WATER POLICY COMMITTEE

Final Report to the
52nd Legislature
of the State of Montana

December 1990

REPORT OF
THE WATER POLICY COMMITTEE
TO THE 51ST LEGISLATURE
OF THE STATE
OF MONTANA

December 1988

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WATER POLICY COMMITTEE
Montana State Legislature

December 19, 1990

President of the Senate
Speaker of the House
Montana Legislature

As chairman of the Water Policy Committee, I am pleased to transmit the Committee's final report to the Fifty-second Legislature, as required by section 85-2-105, MCA.

As required by statute, the Committee has made policy recommendations regarding the water leasing study, the state water plan, water development, water data management, and water research. Additional information regarding instream flow protection strategies and an extensive section on the impact of federal water policies on Montana water issues is also provided.

On behalf of the Water Policy Committee, I urge your consideration of this report.

Sincerely,

Jack E. Galt

Senator Jack E. Galt
Chairman

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Introduction

This is the third biennial Water Policy Committee report to the Montana Legislature. The Committee focused on five broad topics during the interim: water leasing, water data management, water research, the state water plan, and federal-state relations.

The Committee is required by statute to comment on these water policy issues. However, the Committee's responsibility to the legislature and the people of Montana goes further.

Section 85-2-105, MCA states:

> On a continuing basis, the committee shall:
>
> (a) advise the legislature on the adequacy of the state's water policy and of important state, regional, national, and international developments which affect Montana's water resources;
> (b) oversee the policies and activities of the department of natural resources and conservation, other state executive agencies, and other state institutions, as they affect the water resources of the state; and
> (c) communicate with the public on matters of water policy as well as the water resources of the state.

Understanding these responsibilities, in addition to presenting specific Committee policy recommendations, the report attempts to present a broad overview of current water issues in Montana.

Some parts of the report, most notably the Water Leasing section, contain no Committee recommendations or endorsements and were included in the report as an educational service to interested citizens and legislators who will be dealing with these issues during the 1991 legislative session.

It is important to remember that the report should serve as only an introduction to these complex issues. The report was not intended as the definitive analysis of water policy issues in Montana, and those interested in additional information regarding specific report sections should consult Committee or state agency staff as appropriate.

Section 1. WATER LEASING AND INSTREAM FLOW MANAGEMENT

The purpose of this section of the Water Policy Committee report to the legislature is three-fold. The first part will present the Board of Natural Resources and Conservation and the Fish and Game Commission recommendations regarding the water leasing study and proposed statutory modifications to the water leasing pilot program. This part satisfies the statutory obligation to complete and submit a final report to the 52nd Legislature. The second part of the report will review current instream management strategies in Montana as well as implementation of the Instream Flow Protection Subsection of the 1989 State Water Plan. Lastly, recognizing the Committee's broader responsibilities to the legislature, the third part will briefly identify and discuss the different instream flow protection options that are or may be available for use in Montana.

The Committee expects the 1991 Legislature to be confronted with many proposals designed to protect instream flows and it believes that an unbiased review of potential options, even a cursory one such as this, will better prepare the legislature for rational consideration, debate, and action on this increasingly important issue.

IT IS IMPORTANT TO NOTE THAT THIS REVIEW OF INSTREAM FLOW PROTECTION METHODS IS NOT AN ENDORSEMENT OF A PARTICULAR METHOD OF INSTREAM FLOW PROTECTION - OR AN ENDORSEMENT OF INSTREAM FLOW PROTECTION IN GENERAL. IT IS PROVIDED SIMPLY AS A "PRIMER" ON INSTREAM FLOW PROTECTION OPTIONS.

I. Water Leasing Study Final Report

A. Background

Section 85-2-436, MCA, directs the Department of Fish, Wildlife and Parks and the Department of Natural Resources and Conservation, in consultation with the Water Policy Committee, to conduct a study regarding the leasing of instream flow for the maintenance and enhancement of streamflows to benefit fisheries in those streams. The Board of Natural Resources and the Fish and Game Commission must submit a study report to the Water Policy Committee, and the Committee must submit to the legislature a final report on the water leasing study.

The Committee has monitored water leasing study progress closely during the past two years. DFWP and DNRC representatives have appeared at each Committee meeting to update the Committee and answer questions. Additionally, WPC staff have worked with these agencies to ensure that the required reports would be congruous and timely.

B. Board and Commission Recommendations

Excerpts from Section V. of the Board and Commission report, which identifies water leasing issues and presents Board and Commission recommendations, are reproduced below. The Board and Commission report is attached in its entirety as appendix A.

V. ISSUES, OPTIONS, AND RECOMMENDATIONS

Given the status of the water leasing study, the Board of Natural Resources and the Fish and Game Commission would like to raise several issues that have emerged, and present some options and recommendations for responding to the issues.

1. How Much Water May be Maintained for Instream Flow?

Two of the three water leases currently being studied involve the potential leasing of water that may be salvaged by irrigators becoming more efficient. According to the water leasing statute, however, only the amount of water historically consumed may be maintained and protected below the lessor's point of diversion. The definition of "historically consumed" is not defined in the statute. Therefore, it will be determined through the change of use process on a site-specific basis. Neither the Board nor the Commission make a recommendation on this issue.

2. Length of the Leases

During negotiations with a potential lessor, the water right holder indicated that he may be interested in leasing his water for instream flow purposes, but would like to sign at least a five-year contract. While the DFWP could enter into such a contract, it would expire if the legislation allowing water leasing sunsets in 1993. This limitation may be a stumbling block during additional negotiations with potential lessors during the remaining two years of the leasing study.

Recommendations

Change the law to allow any leases approved during the four year study period to continue past June 30, 1993.

3. Study of Impacts From Water Leases

The DFWP must conduct some studies on the potential adverse impacts to other water users from water leasing prior to entering the change of use process. However, the Board of Natural Resources and Conservation raised the issue that the DFWP should also study the impacts to water users from water leases after the leases have been exercised.

Recommendations

A. The DFWP should provide the Board with available information on the adverse hydrologic impacts, if any, to other water users after the leases have been exercised.

B. The DFWP, in cooperation with the DNRC, should hold public meetings in appropriate communities after any leases have been exercised. The public meetings should provide an opportunity for water right holders and others to comment on the social, economic, environmental, and hydrologic impacts of the exercised leases.

4. Prepare Another Report for the 1993 Legislature

Given that the water leasing study is planned to continue for at least two more years, both the Board and the Commission raised the issue of preparing another report for the 1993 Legislature.

Recommendations

Require the Board of Natural Resources and Conservation and the Fish and Game Commission to prepare another report on the water leasing study. The Board and Commission should then submit the report to the Water Policy Committee, which should then present a final report to the 1993 Legislature.

Final Action

The Water Policy Committee accepted the final report and recommendations of the Board and the Commission and transmits the report to the legislature.

II. Instream Resource Management in Montana[1]

A. Existing Montana Instream Resource Management Strategies

1. State Activities

Recognizing the unique value associated with instream resources, Montana employs a number of instream flow management strategies.

Murphy Rights

The first state effort to protect instream flows occurred in 1969 when the state legislature enacted a law allowing the Fish and Game Commission to file for water rights on the unappropriated waters of 12 "blue ribbon" streams for the protection of fish and wildlife habitat. The resulting appropriations, known as "Murphy Rights", after the principal sponsor of the bill, have a priority over other uses until the district court in which the streams are located determines that such waters are needed for a more beneficial use.

While the Murphy Rights legislation was repealed in 1973, the claimed appropriations remain valid. To date, the appropriations have not been challenged in court by other water users.

Murphy rights are prospective in that they protect instream values from future consumptive appropriations. However, given their relatively junior status, they are ineffective in maintaining stream flows when there is not enough water to satisfy all water users. In addition, since the statutory authority for Murphy rights is no longer applicable, and never was intended to be applicable to all streams within the state, it is a very limited, although valuable strategy for protecting certain instream values.

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[1] The information in parts II and III of this report was largely condensed from the following sources:

McKinney, Letting The Rivers Run: Toward A Model Instream Flow Program *Headwaters Hydrology*, American Water Resources Association, June, 1989

McKinney, Instream Flow Policy In Montana: A History And Blueprint For The Future, Submitted to the *Public Land Law Review* July 16, 1990.

McKinney, Let It Flow: Alternative Strategies For Protecting Instream Flows, Prepared for submission to the *Land and Water Law Review*, University of Wyoming School of Law, December 8, 1989.

Water Reservations

State efforts to protect instream resources were expanded in 1973 with the enactment of the Montana Water Use Act which in part sets forth a systematic and comprehensive mechanism for the protection of instream values. The law provides an opportunity to reserve water for future diversionary and consumptive uses as well as for maintaining instream flows.

Under the reservation statute, the state or any political subdivision of the state, including federal agencies, may apply for a water reservation to the Board of Natural Resources and Conservation for a multitude of purposes including: future irrigation; municipal growth; multipurpose storage; recreation; fish and wildlife; and maintenance of water quality.

Reservations are to be reviewed at least once every ten years, and if the objectives of the reservation are not being met, the Board may extend, revoke, or modify the reservation. The Board may also modify an instream flow reservation every five years if the total amount of instream flow reserved is not needed to fulfill its purpose and if an applicant can show that its need outweighs the need of the original reservant.

To date, instream flows have been reserved on approximately 69 stream segments in the Yellowstone River Basin. These 69 stream segments constitute a total of about 2,708 stream miles, or approximately 12.5 percent of the total stream miles in the state. Approximately 70 percent of the average annual flow in the upper basin of the Yellowstone River has been reserved for instream flows, while between 58 and 66 percent of the average annual flow in the lower basin of the Yellowstone River has been reserved for instream flows.

In addition to the instream flows that have been reserved in the Yellowstone River Basin, applications are pending on about 25 stream segments in the Clark Fork River Basin in western Montana.

If approved, these 25 segments will constitute a total of about 400 stream miles, or approximately 2.5 percent of the total stream miles in the state. Approximately 43 percent of the average annual flow in the Clark Fork River Basin would be reserved for instream flows.

A basin wide reservation process is also underway in the Missouri River watershed upstream from Fort Peck Dam. This process may result in a significant amount of water reserved for instream flow purposes.

While the reservation process provides a systematic mechanism to evaluate the instream flow needs of a stream or watershed, to balance instream with future consumptive uses, and to legally protect needed instream flows, there are several problems that limit its effectiveness for protecting instream resources.

1. The reservation process is time-consuming, cumbersome, and costly. Consequently, it is most efficiently applied to entire basins, while it is a relatively inefficient process for protecting instream flows on single streams.

