagebrush Rebellion. The statute was repealed in 1970 and 1971. The Cary Land Act is still operative. Additional lands that would qualify could revert from federal to private ownership. The Supreme Court says this program still can be used. This program would determine the lands that would qualify under the act. It would set up the program and then would need statute to reestablish this act.

Then, MR. FRITZ presented the request for the department to develop a strategy to protect Montana's water from downstream uses and insure water availability for Montana's future needs. This program would tell us how we could best use our water. We are not sure whether or not we are ready to enter into a water compact with some other states. It could address the concerns of a lot of people.

MR. FRITZ further explained that the Boulder River project is still on the books. They are still looking for federal funding.

The hearing on HB 709 closed and one on HB 822 opened.

#### HOUSE BILL 822

REP. BOB THOFT, sponsor, presented the bill which would appropriate funds to the Agricultural Experiment Station for weed research and education. The funds would be given to MSU to be used to cooperate with companies on using chemicals to control weeds. He felt the state should have the obligation to handle this type of problem. He also felt that several of these programs should be incorporated and tied together for one good program.

The hearing on HB 822 closed and one on HB 801 opened.


#### HOUSE BILL 801

Speaking as a proponent was ROBERT S. FITZGERALD of the U.S. Windpower, Inc. See Exhibit 12.

DANA GUNDERSON spoke in favor of renewable resources. He explained that there are several areas in Montana which show great potential and he felt those areas should be studied for future use.

CHAIRMAN LUND stated that the hearing would be continued at a later time to be announced.

The meeting adjourned at 10:45 a.m.

  
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REP. ART LUND, CHAIRMAN

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LONG RANGE BUILDING PROGRAM  
ANALYSIS, PROPOSED PROJECTS TO BE FINANCED  
WITH LONG RANGE BUILDING BONDS  
20 Year Serial Bonds at 8.5% Interest

<u>Project</u>	<u>Bonds to be Sold</u>	<u>Other Fund Debt Service</u>	<u>General Fund Debt Service</u>
Workers Compensation Building	\$ 4,000,000	\$ 416,554	\$
Job Service, Polson	500,000	52,069	
Job Service, Hamilton	500,000	52,069	
MSDB, Reauthorization	717,000		74,667
Visual Communications, MSU	4,598,000		478,829
Cottage & Food Service, MSDB	2,000,000		208,277
Vo-Tech, Butte	3,769,505		392,550
Cisel Hall, EMC	1,190,000		123,925
Fine Arts, UM I	7,500,000		781,038
Gym, MSDB	2,300,000		239,518
Veteran's Facility	1,850,000		192,656
Laboratory Animal Facility, MSU	2,180,000		227,022
Capitol Remodel (HB478)	<u>5,000,000</u>	<u>520,692</u>	
Total	*\$36,104,505	\$1,041,384	\$2,718,482

\*HB563 Authorizes \$31,104,505 in LRBP Bonds.

HB478 Authorizes 5,000,000 in LRBP Bonds

\$36,104,505



LONG RANGE BUILDING BOND PROCEEDS  
Projected Interest Earnings

Assumptions

- A. That Long Range Building Program Bonds in the amount of \$31,104,505 will be issued in September, 1981.
- B. That Long Range Building Program Bond Proceeds will earn 12% interest prior to expenditure for construction costs.
- C. That the average balances of the bond proceeds will be as follows:

	<u>FY 1982</u>	<u>FY 1983</u>
Balance	\$17,900,000	\$7,815,000

- D. Projected Earnings:

<u>FY 1982</u> <u>(8 Months)</u>	<u>FY 1983</u>
\$1,430,568	\$937,800

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1 an agreement pursuant to which the division shall agree to  
 2 pay the state treasurer for deposit in the sinking fund  
 3 account established pursuant to 17-5-405 amounts sufficient  
 4 to pay as due the principal of and interest on those bonds  
 5 from which the appropriation was made and to accumulate and  
 6 maintain the required reserve attributable to those bonds.  
 7 The agreement shall provide that, to the extent not required  
 8 for costs of completing the buildings, income from  
 9 investment of the bond proceeds prior to expenditure and  
 10 from investment of the reserve shall be credited against the  
 11 division's payment obligation. The agreement shall allow  
 12 for accumulation of the reserve during the first year the  
 13 bonds are outstanding. The payments under the agreement  
 14 shall be made from revenues and moneys of the division  
 15 available therefor.