2. A reservation for an instream flow cannot exceed 50 percent of the average annual flow on gauged streams, which may not be sufficient to protect instream resources in all cases.

3. Until 1989, priority dates for reservations were not established until the applications had been approved, which can often take years from the time the application is submitted. Meanwhile, consumptive water users have been allowed to continue acquiring water use permits, thereby incrementally degrading instream values before they can be protected. Although the priority date for all reservations was changed by the 51st Legislature to the time a reservation application is received by the DNRC, the original provision may nevertheless limit the effectiveness of instream flow reservations in the Yellowstone and Clark Fork River Basins.

4. All reservations, including instream flow reservations, must be reviewed at least once every ten years and may be modified at that time, thereby rendering them less secure than appropriations received under the water permitting process. Additionally, the provision noted above allowing the BNRC to modify an instream flow reservation every five years also reduces the security of instream flow reservations.

5. The reservation process, like other prospective mechanisms to protect instream flows, is not capable of addressing situations where the primary threat to instream values is severe dewatering from senior consumptive water users or because of drought.

Public Interest Criteria

If a person applies for a water use permit in excess of 4000 acre feet per year and 5.5 cubic feet per second, the applicant must show the projected uses of the water to be reasonable. The DNRC will base the reasonableness determination on a number of considerations including the need to preserve instream flows for aquatic life.

While the public interest criteria are potentially useful in protecting instream flows, their effectiveness is limited since they apply only to applications for very large amounts of water, and consequently they have not been applied to protect instream flows.

Adjudication Proceedings

Instream flows may also be protected in Montana during adjudication proceedings. The DFWP may represent the public in adjudication proceedings for purposes of establishing public recreational uses of water prior to 1973. To date, the DFWP has claimed water rights for instream flow purposes on 12 streams and approximately 76 ponds, lakes and reservoirs. The legal validity of many of these instream flow claims is questionable however. The Montana Supreme Court has upheld a Montana Water Court finding that DFWP recreational instream flow claims without some type of artificial diversion are not valid appropriations. Many DFWP instream flow claims are not associated with diversion structures.

Reservoir Management

Although the construction, operation, and maintenance of reservoirs for hydroelectric power production and water storage may threaten instream values in many cases, such activities also provide opportunities for protecting instream resources by decreasing the uncertainty of stream flows and providing a relatively constant flow regime throughout the year. Several opportunities have been pursued in Montana to manage reservoir flows for fish and other instream uses.

Two federal statutes have been used in Montana to condition the construction and operation of reservoirs on behalf of instream flow protection. The Federal Power Act, as amended in 1986, requires the Federal Energy Regulatory Commission (FERC) to find that a proposed project is best adapted to a comprehensive plan for a waterway, including navigation, water power, and other beneficial uses, such as recreation and fish and wildlife. To facilitate this objective, each license issued by FERC shall include conditions for the protection, mitigation, and enhancement of fish and wildlife affected by the development, operation and management of the project. The conditions are based on recommendations from both federal and state fish and wildlife agencies.

Additionally, the Pacific Northwest Electric Power Planning and Conservation Act directs the Northwest Power Planning Council (NWPPC) to develop a plan for the protection, mitigation, and enhancement of fish and wildlife.

The NWPPC has designated over 2000 stream miles, or about 30 percent of the stream miles in the Columbia Basin in western Montana, as "protected areas" because of their importance as critical fish and wildlife habitat.

No new hydroelectric development should be allowed in the designated areas. While the designation of an area as protected does not transfer or create any water rights or instream flow guarantees, it does indirectly protect instream flow values by preventing hydroelectric development.

State Recreational Waterway Program

The State Recreational Waterway Program was established by the DFWP in 1972 to: (1) maintain and improve Montana's prime free-flowing and productive streams; (2) improve other streams so they may be added to the recreational system; and (3) encourage and obtain multiple recreational attributes of streams in the system, with special emphasis on fishing.

To date, several stream segments have been included in the recreational program. Eventually these segments received greater protection through the National Wild and Scenic River program or state instream flow reservations. Again, inclusion into the state recreational program does not provide a mechanism for legally protecting instream flows but it does provide a framework for identifying and prioritizing streams based on the instream flow values cited above.

2. Federal Efforts

Wild and Scenic Rivers

The federal Wild and Scenic Rivers Act was designed to preserve in a free-flowing condition certain rivers possessing outstanding scenic, recreational, geologic, fish and wildlife, historic, cultural, and other similar values. The Act prohibits FERC from licensing water projects on, or directly affecting, rivers included in the system, and provides interim protection for rivers under study for inclusion.

The Act also expressly asserts a federal reserved water right for the amount of water which is reasonably necessary for the preservation and protection of those features for which the rivers were designated. The Act has been used to protect instream values on four stream reaches in Montana - the North, South and Middle Forks of the Flathead River, and one reach on the Missouri River. Additionally, 76 river segments in the nine national forests in Montana have been identified as eligible for inclusion in the program.

While the national wild and scenic rivers program is a potentially useful strategy for protecting instream resources, it is a politically sensitive program that will likely take many years to implement. Consequently, the water rights associated with designated stream reaches become that much more junior in status, and thereby limit the effectiveness of this strategy to protect instream flow values.

Public Land Management Opportunities

When considering permit applications, public land management agencies have a duty to impose conditions on the proposed projects that will protect the environment, including fish and wildlife habitat. The U.S. Forest Service has used this authority in Montana to protect instream values by conditioning land use permits for irrigation diversions, hydropower plants, and reservoir developments.

Additionally, when developing national forest plans, the U. S. Forest Service articulates specific goals for fish and wildlife enhancement, watershed management, and related instream flow management activities. While pursuit of these goals does not result in the acquisition of a formal water right for instream flow protection, the impact of proposed activities on the forest is reviewed in light of the goals. The proposed activities may then be accordingly denied or conditioned during the permitting process.

Federal Reserved Water Rights

The federal reserved water rights doctrine assures that public lands set aside or reserved by the United states for a particular purpose have adequate water. The reserved rights doctrine recognizes rights to a quantity of water sufficient to fulfill the specific purposes for which the land was reserved. Reserved water rights on federal and Native American lands have a priority dating back to when the reservation was established, even if the actual use of reserved water begins long after other water users have appropriated water from the streams.

While there is some question as to the feasibility of using the federal reserved water rights doctrine to protect instream flows on lands administered by the U.S. Forest Service, the National Park Service and the U.S. Fish and Wildlife Service are in a better position to utilize the reserved rights doctrine to protect instream values given the original purposes of their reservations. According to a Department of Interior Solicitor's Opinion, the National Park Service may acquire reserved water rights for scenic, natural, and historic conservation uses, wildlife conservation, and public enjoyment.

The U.S. Fish and Wildlife Service may claim reserved rights for purposes of protecting fish, migratory birds and other wildlife.

Both the Bureau of Land Management and U.S. Fish and Wildlife Service have claimed reserved water rights in Montana. These claims are under negotiation with the state's Reserved Water Rights Compact Commission and may eventually provide another vehicle for protecting instream flows on public lands.

Native American Reserved Water Rights

Native American reserved water rights can also result in the protection of instream flows in Montana, particularly where native tribes have treaty fishing rights. Interference with river flows by diversion, impoundment, or pollution of waters so that fish habitat is damaged may reduce the ability of tribes to take a meaningful share of fish as guaranteed in their treaties. Reserved water rights negotiations with native tribes are also currently underway in Montana.

The Public Trust Doctrine

In brief, the public trust doctrine asserts that the state has both the authority and the duty to protect the public's interest in water. The Montana Supreme Court applied the doctrine when it found that the public had a right to stream access for recreational uses. The issue of the public's right to minimal stream flows has yet to be raised in Montana and the utility of the public trust doctrine for protecting or enhancing instream flows in Montana remains an open question. The public trust doctrine is examined further in section III of this report.

B. Implementation of 1989 State Water Plan Instream Flow Subsection

The 1989 State Water Plan subsection on instream flow protection contained the following policy statement:

> Instream flows are an important use of water, and mechanisms should be developed and refined to protect and enhance instream resources. However, instream flow protection activities must not adversely affect existing water rights and should be weighed and balanced against alternative future uses of water.

The water plan identified the following problems and solutions with respect to instream flow protection:

Problem

1. Inadequate consideration of instream flow values in the water use permitting process.

Discussion

The State Water Plan expressed a concern that the criteria existing in 1989 for issuing a water use permit may not adequately provide for the consideration of instream flow values.

The Plan stated:

> It is not clear whether the water permitting process allows for the consideration of instream flow values other than when instream flow water rights have been established. To date, many streams in Montana with important instream values do not have the necessary protection for instream flow rights. Water permits for new consumptive use continue to be granted before instream flow rights are established. Consequently, in certain areas of Montana, instream resources are subject to further depletions.

State Water Plan Advisory Council (SWPAC) Recommendation

Improve the ability to use water reservations for protecting instream flows by assigning a priority date at the time a qualified applicant submits a notice of intent to reserve water instead of when final reservation decisions are made. This would prevent additional consumptive uses from being permitted until it could be proved that there would be no adverse impact on the preexisting water reservation application.

Implementation

1989 SB447 amended section 83-2-316 M.C.A. thereby allowing the DNRC to assign a priority of appropriation date when a notice of intent to apply for a water reservation is filed.

Problem

2. Insecurity of instream flow water reservations.

Discussion

As noted above, reservations are to be reviewed at least once every ten years, and if the objectives of the reservation are not being met, the Board may extend, revoke, or modify the reservation. The Board may also modify an instream flow reservation every five years if the total amount of instream flow reservation is not needed to fulfill its purpose and if an applicant can show that its need outweighs the need of the original reservant. The plan expressed a concern that this process may not provide adequate security for instream reservations.

SWPAC Recommendation

The security of instream reservations should be evaluated after the BNRC completes its ten year review of the Yellowstone River reservations.

Implementation

The BNRC is currently completing its ten year review of the Yellowstone River reservations and the DNRC considers an evaluation of the security of instream reservations to be premature until this review is completed. The DNRC has stated that after the review is completed it will proceed with the security evaluation recommended in the water plan.

Problem

3. Need for enhancement of instream resources in dewatered basins.

Discussion

Instream resources are often threatened in streams that are subject to regular or periodic low flow conditions. The issue here is not how to maintain existing flow levels, but how to increase or enhance the flow levels in certain streams.