16 NEW SECTION Section 4. Benefit of state. The  
 17 agreements to be made pursuant to [sections 2 and 3] are  
 18 solely for the benefit of the state and are not enforceable  
 19 by the holders of the bonds.

20 Section 5. Codification instruction. Sections 2  
 21 through 4 are intended to be codified as an integral part of  
 22 Title 17, chapter 5, part 4, and the provisions of Title 17,  
 23 chapter 5, apply to sections 2 through 4.

-End-

24. Sec 6  
 Their acts in reference are  
 manage & approval

HOUSE BILL NO. 563

INTRODUCED BY

*Barlow*

BY REQUEST OF THE GOVERNOR

A BILL FOR AN ACT ENTITLED: "AN ACT INCREASING THE AMOUNT OF LONG-RANGE BUILDING PROGRAM BONDS; PROVIDING FOR AGREEMENTS AMONG THE BOARD OF EXAMINERS, THE DIVISION OF WORKERS' COMPENSATION, AND THE EMPLOYMENT SECURITY DIVISION; AND AMENDING SECTION 17-5-410, MCA." *& providing an immediate effective date.*

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF MONTANA:

Section 1. Section 17-5-410, MCA, is amended to read:

"17-5-410. Authorization of bonds. The board is authorized to issue and sell long-range building program bonds in an amount not exceeding \$12-million *37,184,505* over and above the amount of the long-range building program bonds outstanding January 1, 1979 *1981*, upon the conditions and in the manner stated in this part. The board is also authorized to issue and sell long-range building program bonds in such amount as may be required to provide funds for the payment or redemption of outstanding bonds as contemplated in 17-5-402 and 17-5-407. The authority contained in this section is in addition to any other authorization to the board to issue long-range building program bonds."

NEW SECTION. Section 2. Agreement with division of workers' compensation. If the proceeds of any bonds issued pursuant to 17-5-410 are appropriated for the purpose of constructing a workers' compensation building in Helena, the board of examiners and division of workers' compensation shall enter into an agreement pursuant to which the division shall agree to pay the state treasurer for deposit in the sinking fund account established pursuant to 17-5-405 amounts sufficient to pay as due the principal of and interest on those bonds from which the appropriation was made and to accumulate and maintain the required reserve attributable to those bonds. The agreement shall provide that, to the extent not required for costs of completing the building, the income from investment of the bond proceeds prior to expenditure and from investment of the reserve shall be credited against the division's payment obligation. The agreement shall allow for accumulation of the reserve during the first year the bonds are outstanding. The payments under the agreement shall be made from revenues and moneys of the division available therefor.

NEW SECTION. Section 3. Agreement with employment security division. If the proceeds of any bonds issued pursuant to 17-5-410 are appropriated for the purpose of constructing employment service buildings, the board of examiners and employment security division shall enter into

DEPARTMENT OF FISH, WILDLIFE AND PARKS  
Appropriation as of 4/5/81

proposals by fund source.

	Interest From	Hunting & Fishing	State Parks	Fish Access	Federal	F & G	Renewable
	Coal Tax	License ERA	Miscell.	Site Acq.	Land & Water	Rev. Acct.	Resources
	Park & Rec.	02131	ERA	ERA	Fund (BOR)	04522	B.P.I.C.A
	Trust Fund	02036	02204	02305	04186	06001	
Acquisition				\$1,175,000	\$1,175,000		
adquarters Maint.		\$20,000*					
ess Site Protection		25,000			75,000		\$50,000
rk Cavern Improvements		*				\$750,000	
dlife Habitat			75,000		75,000		
gs Park Improvement					150,000		
dlife Management Areas		24,000				72,000	
ttlefield Improvements	\$20,000**						
ate Monument	60,000**		12,500		12,500		
Park Improvements					21,000		
acid Lake Area Paving					200,000		
Hill Improvements					34,000		
ve Improvements	55,000**				55,000		
	\$96,000	\$69,000	\$87,500	\$1,175,000	\$1,797,500	\$822,000	\$50,000
ment Request							

CAPACITY OF VARIOUS EARMARKED AND FEDERAL FUNDS ABOVE

	Projected FY '81	1982-83	Approved Biennial	Balance
	Year-End Balance	Biennial Revenues	Expenditures	Available for
				Building & Acquisition
est from Coal Severance -				
Trust Fund	\$ 181,736	\$1,194,466	\$ 1,266,733	\$ 109,469
ng & Fishing License ERA	848,739	23,162,674	19,291,496	4,719,917
Parks Miscellaneous ERA	123,383	485,000	608,400	-0-
ng Access Site Acq. ERA	569,253	957,953	-0-	1,527,201
Land & Water Cons. Fund(BOR)	---	4,900,000	-0-	4,900,000
& Game FPRA				
nan-Robertson Share)	1,733,031	5,100,000	4,313,426	2,519,605
vable Resources BPICA	(804,441)	1,600,890	-0-	796,449

3-17-81

PRESENTED BY: James W. Flynn, Director  
Department of Fish, Wildlife, and Parks

HB 709, a grant to the department of fish, wildlife, and parks  
for the streambank preservation program: \$100,000

Mr. Chairman, members of the committee, my name is Jim Flynn. I appear to day on behalf of the Montana Department of Fish, Wildlife and Parks, and I speak in favor of HB 709, a grant to the department of fish, wildlife, and parks for the streambank preservation program: \$100,000.

The department has administered the previous \$100,000 appropriated for streambank protection by the 1979 Montana Legislature from the Renewable Resource Development Program. The purpose of the original request is the same as this -- to provide money for on-the-ground projects that maintain quality streams.

In coordinating the Natural Streambed and Land Preservation Act it has become obvious that often in order to provide long-term solutions to stream related problems, considerable time, effort, and money are required. Often the landowner does not have sufficient funds to provide a long-term solution. The program provides for financial assistance with projects that are properly designed and will provide for public as well as private benefits.

A synopsis of the program is presented in the Department of Natural Resource's 1981 Grant Evaluation and Recommendations. However, I'd like to emphasize and expand on a few key factors of and bring you up-to-date on the program.

Applications come from the landowner but must be supported by the local Conservation District Board of Supervisors and the Department's field representative. The department through the Fisheries Division receives the requests and approves or disapproves them based upon public benefits that would arise and whether or not the design

provides an adequate solution. A complete cost accounting is kept for each project. To date we have received 18 applications. Of these we've committed funds for 13 projects in the total of \$60,255. An additional \$38,800 has been requested for the remaining 5 applicants. A single project may involve more than one applicant -- each individual applicant is entitled to a maximum of \$5,000 for a project.

The types of projects range from providing \$505 for fencing to prevent streambank trampling on Sheppard Creek in Flathead County; to \$5,000 each for two landowners in Cascade County who want to protect their cropland from accelerated bank erosion and channel changes caused by flooding of the Sun River; to removal of a culvert that was blocking trout spawning movement and causing erosion and replacing it with a bridge on Trout Creek near Helena.

In addition to conventional assistance, the program is providing an avenue through which additional state and federal cost-sharing funding can be made available. Several large projects in eastern Montana along the Yellowstone River can be held up as examples. I should emphasize again that all monies has and will be used for on-the-ground projects -- the department receives no money for administration.

In conclusion, I ask you to consider the success of the program, the long-term benefits that will arise from continuing program funding, and recommend a do pass on this project.



8-17-81

APPLICATION FOR RENEWABLE RESOURCES DEVELOPMENT GRANT

GRANT APPLICATION: Water Quality Bureau, Department of Health and Environmental Sciences on behalf of the Conservation Districts.

GRANT AMOUNT: \$41,000.00

PURPOSE: The grant will be used to help Conservation Districts meet the Federal "matching" requirements for water quality improvement planning projects. Federal funds that are passed through to districts by the Water Quality Bureau are required by Federal regulations to be matched with 25 percent nonfederal monies. Because district budgets are generally inadequate, most districts are unable to receive these project monies that would help them correct serious erosion/water quality problems.