SWPAC Recommendation

a. Allow the DFWP to lease water rights from offstream or consumptive uses for purposes of protecting instream flows in important stream reaches. The leases would be voluntary and could not occur if adverse effects to existing water users would result.

b. Support public entities in purchasing or leasing water stored in reservoirs above dewatered streams and in revising the operating procedures of such reservoirs to alleviate the low flow problems.

c. Assess the feasibility of new storage projects to enhance instream resources.

d. Support cooperative solutions, such as irrigation scheduling, at the local level.

Implementation

a. 1989 HB707, enacted as section 85-2-436 MCA, created the water leasing study and allows the DFWP to lease water rights from offstream or consumptive users. Currently, water leases are being pursued on three stream reaches. This topic is explored in more detail in section 1 of this report.

b. The DFWP continues to work with both public and private reservoir operators to improve instream flow conditions below such reservoirs. Specifically, the DFWP and DNRC are exploring opportunities to manage reservoir releases at the Tongue River Dam for instream flow purposes.

c. The feasibility of new water storage projects to enhance instream resources is assessed in the water storage section of the 1991 State Water Plan. Additionally, the DFWP and DNRC are investigating the potential for improving the spawning habitat for arctic grayling as part of the Middle Creek Dam rehabilitation project.

d. The DNRC continues to provide a forum for all the affected interests in instream-offstream conflicts to sit down and resolve their problems at the local level.

Problem

4. Need for research on instream resource management decisions.

Discussion

In order to establish and implement effective instream resource management strategies more information is needed on certain crucial issues. Adequate information regarding these issues may remove some of the political and practical obstacles that currently hinder the protection of instream resources.

SWPAC Recommendations

To improve the management of instream resources, research is needed to evaluate:

a. the effect of return flows on the maintenance and enhancement of instream resources;

b. instream flow quantification methods to determine if existing methods result in an appropriate amount of water for instream resources;

c. the physical availability of water to meet the demands for instream resource protection.

Implementation

a. To date no action has been taken on the recommendation to study the effect of return flows on instream resources.

b. Instream flow quantification methods are being studied by Dr. Robert White, Professor of Fisheries Biology at Montana State University under a grant from the Montana Water Resources Research Center. Results from this study are expected in 1991.

c. The DNRC considers current computer modeling associated with the Missouri and Clark Fork River water reservation proceedings as a method of implementing research on the physical availability of water for instream resources needs.

III. Possible Instream Flow Management Strategies For Montana

IT SHOULD AGAIN BE NOTED THAT THIS REVIEW OF INSTREAM FLOW PROTECTION METHODS IS NOT AN ENDORSEMENT OF A PARTICULAR METHOD OF INSTREAM FLOW PROTECTION - OR AN ENDORSEMENT OF INSTREAM FLOW PROTECTION IN GENERAL. IT IS PROVIDED SIMPLY AS A "PRIMER" ON INSTREAM FLOW PROTECTION OPTIONS.

There are two major ways of classifying instream flow management strategies: (1) maintaining or protecting existing instream flow and (2) increasing and then protecting the instream flow.

The purpose of strategies to "maintain" instream flows is to set aside existing unappropriated water supplies and thereby deter future offstream diversions that would threaten or harm instream resources. By contrast, the objective of strategies designed to "increase" instream flows is to put water back into streams that are regularly or periodically dewatered due to over-appropriation, drought or both.

A. Strategies To Maintain Existing Flows

1. Denying and Conditioning Water Use Permits

Many western states have adopted "public interest criteria" for reviewing new water use permits and changes in appropriative rights. These criteria allow the new permits or changes to be conditioned or denied if they are not in the public interest, which can be broadly defined to include the protection of instream flows.

The outright denial of a new water use permit or change of right may lack the flexibility needed in effective water resources management. Therefore some states will issue a water use permit subject to instream flow protection. In general, two types of instream flow conditions are frequently incorporated into water use permits. The first provides for a specified level of natural flow to be left instream and the second requires the permittee to stop diverting water when the natural instream flow falls below a specified level.

While public interest criteria have proved to be an effective strategy for protecting instream resources, they are reactive, being triggered only by a new water use permit or a proposed change of a water right. It is a stop-gap measure that does not result in the acquisition of a formal water right that can be enforced.

As noted on page 6, under Montana water law, the protection of minimum streamflows to protect "existing water rights and aquatic life" can only be considered if the permit application requests a right to 4000 or more acre feet of water a year.

2. Claiming Instream Water Rights

The most common strategy used to protect instream resources has been to allow the appropriation of unappropriated water for instream flow purposes. These instream flow rights are like traditional appropriations in form. They are quantified, have a priority date, are subject to senior calls and are integrated into the existing framework for administering water rights.

Instream flow rights established under these programs have the same legal status as municipal diversions, irrigation withdrawals, and other offstream water rights. With few exceptions however, state agencies are the only entities that may acquire and hold instream flow water rights. Of the eleven states located entirely west of the 100th meridian, plus Alaska, eight have enacted legislation allowing the establishment of instream flow water rights.

Instream flow rights may be established through either appropriation or reservation. For example, the Colorado Water Conservation Board is authorized to establish water rights on behalf of the public to maintain instream flows and natural lake levels. As with the majority of water rights established under all western instream flow programs, the right does not ensure that such flow will actually be maintained, because senior water rights may already exist that deplete the stream.

Idaho, Oregon and Wyoming have recently enacted similar instream flow protection programs. Utah's instream flow program is based on the principal of appropriations but the state cannot itself appropriate instream water. The only way to acquire water rights for instream flow purposes in Utah is to transfer existing appropriations to the state Division of Wildlife.

The reservation of instream flows is similar in concept to appropriative rights. As noted above, Montana currently allows public entities to "reserve" instream resources but this reservation is susceptible to review every five years and therefore does not receive the same legal protection as appropriated offstream uses.

Claiming instream water rights is an effective way to help maintain existing flows. However, the effectiveness of this strategy is limited because it results primarily in the acquisition of junior water rights. While these junior instream water rights may deter or modify changes and transfers in water rights that would threaten instream values, they rarely provide the basis for making a call on the river to leave water instream.

3. Prohibit New Diversions

Another strategy for maintaining existing instream flows would be to prohibit new diversions, i.e. "close" the water course or basin in question. Moratoriums do not result in the actual appropriation of water rights for instream uses, but they can provide an opportunity to identify instream flow needs and to evaluate or even curtail future diversionary uses of water.

Prohibiting new water withdrawals is an effective way to maintain existing instream flow levels with a minimum of administrative red tape. However, this strategy may be too restrictive on streams which, during certain seasons and wet years, carry sufficient water for new diversions without injuring the instream flow values.

Montana water law allows the state legislature to close highly appropriated basins or subbasins. The DNRC is also allowed to close a highly appropriated basin or subbasin if the process is initiated by the affected water rights holders.

B. Strategies To Increase Flows In Dewatered Streams

1. Transferring Water Rights

If private parties are not allowed to hold instream water rights, then the state could make it possible for a private offstream water rights holder to sell, lease or donate existing offstream water rights to an appropriate state agency for instream use. A leasing program could be flexible enough to only be exercised during periods of need, e.g. drought years.

Colorado, Idaho and Utah have instream water rights transfer programs. Montana's water leasing study is an example of this type of instream resource management strategy. All these programs are based on the "willing buyer - willing seller" premise.

Other innovative transfer programs include: the exchange of water rights priority dates; exchanging or alternating water sources (e.g. exchange stream flow for reservoir storage); exchanging surface water for ground water; and water banking (the storing of excess water available during high flow years).

2. Coordinating Reservoir Operation and Water Use

Reservoirs on dewatered water courses could be managed to alleviate low flow conditions. This coordinated reservoir management could be facilitated through public or private purchase of water and/or transfer of water rights, or simply through negotiations between the affected parties to reduce low flow condition through reservoir operation.

Another example of this strategy is the scheduling of irrigation withdrawals so all the irrigators are not diverting water at the same time or changing the point of diversion of a senior water right holder to a point farther down stream.

Local cooperative efforts such as these can be the most cost effective solutions to increasing flows in dewatered streams. Such efforts can be tailored to a specific situation and can result in solutions that are agreeable to all.

3. Construct New Storage Facilities

Although dams and water storage facilities are typically assumed to adversely affect instream values, there is growing evidence that they also play a valuable role in increasing and maintaining instream flows in dewatered streams. Water storage facilities can capture spring runoff for release during critical low flow periods in late summer and they can provide consistent, predictable flows throughout the year.

4. Salvaged Water

Salvaged water, the additional water available through an increase in the efficiency of a consumptive water use, could be a significant source of water for increasing instream flows. A number a options exist to utilize this "new" water for instream flow purposes.

The state could, through statute, allow the water rights holder to use salvage water but require a certain percentage of the water be maintained for instream flows. An important issue here is who, if anyone, has the right to the instream salvaged water. Without a clear right and priority date the water would apparently be subject to future consumptive appropriations.

Additionally, the state could subsidize an increase in consumptive use efficiency, e.g. direct payments or low interest loans for irrigation improvements, and then dedicate all or a certain percentage of the salvaged water for instream use. Again the issue of water rights and priority dates must be addressed.

5. Public Trust Doctrine

The central premise of the public trust doctrine is that certain natural resources possess public interest values and thus must be treated differently from other property. Unlike ordinary property, public trust resources can never become "vested" private property. The public trust doctrine can be perceived as a justifiable means to rectify an imbalance between historical water use, typically involving diversion and consumption - and environmental values, including non-consumptive instream flows.

The courts could apply the doctrine to protect instream flows, either through preventing state approval of additional consumptive water rights or revoking rights already approved by the state.

Several state courts, including California, Alaska, Idaho, and North Dakota, have extended the public trust doctrine to the appropriation of water. In general, these courts hold or suggest that water rights might be curtailed if such appropriations substantially impair the public trust values at stake.

While the application of the public trust doctrine to water appropriation has not been raised in Montana, the Montana Supreme court has applied the public trust doctrine to guarantee public access to water courses for recreational uses.

6. Pursue A Constitutional Initiative

Another potential strategy for increasing flows in dewatered streams is to pursue a constitutional initiative that would establish a minimum stream flow on some or all of the streams in the state.

This minimum stream flow could presumably take precedence over all existing water rights in the state. Consequently, once offstream diversions reduced the streamflow below the constitutionally defined minimum streamflow, such diversions would have to cease.

Establishing a constitutional initiative would require the consensus of the citizens, and therefore may be difficult to achieve, particularly in light of the likely adverse affects to existing water rights. To minimize conflicts with the federal constitution the state would have to compensate the affected water rights holders.