PROJECT GOALS: The basic goals of the water quality improvement planning projects are to:

- 1) prescribe specific measures to correct priority water quality problems,
- 2) determine all associated costs,
- 3) prepare accurate and realistic funding requests to the state legislature, Congress, grant administering agencies, and other funding sources.

EXAMPLES OF WATER QUALITY IMPROVEMENT PLANNING PROJECTS:

Bluewater Creek Water Quality Improvement Project

Muddy Creek Special Water Quality Improvement Project.

ANTICIPATED PROJECTS FOR FY 1982: We anticipate about 6-7 projects if the matching funds are made available under RRD.

For more information please contact:  
Water Quality Bureau  
449-2406  
ATTN: Kit Walther

3-1781

RENEWABLE RESOURCE DEVELOPMENT  
PROGRAM

RECYCLING AND RESOURCE RECOVERY PROJECT

History

In 1977, the department applied for and received a planning grant from the "Renewable Resource Development Account".

These monies were in turn issued to units of local government to conduct detailed areawide solid waste management planning.

To date, 26 counties, over 230 municipalities, the National Park Service, a military installation, two Indian reservations and a large private company have jointly participated in this planning effort.

Most of the areawide planning is or will soon be completed and local governments are now proceeding with implementation of these plans.

Each planning project has been required to conduct a detailed feasibility analysis of the potential for resource recovery and recycling programs.

Project

This analysis has identified numerous resource recovery and recycling projects which have a significant potential for development.

The majority of projects identified as feasible would provide steam generation through the combustion of solid waste.

The department has identified by the development stage areas within the state that could benefit from the proposed grant program in terms of resource recovery:

Feasibility Analysis

Flathead County  
Missoula County  
Silver Bow County  
Hill County

Preliminary Design

Cascade, Chouteau & Teton Counties  
Deer Lodge, Granite & Powell Counties  
Yellowstone County  
Custer County

Construction

Lewis & Clark, Broadwater and Jefferson Counties  
Gallatin & Madison Counties  
Park County

In addition, the development of numerous small scale recycling programs will be assisted through this state grant program.

## Project Procedures

Funds requested will be granted to cooperating local governments for front-end organizational and implementation activities

The department is NOT requesting compensation for administering this project.

The department is best suited to administer this project:

- \* because it will substantially minimize the number of grant applications for such projects to the Department of Natural Resources.
- \* because of the department's well established working relationship with local governments in the resource recovery and recycling field.
- \* because of the department's specialized experience in the areas of resource recovery and recycling.

## SOLID WASTE MANAGEMENT PLANNING

4-17-81

### History

- \* In 1977, the department applied for and received a planning grant from the "Renewable Resource Development Account".
- \* These monies were in turn issued to units of local government to conduct detailed areawide solid waste management planning.
- \* To date, 26 counties, over 230 municipalities, the National Park service a military installation, two Indian reservations and a large private company have jointly participated in this planning effort.
- \* Most of the areawide planning is or will soon be completed and local governments are now proceeding with implementation of these plans.
- \* In each planning area, a detailed evaluation has been made of:

waste quantities and composition

existing waste management conditions

special wastes such as waste oil and septic tank pumpings

resource recovery and recycling potential

waste management alternatives including:

maintaining existing disposal facilities  
establishment of areawide sanitary landfills  
various container systems.

### Project

There are numerous counties which have expressed an interest in utilizing such grants to develop comprehensive areawide waste management plans. These areas are listed by county:

Beaverhead	Fergus
Hill	Petroleum
Sweet Grass	Musselshell
Powder River	Golden Valley
Dawson	Wheatland
Carbon	

This list of interested counties should not be considered all inclusive.

The continued availability of the planning funds will allow local governments to determine which disposal, recycling, and resource recovery alternatives are feasible for their areas.

### Project Procedures

Funds requested will be granted to cooperating local governments for front-end planning activities.

The department is NOT requesting compensation for administering this project.

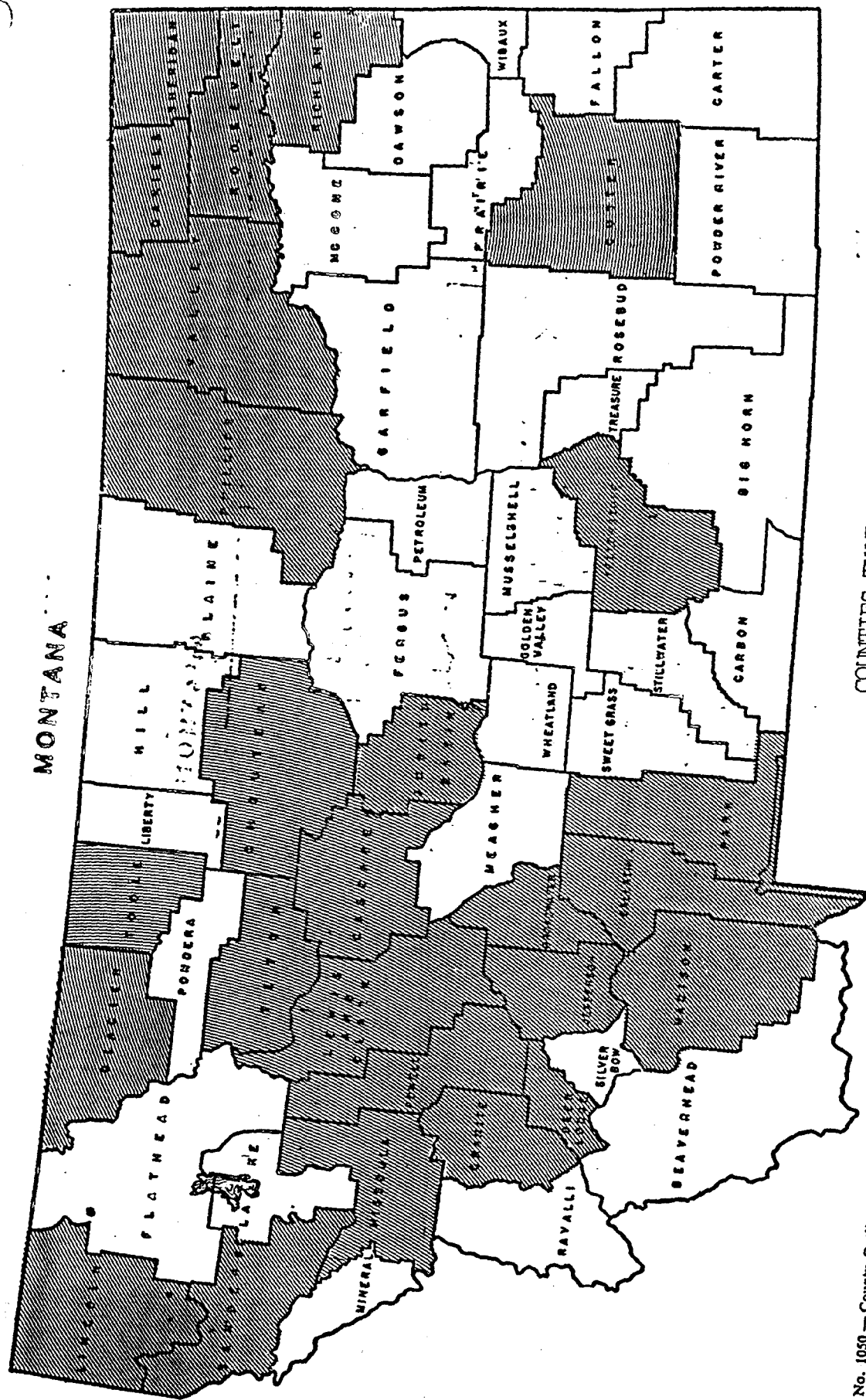
Project Procedures (continued)

The department is best suited to administer this grant program:

because it will substantially minimize the number of grant applications for such projects to the Department of Natural Resources;

because of the department's well established working relationship with local governments in the waste management field;

because of the department's specialized experience in the area of waste management.