IT SHOULD AGAIN BE NOTED THAT THE ABOVE REVIEW OF INSTREAM FLOW PROTECTION METHODS WAS NOT AN ENDORSEMENT OF A PARTICULAR METHOD OF INSTREAM FLOW PROTECTION - OR AN ENDORSEMENT OF INSTREAM FLOW PROTECTION IN GENERAL. IT WAS PROVIDED SIMPLY AS A "PRIMER" ON INSTREAM FLOW PROTECTION OPTIONS.

Section 2. WATER DATA MANAGEMENT

As water issues become more controversial and important in Montana, the importance of reliable and accessible information regarding these issues increases as well. Effective and efficient water data management, in other words the gathering, storage and dissemination of water data, is necessary for a valid long-term water policy that ultimately affects all Montanans.

I. The Montana Water Information System

The Montana Water Information System (MWIS) was created in 1986 as part of the Natural Resources Information System (NRIS). MWIS provides a central contact point for locating and obtaining water data. As the MWIS has been fully implemented, it has become fully integrated with NRIS.

As a MWIS staff member has put it -"A call to MWIS is a call to NRIS and vice versa." The Water Policy Committee played an important role in the creation of MWIS and continues to monitor its implementation.

A. MWIS Progress

The demand for water data has increased substantially since the Water Information System was established. Consequently, data requests have increased steadily since fiscal year (FY) 88, and the first quarter of FY91 showed a 50 percent increase over the same quarter for FY90. For the period October 1, 1989 through September 30, 1990, the Water System staff handled 497 formal data requests and over 700 informal inquiries.

A profile of users demonstrates that state agencies make the most requests (52 percent) followed by private and federal users. The profile also indicates that the majority of state agency requests come from the DNRC (53 percent), DFWP (15 percent), the Department of Health and Environmental Sciences (9.8 percent), and the Department of State Lands (8 percent).

Access to all major federal, state, and local water resource databases is available through MWIS. MWIS has concentrated on making these databases as accessible as possible. As part of this process, MWIS staff completed the first (electronic) edition of the "Water Data Directory" with more than 25 data sources described and indexed in detail. The Water Data Directory will be updated regularly, and provides a handy, in-house tool to locate sources that may be pertinent to the needs of MWIS users.

A "Data Gap Log," has also been created in connection with the development of the new NRIS Request Log. The Data Gap Log identifies data requests that have not been filled due to the lack of data. Periodically, this log will be sent to the state's water data source agencies. Presumably, these agencies could direct their resources to fill these data gaps.

In accordance with H.B. 775, enacted in 1989, MWIS established a user fee system for private users and a user request log for the MWIS. The log allows staff to track users more carefully, and will provide information for a thorough analysis of the fee system and its impact on services. The user log has also been an integrating mechanism for the various components of NRIS: all MWIS, NRIS, Geographic Information System (GIS), and Natural Heritage data requests are logged on the one log, which creates a more efficient way to identify connections between and among the data requests.

Another effort related to the NRIS request log involves Project Tracking. Project Tracking is a system by which water resource organizations can list their current and anticipated data collection projects as well as stay abreast of projects of other organizations. The tracking system could increase inter-agency project coordination and reduce duplicative data collection projects.

MWIS staff have become increasingly involved in various data management committees and working groups in state and federal government. The connections made through participation on these committees, e.g., the Montana State Water Plan Drought Management Steering Committee and the Environmental Quality Council Groundwater Data Task Force, have strengthened MWIS's value to data users.

Finally, NRIS staff, working closely with the Montana Department of Fish, Wildlife and Parks, have prepared an 83-page user's manual on the Montana Rivers Information System (MRIS). MRIS is Montana's input to a Northwest data base project (with Washington, Oregon and Idaho) to identify and evaluate significant river related natural values.

B. Proposed Funding Sources

While MWIS has become firmly established as an integral part of NRIS, and its workload continues to increase, MWIS funding remains tenuous. Initially established through a Water Development Grant, MWIS is still dependant on grant money for its operation. NRIS is working closely with the Governor's Budget Office to secure more stable funding.

Final Action

The Water Policy Committee:

*A. **Recommends continued program development.** The MWIS should continue to be fully funded through the NRIS program; and*

*B. **Endorses the current efforts to secure a more stable funding source.** MWIS long-range planning capabilities and overall program effectiveness will be increased by reducing or eliminating MWIS dependance upon grants.*

II. The Ground Water Monitoring and Information Acquisition Plan

A. Background

During the 1990-91 biennium the Environmental Quality Council (EQC) conducted an interim study of ground water quality protection and management issues as required by Senate Joint Resolution 22. The EQC initiated the SJR 22 study with the explicit presumption that important ground water information necessary to support basic management and regulatory decisions in Montana is either lacking or inaccessible. In the fall of 1989 the EQC appointed a 14-member Ground Water Data Task Force to evaluate existing ground water data, identify the most important data deficiencies, and develop a plan for obtaining the missing information and making existing information more accessible to users.

B. Ground Water Task Force Findings and Conclusions

(1) Information on ground water hydrology and quality serves the following public and private purposes: water quality protection, water supply management, regulatory programs, public education, identification of vulnerable aquifers, protection of private water wells, operation of public water supplies, business development, water well drilling, and irrigation.

(2) Where ground water data are lacking, important questions cannot be answered with any degree of certainty.

(3) A common theme underlying most ground water issues is the need for basic information about aquifer characteristics and water quality in order to improve the ability of citizens and government agencies to prevent ground water contamination.

(4) Ground water data deficiencies consistently hamper water appropriations and water rights permitting decisions.

(5) Ground water has not been systematically evaluated in Montana.

(6) Efforts to monitor ground water levels and natural water quality over the long-term have been generally weak and fragmented. There is a significant need for a more comprehensive long-term monitoring record to measure on-going changes in ground water supply and quality.

(7) The expense of ground water cleanup operations and the difficulty of achieving acceptable results present the strongest possible argument for a shift in emphasis to programs that prevent contamination. Prevention goals cannot be met without better statewide data concerning aquifer characteristics and ground water quality.

C. Plan Description

Based on the above findings and conclusions, the task force prepared the Montana Ground Water Monitoring and Information Acquisition Plan which consists of two proposed programs: a baseline ground water monitoring program and a ground water characterization program. Other issues addressed by the plan include interagency coordination, data management, public involvement and education, and options for funding the proposed program.

(1) Ground Water Monitoring Program

A monitoring program would be established to record ground water chemistry and static water levels on a long-term basis through a statewide network of 730 observation wells. The projected cost of this program is $438,512 per biennium.

(2) Proposed Ground Water Characterization Program

This program would systematically characterize Montana's ground water on a statewide basis. The goal of the program is to study all of Montana's major aquifers over the next 21 years in 21 multi-county study areas and to provide data that are useful to all agencies with ground water management and protection responsibilities. The estimated cost of this program is $893,220 per biennium.

(3) Interagency Coordination

An interagency steering committee would be established to guide the proposed programs and to ensure that the work performed under the programs is fully coordinated with ground water-related projects that individual agencies may be conducting. Specific duties of the committee would include prioritizing aquifers for future ground water characterization studies and overseeing the selection of monitoring wells. The steering committee should include representatives of the Department of Natural Resources and Conservation, Department of Health and Environmental Sciences, Department of Agriculture, Department of State Lands, Montana Bureau of Mines and Geology, Natural Resource Information System, the university system, and local government. Federal agencies such as the U.S. Geological Survey, Bureau of Land Management, Forest Service, Soil Conservation Service, and Bureau of Reclamation should also be invited to participate.

(4) Program Administration

The Montana Bureau of Mines and Geology (MBMG) would be assigned primary administrative responsibility for the ground water characterization and monitoring programs, subject to the guidance provided by the interagency steering committee.

(5) Data Management

The information produced by the monitoring and ground water characterization programs would be entered into a Geographic Information System. A data collection and management system that ensures a reliable data base and that is satisfactory to the interagency steering committee should be implemented.

(6) Public Education and Involvement

The interagency ground water data steering committee would be responsible for identifying ways to heighten public awareness of ground water issues and improve government's efforts to educate the public about ground water. The proposed ground water monitoring and characterization programs would provide technical support and information to existing ground water education programs.

(7) Funding Options

The proposed programs will require a stable, long-term source of funding. Potential revenue sources include reallocation of funds currently directed to other purposes, increases in the rates or levels of existing funding mechanisms, and the creation of new mechanisms.

Specific funding options under consideration include reallocation of a portion of the Resource Indemnity Tax, fees on ground water use, and fees on sources of ground water contamination.

(8) Local Government

The role of local governments in the proposed programs must be defined. Local government involvement is desirable for many reasons and local financial support for ground water information programs has been a significant factor in the success of similar efforts in other states. Specific options under consideration include local government representation on the interagency steering committee, establishment of local advisory committees in areas where ground water characterization studies are conducted, and legislation to allow local governments to establish and fund special water pollution control districts.

(9) Federal Agencies

The EQC and the administration intend to meet with the USGS, Bureau of Land Management, Forest Service, Soil Conservation Service, Environmental Protection Agency and Bureau of Reclamation to specifically identify how these agencies' ground water programs and federal funds targeted for Montana can be coordinated with the state's efforts.

Final Action

The Water Policy Committee agrees with the task force that accurate ground water data is crucial to solving many of the environmental and ground water supply issues facing the state and endorses the recommendations of the Environmental Quality Council.

The EQC recommends:

* *Full program implementation and the creation of a Ground Water Information Fund.*
* *Appropriation of $1.33 million per biennium.*
* *A redirection of .1% RIT funds (approximately $1.96 million per biennium) to the Ground Water Information Fund.*

III. The Interagency Water Research Policy Advisory Board

The September, 1990 Advisory Board report, A Comprehensive Plan For Coordination And Oversight Of Water Research In Montana, also addresses water data management issues. To maintain continuity, the entire Board report is discussed in the next section on water research.

Section 3. WATER RESEARCH

The water research section of the Water Policy Committee's first report to the legislature in 1989 focused on the question - "How can water research best serve Montana?" While the state has made progress identifying research related problems, to a large extent, a satisfactory answer to this question remains elusive.

This section of the Committee's 1991 report to the 52nd Legislature will review the attempts to answer the above question, and summarize some of the significant water research currently underway in Montana.

I. Montana Water Research Policy and Goals

A. 1989 Water Policy Committee Report, Policy Choices and Implementation Activity

To put the current interim's activities in context, a review of the Committee's 1989 water research policy recommendations is presented.