COUNTIES THAT ARE INVOLVED IN AREAWIDE  
WASTE MANAGEMENT PLANNING  
(Funded by the Solid Waste Management Bureau)  
June 30, 1980

March 12, 1981  
4930 9th Ave. South  
Great Falls MT 59405  
Muddy Creek Project

IMPORTANT - FOR MARCH 17th HEARING

TO: Muddy Creek Executive Board Members

FROM: John P. Andrews, Project Coordinator

SUBJECT: Need for Renewable Resource Development (RRD) Program Fund

As you already know, improving the irrigation systems in the Muddy Creek drainage and keeping unused irrigation water out of that creek is the only way we can solve the sediment problem on Muddy Creek, and the rivers downstream.

What we don't know, is how much water is being lost in the irrigation system due to present irrigation methods, evaporation, and deep percolation. This information is essential if we expect to project water savings due to improved irrigation and its effects on Muddy Creek.

The Renewable Resource Development Program is designed to fund this kind of research and supply answers to these questions. Our application for RRD funding has been written to:

1. Complete an irrigation water budget by measuring the amount of water entering irrigated fields, the amount used by crops, and the amount that is lost to crop use and contributes to Muddy Creek's flow.
2. Evaluate water diversion alternatives above Fairfield by studying these alternatives (surge relief) and modeling the effects of surplus water diversion into Freezeout Lake and the Teton River.
3. Inform farmers of these findings through a series of meetings and presentations aimed at improving their irrigation management.

We feel that the RRD program is essential to our long-term project success and particularly, in documenting this water use for future federal funding. This information has been requested prior to any major funding by some federal agencies as required "homework."

Equally important, the results of this program will benefit other irrigation projects in determining their irrigation water needs. Publications describing study results are being funded by this request. If more information is needed in support of this request, please don't hesitate to call me.

Respectfully yours,

*John P. Andrews*  
John P. Andrews  
Project Coordinator

TRIANGLE CONSERVATION DISTRICT  
TRIANGLE AREA SALINE SEEP CONTROL PROJECT

SUMMARY  
FOR THE  
HOUSE APPROPRIATIONS COMMITTEE

The 1979 Legislature passed HB 824 which provided a grant from the Renewable Resources and Development program. The ten Triangle Area conservation districts united to form the Triangle Conservation District to act as a management organization. One supervisor from each district is on the Triangle Conservation District board. Each district actively seeks applications from landowners with saline seep problems.

The Triangle Conservation District is requesting a \$303,755 grant from the Renewable Resources and Development program to continue technical field assistance to landowners to correct and reclaim saline seep problems on a farm-by-farm basis through 1983.

This grant would allow the present organization to continue to effectively curtail and reclaim saline seeps in the nine county area with a trained staff and landowners more fully aware of and using the program.

Assistance to Date - January 1980 - March 1981

Assistance Requested - 183 for 10,848 acres saline seep  
Assistance Provided - work completed or started on 102  
applications for 5,312 acres saline  
seep

Projected actions to July 1, 1981 to July 1, 1983

Work completed on additional 200 applications for \*10,400  
acres saline seep

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\*Estimate made on average of 52 acres/plans to date



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# Study suggests solutions to Madison River thermal pollution

By CHRIS CAUBLE

Enterprise Staff Writer

One of Montana's blue-ribbon trout streams long threatened by excessively warm water may be getting help to stay cool.

A recent computer study has identified several solutions to the thermal pollution of the lower Madison River.

The study was completed by the Montana Department of Fish, Wildlife and Parks in cooperation with the Water and Power Resources Service.

The study identified alternatives that would or would not lower the water temperature of the river as it leaves Ennis (Meadow) Lake, a man-made lake on the river northwest of Ennis.

Alternatives included lowering the lake's water level, raising the level by raising the dam, reducing the lake's surface area by diking, channeling a streambed through the lake, and removing the dam entirely.

According to computer models, either raising the water level, diking around a portion of the lake, or digging a canal to channel the river would result in lower water temperatures, but further studies are needed to determine the economic and social impacts of such action, Department fisheries biologist Dick Vincent said.

Such study hinges on a request for a \$125,000 grant to the Department of Natural Resources and Conservation by the Blue Ribbons Area-wide Planning Organization in Bozeman.