1. Water Research Policy Advisory Board

1989 Policy Recommendation

The Committee endorsed the establishment of the Water Research Policy Advisory Board and recommended that the Board membership be expanded from two to three representatives from the university, legislative, state agency and public sectors.

The Committee further recommended that the Board's duty be to:

i) identify both existing water research capabilities and the state's water research needs;

ii) identify funding sources and develop a program for encouraging coordinated university and university/state research proposals to these funding sources;

iii) develop a detailed strategy for achieving a coordinated water research program;

iv) initiate efforts to establish a graduate program in water resources management with program specialties that align with the state's long-term research needs;

v) develop a coordinated strategy for public education, utilizing such resources as university researchers, extension service, and state agency personnel;

vi) prepare a written report on its activities and recommendations for submittal to the Commissioner of Higher Education and the Water Policy committee by September 1, 1990.

Implementation

The Interagency Water Research Policy Advisory Board (Board) was established in June 1989. The Board held three meetings and delivered its final report in September, 1990. A review of the Board's activities and a summary of its recommendations is found beginning on page 30 of this report.

2. Water Research Staffing and Funding

1989 Policy Recommendation

The Committee recommended that the funding for the Water Research Center should be maintained at the current level. The Committee also strongly encouraged the university to develop a proposal for the development of a stronger and more focused water research program, including a strategy for obtaining sufficient funding.

Implementation

The Board report discussed on page 30 addresses the issue of a "stronger and more focussed water research program" as recommended by the Committee.

3. Public Education and Graduate Training

1989 Policy Recommendation

The Committee recommended that a more coordinated and aggressive educational effort be undertaken with the Montana State University Cooperative Extension Service, state agencies, and the private sector.

Implementation

Again, the Board report addresses and makes recommendations regarding these issues. Additionally, the Water Center, through a combination of federal and state agency funds, has established two new water education programs. These programs are discussed on page 38 of this report.

B. Water Resources Research Centers and Graduate Programs Study (Thorson, Johnson, McKinsey Report)

1. Background

Recognizing both the state-wide importance of water and a concern among state decisionmakers that the full potential of water research and education was not being realized, Howard Johnson, Lauren McKinsey and John E. Thorson were commissioned by the Environmental Quality Council to prepare a report to provide better information about the choices available for Montana's water research and education efforts. Specifically, the report asked the question - How can the effectiveness of the Montana Water Resources Research Center (Water Center) at Montana State University in Bozeman be improved?

The report provided a survey of the structure and funding of other water research and education programs around the country; a survey of graduate-level, water resource management programs at selected universities around the country; and a preliminary assessment of funding sources that might be available for an improved Montana program.

The report concluded with recommendations for Montana policymakers on the opportunities for research, education and funding that might be available. The authors stressed that the report only identified opportunities. Decisions regarding the need for and specific type of water research center would be made by the university system, the appropriate state agencies and the legislature.

2. Study Recommendations

a. In General

1) Montana's emphasis on water research and education is probably inadequate given the importance of water to the state. The authors recommended a review of water-related research and education at the state's higher education institutions to determine the adequacy of the state's programs.

2) Montana's water resources afford ample opportunity for research and education. An exceptional program should be developed to take advantage of the unique water research opportunities and to provide assistance to Montana's citizens and water management agencies.

b. Structure and Organization of Montana's Water Center

1) The Water Center charter should be reviewed. The charter should be more specific as to the Center's purposes, structure and program.

2) The Water Center should develop a clear, detailed, attainable plan for the future. This plan should set forth mid-range goals and the strategy for achieving them.

3) More faculty should be involved in the Water Center's programs. A committee consisting of faculty heavily involved in water research should be appointed to help define major research emphases and help develop major funding proposals.

4) The Water Center's programs should be better coordinated with other state institutions and agencies.

5) The Water Center staff should be increased.

c. Research Program

1) Montana's Water Center does not appear to be funding research in several important areas including: the water cycle; water resources planning; groundwater protection; and hazardous wastes.

2) Montana should compete more aggressively for federal Section 105 funds.

d. Educational Programs

1) As competition for water increases, water policy issues will move to the forefront of public debate. The Water Center has an opportunity to meet growing educational needs concerning water issues.

2) Montana's Water Center and university system should consider establishing a graduate-level, water resource management program. The program could distinguish itself from other western programs by concentrating on environmental, economic, policy, legal and institutional aspects of water issues.

e. Funding

1) The budget of Montana's Water Center is insufficient to allow the Center to provide meaningful research and educational opportunities. The legislature should provide sufficient funds so that the Center's director has the time, support staff, and travel money to develop the Center's program and to attract other financial support.

2) Most, if not all, indirect costs on grants received by the Center should be returned to the Center or to the researchers involved.

3) The Water Center should aggressively pursue grants and contracts from other sources, e.g. government agencies and foundations.

f. Specific Next Steps

1) The principal parties must begin the reexamination of the Water Center's charter and the development of a strategic plan.

2) Additional information should be developed, including a survey of faculty research and research interests and a survey of potential funding sources.

3) A proposal for a graduate-level water resource management program should also be developed. This would require:

a) a survey of potential faculty and courses for a water-resources management program;

b) identification of steps necessary to create such a program; and

c) an estimate of the costs and benefits of such a program, including an estimate of potential student interest.

C. Interagency Water Research Policy Advisory Board Report (Board Report)

1. Background

In December 1987, the Water Policy Committee, concerned with the apparently fragmented state water research efforts, appointed a subcommittee to initiate discussions with members of the University system regarding improving water research efforts in Montana. This subcommittee and its staff met with the Commissioner of Higher Education who agreed to review water research within the university system and report to the Committee.

In February 1988, the Commissioner told the Committee that he found a need for better coordination within the university system water research programs. He recommended further consideration of the issue and that the discussion be broadened to include a comprehensive review of all water research and related activities in the state. At the request of the Committee, the Commissioner agreed to facilitate the project.

The Montana Water Resources Center, acting for the Commissioner, organized two meetings to discuss the research needs of the state and institutional arrangements that would be necessary to meet those needs. Participating in the meeting were representatives from state and federal agencies, the university system, the private sector, and the legislature. Using these meetings as a foundation, the Commissioner reported to the Water Policy Committee again in October 1988. This report contained the following recommendations:

* Unify state supported research efforts;

* Establish an information clearinghouse;

* Establish an education program;

* Establish a funding mechanism sufficient to implement the above recommendations.

The Water Policy Committee asked the Commissioner to appoint an Interagency Water Research Policy Advisory Board (Board) and to develop a detailed plan for the integration and coordination of water research and related activities. Membership on the Board consisted of representatives from the executive and legislative branches of state government, the university system and the private sector.

The Board met three times to develop a plan and prepared the report that was presented to the Water Policy Committee in June, 1990. After comments from Committee and Board members, the report was amended and was resubmitted to the Committee in September, 1990.

The report, *A Comprehensive Plan For Coordination And Oversight Of Water Research In The State Of Montana*, first analyzes the current state efforts on water research and then makes recommendations for improving the effectiveness of those efforts. The water policy issues covered by the report are:

* Water Research;

* Water Data Management;

* Information Transfer;

* Water Education;

* Staff and Funding Requirements.

The Board identified three major concerns with the existing state efforts - cost effectiveness, credibility and the leveraging of state funds. The report stated:

> The cost effective concern is that although millions of dollars are spent each year on research and related activities there is no single entity with a mandate to provide comprehensive coordination, or even a collective record, of all these activities. Furthermore, there is no oversight of all these activities with respect to priorities. The Policy Board questions the overall effectiveness of such a fractionated approach.
>
> The credibility of research conducted under such a fractionated effort is also of concern to the Board. . . . In an era when policy(makers) and lawmakers must often defend their work in courts, the information on which their product is based must be of highest quality. . . . The Policy Board feels that credibility could be enhanced significantly by the establishment and oversight of uniform protocol.
>
> Leveraging of state funds is a distinct possibility if these funds are available on a timely basis. There are many entities in both the public and private sector that have interests in water research and related activities that may overlap with priority activities in Montana. Matching funds are a requirement for funding from many of these organizations, and the availability of a match enhances the probability of funding from others, even if a match is not required. Thus, the opportunity exists to increase the total amount of funds available for water research and related activities if state dollars are available when those opportunities arise.

2. Board Recommendations

The Board offered the following recommendations as a means of providing a coordinated and unified approach to water research and related activities.

a. Oversight and Coordination

One entity, with a strong administrative structure, should accomplish the coordination and oversight of state water research efforts. Organizations that are involved in the state efforts and organizations from the water using community should be included in the administrative structure.

The Board recommended the following specific elements:

* A Water Research Oversight Council (WROC);

* Advisory Committees that serve the WROC in specific areas; and

* The Montana University System Water Resources Center would staff the WROC.

The WROC would be composed of representatives from the executive and legislative branches of state government and the university system. Specific WROC responsibilities would be:

* to establish and oversee coordination of water research and related activities in the state;

* to establish priorities for water research and related activities;

* to provide management oversight and accountability for the expenditure of state funds appropriated to the WROC for water research and related activities; and

* to encourage externally funded research that addresses Montana priorities, and allocate matching funds where appropriate.

b. Water Research

Two separate categories of research must be considered. One category includes externally funded and programmatic research while the other consists of state funded research. While efforts to re-orient or control externally funded research and programmatic research may be counterproductive, the following steps should be taken to enhance the benefit of water research efforts and promote research that would provide both direct and indirect benefits to Montana.

* To improve coordination, an information clearinghouse should be implemented to provide the following functions:

  - maintain a list of all current water research projects in Montana including information from the university system, state agencies and the state grant programs;

  - secure copies of final reports of all completed projects and catalogue these into a library accessible to all water interests in Montana;

- periodically publish abstracts of on-going and completed projects and ensure that this document is widely distributed to water research, water manager and water user communities.

* A stronger link should exist between research in the university system, state agencies and the state grants programs. Consideration should be given to channeling all pass-through research dollars through the Water Resources Center. The Water Center would provide the following services:

- act as the initial contact point for the agencies;

- help select the best personnel for their projects;

- track the research and help insure that progress is maintained and that the flow of information back to the agency is timely;

- serve in a quality assurance role by arranging peer review of project activity and reports.

* For all state funded research, the DNRC should use the priority research areas established by the WROC as a basis for soliciting research proposals. Involving the WROC in the review and prioritization of the projects would provide additional coordination.

c. Water Data Management

* Information management programs are essential to maximize the efforts of research, monitoring and other data gathering activities. The WROC should establish the relative importance of data management as compared to research and other related activities and direct available funds accordingly.