According to Joel Shouse, executive director of Blue Ribbons, the DNRC has given the project a "high priority" for funding in the depart-

ment's appropriations bill. The bill is expected to be introduced in the state Legislature sometime in the next two weeks.

Thermal pollution of the Madison River has troubled fisherman and outdoor recreationists for years.

During July and August, water temperatures in the lower Madison sometimes reach 80 degrees. Trout growth ceases when the water temperature reaches 73 degrees, and prolonged periods of 80 to 85 degree water is lethal to trout.

At such high temperatures, trout stop feeding, much to the frustration of fishermen. The warm water also decreases insect growth and accelerates algae growth.

Warm water contains less oxygen than cool water. Last August water temperature in the lower Madison hit 81 degrees. A few fishermen reported seeing whitefish gulping for air on the water surface, an activity indicating extreme environmental stress, Vincent said.

Water temperatures in the river upstream of the lake remain below 70 degrees all summer, an optimum condition for trout growth. Trout in the upper Madison reach 1 1/4-pounds in weight in two to three years, while trout in the lower Madison require four to five years to reach the same weight, Vincent said.

The thermal pollution results from warming that occurs in Ennis Lake. The lake was built in 1900 to provide a head of water for turbines located in Beartrap Canyon. The dam and generating plant are operated by Montana Power Company.

Ennis Lake backs up the Madison

River for two miles. The lake is shallow, averaging only nine feet in depth, and acts as a giant heat trap.

According to a report by Vincent, who has been studying the Madison since 1966, water temperature in the lower Madison was one to two degrees warmer in the mid-1970s than in the 1960s, and unless some action is taken, the water will get warmer as the lake fills in with sediment and becomes more shallow.

"Sooner or later time will catch with us," Vincent said. If worse come to worse, a massive fish kill could take place, he said.

Vincent said fish mortality could occur months after the summer if fish enter the winter in poor condition due to lack of feeding because of warm water temperatures.

Usually fish in the lower Madison put on fat reserves during the fall after the water temperature falls, but if the temperature falls too far with an early, cold winter, then the trout would be in "deep trouble," Vincent said.

The computer models were compared to recorded conditions during a "cold" summer (1973) and a "hot" summer (1977).

In 1973, the average water temperature in the lower Madison was 65.6 degrees. The maximum temperature reached was 81 degrees, with three days over 80 and 64 days over 70 degrees.

In 1977, the average temperature was 67.5, and the maximum was 82. Seventy-five days were over 70 degrees and six days were over 80.

Under the first option, lowering the lake's water level 12 feet, the average water temperature dropped only two

degrees, while the days above 70 ranged from 58 to 69.

Option II called for no action, leaving the lake to gradually fill with six more feet of sediments. Although the average water temperature remained the same as current conditions, the number of days over 80 degrees nearly doubled.

Building a dike to cut off 80 percent of the lake where the depth was less than ten feet cooled the water only slightly, according to the model projection of Option VI.

A dike which cut off 80 percent of the entire lake, leaving 20 percent of the present lake with flowing water, reduced the average water temperature to 60.9 degrees during a cold summer and eliminated all days where the temperature would have reached 80 degrees.

The area cut off from flowing water could be turned into spring nesting areas for waterfowl and duck hunting areas in the fall.

Raising the lake's level by 40 feet had dramatic effects on the temperature, dropping the average to 59.8 and 60.6 degrees for cold and hot summers, respectively. Option III also eliminated all days over 80 degrees and cut by nearly half the number of days over 70.

However Option III would also mean flooding an additional area, mainly south of the lake.

The best results were obtained by removing the dam or building a canal for the river around the reservoir. Under this plan, Option V, the average temperature dropped to 55.7 and 61.2 degrees, and days where the temperature topped 70 degrees were almost eliminated.

# \$125,000 needed to study Madison solutions

By CHRIS CAUBLE

Yellowstone News-Press

Montana Blue Ribbons Project

Ennis Lake, Montana

be introduced in the state Legislature sometime in the next two weeks.

Thermal pollution of the Madison River has been a problem for many years.

Ennis Lake, Montana, is a tributary of the Madison River.

The lake is shallow and the water is warm.

Temperature reaches 85 degrees, and prolonged periods of 80 to 85 degree water is lethal to trout.

At such high temperatures, trout cease to feed, much to the frustration of fishermen. The warm water also decreases insect growth and accelerates algae growth.

Warm water contains less oxygen than cool water. Last August water temperature in the lower Madison hit 81 degrees. A few fishermen reported seeing whitefish gulping for air on the water surface, an activity indicating extreme environmental stress, Vincent said.

Water temperatures in the river upstream of the lake remain below 70 degrees all summer, an optimum condition for trout growth. Trout in the upper Madison reach 1½ pounds in weight in two to three years, while trout in the lower Madison require four to five years to reach the same weight, Vincent said.

The thermal pollution results from warming that occurs in Ennis Lake southwest of Bozeman. The lake was built in 1900 to provide a head of water for turbines located in Beartrap Canyon. The dam, and generating plant are operated by Montana Power Company. Ennis Lake backs up the Madison River for two miles. The lake is shallow,

averaging only nine feet in depth, and acts like a giant hot trap, heating the lake to gradually with six inches of sediment. Vincent said the average temperature of the lake is 60 degrees, but it can reach 80 degrees in the summer.

Ennis Lake is a tributary of the Madison River. The lake is shallow and the water is warm.

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Raising the lake's level by 40 feet dramatic effects on the temperature dropping the average to 59.8 and degrees for cold and hot summer respectively. Option III also eliminated all days over 80 degrees and cut nearly half the number of days over 70 degrees.

However Option III would also in flooding an additional area, north of the lake.

The best results were obtained removing the dam or building a dike for the river around the reservoir. Under this plan, Option V, the average temperature dropped to 56.7 and degrees, and days where the temperature topped 70 degrees were all eliminated.

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# No easy cures for Mao

By Mary H. H. H. H.  
Of The Gazette

The problem of water temperature in the lower river has been a long-standing one. Vincent, a biologist with the Department of Fish, Wildlife and Parks at Bozeman, has been wrestling with the Madison problem for years, monitoring the flow of water from the dam.

He has found that the water temperature in the lower river is a critical factor in the survival of the trout population. The water is too warm in the summer and too cold in the winter.

In the winter, the water is too cold for the trout to survive. In the summer, the water is too warm for the trout to survive.

The water is now averaging 89 degrees during the summer months below the old dam, meaning the daytime temperatures go much higher.

It's those temperatures that are hurting the growth and threatening the life of the lower river. Research has shown that temperatures over 78 degrees are considered detrimental; those in the low 80s are critical; and anything over 85 degrees is probably lethal to trout populations.

It's to the point that while fishermen can catch rainbow and brown trout in the Beartrap in late fall, winter and early spring, the fishing deteriorates to nothing during the rest of the year.

Summer biologists fear that all it will take is one long hot summer combined with low flows to kill all the trout in the lower Madison trout because of the hot waters.

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will continue to deteriorate. Vincent said the dam is a "big problem" and it still doesn't solve it. Vincent said the dam is a "big problem" and it still doesn't solve it.

Reducing the shallow water area around the dam is another option. Vincent said the dam is a "big problem" and it still doesn't solve it.

Such a system of dikes would be a "big problem" and it still doesn't solve it. Vincent said the dam is a "big problem" and it still doesn't solve it.

The three options proposed are a "big problem" and it still doesn't solve it. Vincent said the dam is a "big problem" and it still doesn't solve it.

A bigger dam forming a bigger and deeper lake would be a "big problem" and it still doesn't solve it. Vincent said the dam is a "big problem" and it still doesn't solve it.

Raising the water level 30 or 40 feet would be a "big problem" and it still doesn't solve it. Vincent said the dam is a "big problem" and it still doesn't solve it.

Another possible answer is either removing the dam or raising the dam higher. Vincent said the dam is a "big problem" and it still doesn't solve it.

Removing the dam is the least likely alternative, both because it offers power generation and because of the objections of property owners along the shores to having their lake removed. Vincent said the dam is a "big problem" and it still doesn't solve it.

Ennis Lake