* Effective coordination should be maintained to ensure that all data generated by research programs in the state be stored in an appropriate fashion. This data should be made available to the Water Information System and the Ground Water Information System and should be disseminated through appropriate information transfer activities.

d. Information Transfer

The WROC should institute a comprehensive information transfer program that would coordinate existing information transfer activities and provide a comprehensive service to keep all of the water community in Montana informed of the services and events that are provided through the university system and water agencies.

e. Education

* The WROC should encourage the university system to establish a graduate program in water resources management using existing faculty and course work where possible.

* The possibility of an inter-campus program that would use the strengths available at the three campuses should be examined.

* Understanding that citizen input to water policy development is important, the Board believes that the quality of the citizen input can be improved through non-formal education. Efforts to educate citizens on subjects relating to water use, conservation and management, and on water policy issues is an important activity and should be fostered and encouraged. These off-campus, non-degree education efforts should be coordinated through the WROC with input from the appropriate advisory committee and the Water Center.

f. Staff and Funding Requirements

* Budget requirements for the WROC will include both operational expenses and salaries for staff that will be required to execute WROC functions. These requirements should be determined by the WROC in its biennial planning process, and should be presented in detail in the biennial plan developed by the WROC and submitted to the Governor, the legislature and the university system for approval.

* The Water Resources Center should serve as staff for the WROC. While specific recommendations for staffing should ultimately come from the WROC, the Board has provided staffing requirement suggestions in their report.

* Research staff should be provided by the university system. In addition to faculty, graduate students should be used whenever possible.

g. Program Implementation

* The Board recommends that the legislature, the Governor and the university system, working jointly, begin to implement the recommendations of this report. Specifically, the WROC should be established and members appointed prior to the beginning of the 1991-92 biennium.

This biennium should be considered an interim period in which the WROC develops a specific plan for the 1993-94 biennium. The plan should be very specific with regards to all the activities proposed, including the resources that will be necessary to implement it.

* The Board recommends that the Water Policy Committee develop a budget for the operation of the WROC for the 1992-93 biennium and seek funding during the 1991 legislative session. Potential sources for these funds include:

- a direct appropriation from general funds, or from specific funds i.e., the Water Development, Renewable Resource or the Reclamation and Development grant programs;

- increased appropriations to the DNRC and/or other state agencies with the increase earmarked for support of the WROC activities;

- a modification to the university system budget earmarked for support of WROC activities.

* Because of its role as staff to the WROC, the Water Resources Center should serve as the fiscal center for the appropriation, although expenditures will be at the direction of the WROC.

* Budgets for subsequent years should be developed by the WROC and submitted through appropriate channels for consideration by the executive branch and the legislature.

* The WROC should report its progress to the Water Policy Committee at appropriate intervals during the interim biennium. The plan should be completed in time for review by the Commissioner of Higher Education, the Governor and the Water Policy Committee prior to the 1993 session of the legislature.

* The Board also recommends that the Water Policy Committee determine if statutory authority for the WROC is needed and, if so, ensure that necessary legislation be drafted.

D. Comparison of Report Recommendations

The Interagency Water Research Policy Advisory Board was influenced by the June 1989 Water Resources Research Center Study. The Board considered the study report at its first meeting and John Thorson, a study team member for the 1989 report, was a member of the Advisory Board. It is not surprising then that the Board report considered and recommended implementation of most of the 1989 study recommendations.

The Board agreed with the study report that the emphasis on water research and education in Montana should be increased. While not specifically mentioning the Water Center's charter, the Board's recommendation for the creation of the WROC is intended to provide the increase in effectiveness, coordination and oversight of water research and related activities that was recommended in the study report. More specifically both reports recommended the creation of a graduate degree program in water related fields.

The Board's actions and recommendations move toward accomplishing the "specific next steps" identified in the 1989 study report. The 1989 study plan report called for: the development of a strategic plan to increase the effectiveness of water research and education in Montana; the gathering of additional information on faculty research interest and funding sources; and the development of a graduate level water resource management program. All these recommendations from the 1989 study have been endorsed by the Board and will be evaluated by the proposed WROC during the next biennium.

E. Committee Comments on Board Report

The Water Policy Committee recognizes and commends the Interagency Water Research Policy Advisory Board for its dedication to its task and its commitment to improving water research in Montana. The Committee believes that the Board's report focused public and private attention on water research and generated valuable comments and suggestions.

Final Action

The Water Policy Committee endorses a strong and effective Water Resources Center. The Committee believes that before the legislature increases its commitment to water research and the Water Resources Center, the university system must demonstrate its commitment to these important state issues. At a minimum, the university system should restructure the Center charter to reflect the following goals:

a. The Water Center should become vitally involved in all water issues in Montana.

b. The Water Center should foster and nurture a network of water researchers and water research users in the state.

c. The Water Center should become the focus of water research in Montana.

d. The Water Center should pursue externally funded research through an aggressive grant proposal writing program.

e. The Water Center should facilitate the development of academic programs in water resources.

f. The Water Center should maintain an aggressive information transfer program.

Additionally, the university system should provide increased funding to allow the Center to move towards the attainment of these goals.

The Water Policy Committee will periodically review the restructuring of the Center. Increased legislative funding for water research and the Water Resources Center will be reconsidered by the Committee before the 1993 legislative session.

II. Current Water Research Activities

This section of the report outlines the function and structure of the Water Center and reviews significant research currently underway in Montana.

The Montana University System Water Resources Center (Water Center) has three main functions: research; information transfer; and education. The Water Center is a cooperative effort of Montana State University, the University of Montana, and the Montana College of Mineral Sciences and Technology. Qualified faculty at all units of the Montana University System are encouraged to participate in Center programs.

A. Water Center Advisory Committee

The Water Center Charter states:

> An Advisory Committee shall be appointed and shall consist of personnel from federal, state and local agencies whose functions include water management or planning, and from private sector organizations and individuals involved in the management, use and/or conservation of water. The Advisory Committee shall identify areas where research and/or information transfer projects are needed and shall review proposed projects for relevancy to state and regional need.

The Advisory Committee reviewed and updated its recommended areas for research emphasis in October 1990. The Advisory Committee recommended specific research in the following broad categories:

Ground Water;
Surface Water;
Atmospheric Water;
Optimum Water Utilization and Conservation;
Water Quality;
Planning and Management;
Legal and Institutional Issues; and
Climate Change.

Additionally, the Advisory Committee, through the Water Center budget, approved the FY90 funding of research in the following areas.

1. Instream Flow Requirements

Because naturally occurring low flows often coincide with maximum water withdrawal for use, many of Montana's streams are severely de-watered during periods lasting from one to two months in the late Summer/early Autumn. The effects can be catastrophic to fish and wildlife populations, and, subsequently, to the recreational interests that rely on them. Montana has adopted the Wetted Perimeter Inflection Point method of determining the minimum instream flows that will provide suitable habitat for fish and other aquatic organisms. Although several studies have shown that this methodology "works", there is a dearth of information that explains why it works. Project 02, *Determining Instream Flow Requirements By The Wetted Perimeter Inflection Point*, is designed to clarify the linkages among stream flow, wetted perimeter, food and habitat availability, and trout populations. This information will then be used to evaluate the underlying assumption of the wetted perimeter method.

2. Leachate Movement From Landfills

Leachate from municipal landfills has been recognized to be an important source of groundwater contamination. Recent state legislation requires extensive monitoring of leachate movement and quality, as well as the installation of leachate collection systems. The modeling of leachate movement is an important tool in establishing monitoring and collection systems. However, the models in current use were developed for use in humid to sub-humid regions and assume a flow of moisture in a downward direction. These models may not be adequate for use in areas where a reverse soil moisture gradient exists due to a drier climate, and where flow may actually be upward under capillary forces. Project 03, *Evaluation of Ground Water Models Used For Landfills In Semi-Arid Climates*, is continued from the FY89 program and will investigate the possible error in existing models when applied in semi-arid areas.

3. Pesticides and Ground Water Quality

The influence of agricultural practices on ground water quality is one of the most important national and regional issues facing the public and the agricultural industry. The problem also effects Montana as shown by a survey conducted in 1987 by the Montana Department of Agriculture which reported significant amounts of 2,4,-D, MCPA, dicamba, picloram and aldicarb in Montana ground water samples. The 1989 Montana Legislature passed a measure requiring further investigation and the establishment of procedures to identify problem areas and to minimize contamination of ground and surface waters by agricultural chemicals.

One problem associated with agricultural chemical ground water contamination is determining the degree of hazard posed based on the nature of the chemical and the local soil and water conditions. Project 04, *Validation of Soil Transport Models for Predicting Pesticide Movement into Ground Water*, will provide information that will help determine allowable chemical loading rates.

4. Information Dissemination and Education Programs

Water policy and water management decisions are made in many segments of the political, managerial and technical communities. An important function of the Water Center's program is to keep participants in these processes aware of work that has been accomplished by others and events that many be of interest to them. Project 22, *Information Dissemination and Technology Transfer*, will accomplish these objectives through a reference service, newsletters, technical publications, symposia, forums and other means of communication.

Responsible management of water resources requires the support of an informed public. Project 23, *Focusing Public Concern About Water Management Issues*, will involve several segments of the water user/manager community, the public, and the public school system in educational programs about water policy and management issues. Water resources simulators will be used in the process and a program will be developed to use these computer-driven simulators to introduce water issues to water user/manager groups and to students in grades 6 through 10 around Montana.

B. The Montana Watercourse

In November 1989, the Montana Water Resource Center and the Montana State University Natural Resources Education Project began development of a comprehensive statewide water education program called the Montana Watercourse. With support from resource agencies such as the U.S. Department of the Interior - Bureau of Reclamation and the Montana Department of Natural Resources and Conservation, the program was set up with two major components:

- a Water Education for Teachers (WET) program module for school teachers and natural resource educators which provides them with innovative lesson plans, guides, and teaching aids about water resources, and;

- an Adult Water Awareness Program designed to provide citizens with the basic and issue-specific information needed to better involve them in water management decisionmaking.

1. Project WET Montana

Project Water Education for Teachers (WET) Montana is an interdisciplinary water education program for Montana educators. WET resources are for students of all ages, although primary emphasis is given to providing teaching aids for kindergarten through grade 12.

The goal of Project WET is to facilitate and promote the awareness, appreciation and knowledge of Montana's water resources through the development and dissemination of classroom-ready teaching aids. Special emphasis is given to strengthening the student's understanding of the importance of water to all Montana interests (e.g., farmers and ranchers, recreationists, towns, fish and wildlife, and power and industry) and to strengthening the belief that wise water management is essential to Montana's future social and economic livelihood and prosperity.

The Project WET staff, hired in November 1989, is currently setting up the project and is already responding to requests for materials and information.

2. The Adult Water Awareness Program

The Montana Adult Awareness Program was initiated with the following guidelines.

* The scope is statewide.

* The program is designed to provide useful, unbiased information.

* The program addresses pertinent issues, responding to the specific water education needs of the public.

* Education workshops and activities will cover a variety of topics and meet the needs of many diverse interests.

* The program will foster cooperative approaches and hinge on collaborative efforts with other education programs, resources agencies, education institutions, and Montana citizens.

* The program will build local action and leadership in resource decisionmaking.

To implement these guidelines, in February 1990, the Montana Watercourse distributed a water awareness needs assessment to 150 water managers, interest groups, professors and other citizens throughout Montana. The purpose of the needs assessment was to:

* determine water education programs that are currently underway;

* identify water resource topics that should be more adequately addressed through an education program; and

* gain a sense of cooperative water education programs that could be set up through the Water Center.

Several broad themes emerged as priority topics that should be addressed in water education programs. They include: water rights; water quality management; water conservation; and basic hydrologic cycle and water management principles. The Adult Water Awareness activities and projects will focus on these topics in the coming year.

Section 4. FEDERAL - STATE RELATIONS

I. Introduction

The Water Policy Committee devoted much attention to the nature of the relationship between the federal and state governments regarding water policy issues during the 1989 interim. Although federal laws and federal agency activity affect virtually every water policy area, the Committee focused on:

* federal concerns with the state water adjudication process;
* federal impacts on state water development efforts;
* potential efforts to increase the state benefits from the federal Pick-Sloan program;
* federal impact on hydro-power siting and licensing; and
* progress and potential progress of the Reserved Water Rights Compact Commission.

Through addressing these issues, the Committee attempted to provide a forum where federal and state representatives and members of the public could exchange ideas and concerns regarding the interwoven federal influence on Montana's water policies.

II. Water Rights Adjudication

A. Background

Under federal statute, commonly referred to as the McCarran amendment, state courts are allowed to determine federal and Native American reserved water rights in a general stream adjudication. The U.S. government has expressed concerns regarding Montana's water rights adjudication process to the Water Courts and, more specifically, to the 1989 state legislature. The federal government is concerned that the Montana adjudication procedure is "piecemeal", thereby violating the intent of the McCarran amendment. In general, the federal government feels that Native American and federal water users are on an uneven playing field with other water rights holders. Manuel Lujan, U.S. Secretary of the Interior, has stated:

> I am concerned that the piecemeal adjudication contemplated by (the current Montana adjudication process) could so prejudice the United States that we would be forced to litigate our rights rather than pursue negotiations.

The Water Policy Committee attempted to clarify the federal concerns and their underlying causes through-out this interim.

B. Federal Concerns

Montana water law suspended all water rights adjudication proceedings for federal and Native American reserved rights while negotiations for the conclusion of a reserved water right compact are being pursued. It is the belief of the federal government that if there can be no adjudication of federal or Native American water rights, there generally should be no adjudication of other water rights either.

Representatives of the Department of the Interior, testifying before the Montana House Judiciary Committee in 1989, stated:

> The Department believes that, in order to meet the comprehensiveness requirement of the McCarran Statute, the State is obligated to wait and hold its hearings and evidentiary proceedings when all claims in a particular basin can be heard at once. . . . To proceed otherwise breaks up the adjudication into unrelated pieces. Such a piecemeal process forecloses the comprehensive nature of the Montana adjudication and imperils the State's jurisdiction under the McCarran Amendment.

At issue was the statutory authority allowing the Montana Water Courts to issue Temporary Preliminary Decrees (TPD) in basins where federal or Native American water rights were suspended from adjudication due to compact negotiations.

Approximately 72 of the 85 basins in Montana contain some form of reserved water right. Use of a TPD would allow the Water Court to adjudicate non-federal and non-Native American water rights subject to the results of the compact negotiations. The legislation authorizing the Water Courts to issue TPD's underwent "technical" modification and was enacted. The technical modifications did not remove the federal concerns.

Speaking before the Water Policy Committee in September 1989, federal representatives again stated:

> Our concern . . . is that (the TPD process) places the Unites States in the position of having to both negotiate its reserved rights claims and, at the same time, having to litigate all of its non-reserved rights claims, its appropriated rights claims, and file objections to all of the other appropriated rights claims.

Apart from the question of piecemeal adjudication, the federal government has repeatedly expressed the feeling that this dual process is unfair and a violation of due process. Federal representatives have recently stated that these issues and concerns remain unresolved and eventually the federal government will have to decide to participate in the state water adjudication process or litigate its water rights claims.

Final Action

The Water Policy Committee endorses the current statutory adjudication process.

III. Water Development

Note: The 1991 State Water Plan addresses water storage in detail. Please see page 72 of this report, Section 5. **STATE WATER PLAN**, for more information.

A. Background

Montana's Water Development Program, established through statute in 1981, states:

> The (DNRC) shall administer a water development program to accomplish projects and works, promotion of private, local government, and state water development; development of water-based recreation and the protection of water resources for the benefit of agriculture, flood control, and other uses; development of offstream and tributary storage; and development of state-tribal, state-federal, and state-federal-tribal projects.

As the cost of construction of new projects, as well as the cost of rehabilitation and maintenance of existing projects, continues to escalate - the importance of federal involvement in water development also increases. Opportunities for federal-state cooperation exist and the Water Policy Committee closely monitored progress on several important projects during the 1989 interim.

B. Priority Projects

1. Tongue River Dam

The Tongue River Dam, located about ten miles north of the Montana-Wyoming border, was constructed in the late 1930's and currently supplies water to local coal companies, several small towns and provides supplemental water for approximately 15,000 irrigated acres. The dam, owned by the State of Montana, also provides many recreational opportunities.

The U.S. Army Corps of Engineers has declared this high hazard dam unsafe due largely to an inadequate and unstable spillway. The DNRC estimates dam rehabilitation costs at about $50 million.

The DNRC is attempting to secure federal financial assistance for this project by tying dam rehabilitation to a successful reserved water rights compact with the Northern Cheyenne Tribe. The tribe, which currently has about 7,500 acre-feet of contracts from the existing reservoir, could largely satisfy its reserved water rights needs through increasing the amount of reservoir storage. The DNRC estimates that raising the spillway elevation by four feet could supply the additional water.

The DNRC created a Tongue River Dam steering committee consisting of representatives from the DNRC, U.S. Bureau of Reclamation, Northern Cheyenne Tribe, Tongue River Water Users Association, U.S. Fish and Wildlife Service, Montana Department of Fish Wildlife and Parks, U.S. Bureau of Indian Affairs, local state legislators, local coal companies, and field representatives of the Montana Congressional delegation.

Members of the steering committee feel that if the compact between the state and the tribe can be negotiated, completed and approved by the 1991 Legislature, Congress, recognizing the benefits to the state, the tribe, and fish and wildlife resources, would assist the state in funding the rehabilitation/enlargement project.

The federal government has authorized $300,000, to be used with an additional $300,000 in state funds, to complete the final feasibility analysis and environmental work for the proposed rehabilitation project. The money will also support Northern Cheyenne Tribe involvement in the overall planning process. This work is needed to secure additional federal and state funds for the actual rehabilitation project. The state funds will be allocated from the state dam rehabilitation fund.

The DNRC believes that if all goes according to the steering committee plans, construction could begin in two years.

Final Action

The Water Policy Committee endorses the coordinated state-federal-tribal efforts to rehabilitate the Tongue River Dam.

2. Milk River

Historically, the Milk River water supply has been about 20 percent less than demand - with significant water shortages occurring four years out of ten. The average annual shortfalls are expected to increase as federal and Native American reserved rights are quantified and enforced. Local irrigation districts, working closely with the DNRC and the U.S. Bureau of Reclamation, have identified specific actions to reduce this problem.

The proposed action plan consists of three distinct phases. Phase 1 would improve current water management including the rehabilitation of the canal diverting water from the St. Mary's River to the Milk River, and the creation of a Joint Board of Control. The Joint Board would consist of irrigation district supervisors elected by water users and would consolidate and coordinate irrigation project operation and maintenance activities.

The second phase of the project would increase water use efficiency by modernizing water conveyance systems, encouraging and assisting with on-farm efficiency improvements and the construction and improvement of the project distribution system, e.g. structures, canals, drains etc.

Phase 3 of the Milk River Project would increase basin water supply by either diverting Missouri River water into the Milk River basin, or leasing storage in the proposed Alberta Dam in Canada.

The Milk River Project is large and expensive. Federal funding, possibly through the Pick-Sloan program, will be needed to complete the project. The project has been in the planning stages for a number of years and the first phases of plan implementation have begun.

To facilitate the overall plan implementation effort, a 25-member Milk River Basin Advisory Committee was formed to develop a plan section under the state water plan. The Committee will ensure that the three phase plan considers all water needs and interests and will develop a strategy to best assure that the necessary education, cooperation, coordination and action occurs to implement the plan. The Committee includes representatives from irrigation districts, three Native American tribes, conservation districts, various municipal, environmental, sporting and other water users organizations, and relevant federal and state agencies.

Final Action

The Water Policy Committee endorses the goals and efforts of the Milk River Basin Advisory Committee.

3. Missouri River Management

The Fort Peck Reservoir, located on the main stem of the Missouri River, is the center of a dispute over U.S. Army Corps of Engineers' management of the Missouri River. Montana has had serious disagreements with the Corps regarding reservoir management and water levels. These disagreements have been aggravated by continuing severe drought conditions in eastern Montana.

Due to unclear results of legal challenges to the Corps' management of the river, Montana and the other Missouri Basin states are working with the Corps to rewrite the Corps' master manual governing river management. Phase 1 of the rewrite, which examines alternative management methods of all the Missouri reservoirs is nearing completion. Phase 2, essentially an environmental impact statement, examines the potential recommendations for improved management and is expected to be complete by August, 1993.

Montana continues to stress the importance of maintaining reservoir levels to protect fish, wildlife and recreational resources.

Final Action

The Water Policy Committee endorses the continued use of all available methods, including negotiation and litigation, to ensure the maintenance of adequate water levels in the Fort Peck Reservoir.

C. DNRC Water Development Program Report

The DNRC is required to submit a water development program report to the legislature describing the status of the development program. A copy of the report must be submitted to the president of the senate, the speaker of the house, and to members of the Water Policy Committee. Additionally, the Water Policy Committee must analyze and comment on the report when filed by the DNRC. The DNRC expects to have the water development program report completed and submitted by January, 1991.

A supplement to this Water Policy Committee Report to the 52nd Legislature will address Committee analysis and comments regarding the water development report.

IV. Pick-Sloan Program

A. Background

The Pick-Sloan Program was initially a response to severe flooding in the Missouri Basin in the early 1940's and was incorporated into the Flood Control Act of 1944. It ultimately promoted water development in the Upper Missouri Basin states through federal financing of multi-use reservoirs.

Montana and other upper basin states have largely felt the impacts of this reservoir construction and reaped few of the benefits. For example, only 6 percent of the irrigation units authorized for Montana have been completed compared to almost 20 percent for the entire Missouri Basin. Also, of the 24 reservoir projects authorized in Montana only six, or 25 percent, have been built compared to 36 percent in the Missouri Basin. Montana is attempting to increase its benefits under this program through the Montana Pick-Sloan Initiative.

As part of this initiative, the Montana Legislature appropriated $7,500 to Eastern Montana College to fund:

> an economic analysis of the current monetary value of the commitment by the U.S. Congress to promote water development in the upper Missouri Basin pursuant to the Pick-Sloan Missouri Basin program.

Dr. Andre Corbeau, directing the economic analysis, stated that one of the main reasons Montana has not received its expected benefits from the Pick-Sloan program is because the "rules" are different today than when the program was established. The increasing federal deficit; a long history of crop surpluses; and different evaluation criteria of irrigation projects by federal agencies - are all cited as examples of these changed "rules".

One of the results of the Montana Pick-Sloan Initiative will be a report to the Governor on ways the state can receive greater benefit from the Pick-Sloan program. The DNRC has identified three objectives of the report:

* Promote general citizen understanding of the Pick-Sloan Program -- its background, implementation and effect;

* Set forth the Montana Pick Sloan Initiative consisting of a strategy to obtain Pick-Sloan benefits;

* Describe the need to obtain political and perhaps financial support for the strategy set forth in the initiative.

B. Pick-Sloan Steering Committee

An integral part of the Montana Pick-Sloan Initiative was the creation of the Pick-Sloan Steering Committee. The Committee consists of representatives from agriculture, power and recreation communities as well as contractors, rural water and conservation district officials and executive and legislative agency staff. The DNRC hopes that through adequate representation of all affected interests, the committee can better define the problem and identify potential solutions. The Committee expects to complete its report in December, 1990.

The Steering Committee has identified some potential options for implementing the Pick-Sloan initiative. These include:

* Obtain Pick-Sloan power for current water users (e.g. power for rural water systems and first pump lift for lower Yellowstone irrigation projects).

* Restore Montana's water supply infrastructure (e.g. rehabilitating and upgrading the Milk River Irrigation Project or other unsafe high hazard dams).

* Develop hydropower (e.g. upgrade existing turbine capacity and/or build additional turbines on other facilities that provide revenues to the state).

* Resolve Native American reserved water rights (e.g. enlarge the Tongue River Reservoir to provide water for the Northern Cheyenne Tribe).

* Develop new water projects (e.g. new rural domestic and livestock water systems, irrigation projects, or recreational facilities).

* Obtain Congressional payment-in-lieu-of-taxes for the lands inundated by the federal Pick-Sloan reservoirs.

* Revise the operations of the mainstem reservoir system to meet the needs of current and future water users.

* Seek to amend the Flood Control Act to supply a revenue stream for contemporary water management needs of Montana and other basin states without affecting the rates to the preference power customers.

The DNRC intends to solicit comment on the Montana Pick-Sloan Initiative and develop a consensus and support from water user groups, the Governor, the Board of Natural Resources and Conservation, the Water Policy Committee, the Montana Legislature and the Montana Congressional delegation.

Final Action

The Water Policy Committee strongly endorses aggressive state efforts to secure justified Montana benefits under the Pick-Sloan program.

V. Hydro-Power

A. Background

The Federal Energy Regulatory Commission (FERC) regulates the siting and operation of hydropower facilities across the country under authority provided by the Federal Power Act (FPA).

The FPA states that it does not affect or interfere with state laws:

> . . . relating to the control, appropriation, use, or distribution of water used in irrigation or for municipal or other uses, or any vested right acquired therein . . . .

However, FERC has construed this language as not requiring federal compliance with substantive or procedural state water laws. FERC's position has been upheld by the courts.

A recent court decision, discussed more completely on page 53 of this report, summarizes the current interpretation of the FPA.

> Our reading of the [Federal Power Act] combined with the Supreme Court teachings in First Iowa convince us that Congress intended to vest regulatory authority in FERC over most aspects of hydropower projects. Only control over certain limited proprietary rights remains in state hands. The [California state agency] powers to impose conditions on water use in this case conflict with congressional purposes and objectives expressed in the FPA. The [state agency] must yield.

This decision was recently upheld by the U. S. Supreme Court.

The Water Policy Committee heard extensive testimony regarding hydropower licensing issues throughout the interim. The Committee's goal was to review the effect of FERC policy on Montana's water resources and water users, and to recommend appropriate strategies to respond to these developments.

B. Hydro-Power Licensing

1. Process

FERC, implementing the FPA and the 1986 Electric Consumer's Protection Act (ECPA), must consider a wide range of interests when considering licensing or relicensing applications. FERC must give equal consideration to power and development purposes; energy conservation; protection, enhancement and mitigation of damages to fish and wildlife and the associated habitats; protection of recreational activities; and other aspects of environmental quality.

To accomplish this goal, hydropower licensing is subject to an involved application process. FERC uses a pre-filing consultation process to ensure FERC's access to detailed economic, engineering and environmental studies regarding a hydropower site. Some development proposals require basin-wide analysis as well.

This pre-filing consultation process assists the applicant in identifying and conducting the needed environmental studies. Applicants are also encouraged to consult with local government officials, and conservation and water user groups to identify sensitive resource issues and study needs before filing for an application.

After the pre-filing process, the developer files the application with FERC for a completeness review. When FERC accepts the application, a more formal post-filing process is initiated. An extensive record is developed regarding the proposal. This record includes an analysis of the development itself as well as a review of any cumulative or secondary impacts as required by the National Environmental Policy Act. As part of the project review, FERC must consider to what extent the project is consistent with any federal or state comprehensive plans for improving, developing or conserving the waterway affected by the project.

One such plan FERC is required to consider is the Northwest Power Planning Council's (NWPPC) Columbia River Basin Fish and Wildlife Program and Northwest Power Plan. The Northwest Power Act of 1980 directed the NWPPC to develop "a program to protect, mitigate, and enhance fish and wildlife, including related spawning grounds and habitat" which are affected by hydroelectric development in the Columbia River Basin.

As part of this plan, the NWPPC has classified over 2,000 miles of streams in northwest Montana as "protected areas". This designation effectively prohibits future hydroelectric development in those areas. The NWPPC, in close coordination with the Montana Department of Fish, Wildlife and Parks, decided that hydroelectric development in these areas poses an unacceptable risk to fish and wildlife species of concern. Protected area designation is solely limited to new hydroelectric projects. Existing dams, their relicensing, or proposed conversion of an existing storage dam to hydroelectric use, are not affected.

The DNRC is attempting to determine the most effective method of ensuring FERC consideration of state planning efforts.

The post-filing consultation process includes the opportunity for public comment. Public notices describing the proposed project are published in local newspapers and are sent directly to affected landowners, local governments and federal and state agencies. All timely comments become part of the record upon which FERC's decision will be based.

Review of the environmental impacts of the project may, based on the significance of the impacts, take the form of an environmental impact statement (EIS). If an EIS is prepared, additional public comment is solicited and considered. If, through this process, a conflict arises regarding the proposed project, FERC will institute formal negotiations with appropriate state and federal agencies to resolve the difficulties. FERC makes the final decision however, and may be in disagreement with the state.

FERC does not require license applicants to obtain state water rights or permits prior to issuing the federal license. Water rights are expressly included in the license and the FPA confers on the licensee the power of federal eminent domain to acquire land and property rights pursuant to state laws and to rights that the licensee cannot get by negotiation. License applicants must however, obtain state water quality certification under the federal Clean Water Act.

2. Concerns

a. State Water Rights

The DNRC considers FERC's disregard of state water allocation decisions to be a major problem with the current federal hydropower licensing process. FERC, as stated above, grants licenses and permits to hydropower developers before they obtain state water rights. This makes comprehensive water planning difficult for the state.

A related problem involves state water rights in fully appropriated water ways. Power companies currently hold federal water rights for future hydropower development but the state has continued to issue state water rights for consumptive uses that may decrease the amount of water available for the future hydropower use. This issue becomes especially important when FERC considers the relicensing of a project - should the federal water right be subordinate to junior state water rights holders who have used the water for a number of years without formal objection by the power companies?

b. Health

The federal Clean Water Act requires that an applicant for a federal hydropower permit or license must receive certification from the state that the proposed development will not violate state water quality standards. FERC has decided that the state must take action on the certification application within one year or the certification is deemed granted. The Department of Health and Environmental Sciences, the state agency responsible for the certification, is concerned that one year may be insufficient in some cases for an adequate analysis of the issues.

c. Fish and Wildlife

All hydropower license applicants are required under federal law to consult with the appropriate state fish and wildlife agencies to determine the extent of the resource and potential resource impacts. In Montana, the DFWP examines impacts of the proposed development and recommends appropriate mitigation measures. The DFWP's role in relicensing is substantially the same as in initial licensing. About 10 hydropower developments in Montana are scheduled for relicensing within the next 5 years.

Apart from relicensing, the DFWP is also involved in the operation of existing projects. Through informal operation agreements regarding downstream flow or reservoir level maintenance, the DFWP attempts to ensure that the project is operated to maximize benefits to fish, wildlife and recreation resources.

3. Industry Response

The Water Policy Committee also solicited comments on the federal hydropower licensing process from the hydropower industry. Representatives from Montana Power and Washington Water Power both endorsed the existing process. The industry recognizes that while the process is not perfect, it is an effective way to coordinate the nation's hydroelectric resources by providing a comprehensive nation-wide licensing and regulatory authority.

The industry pointed out situations where increased state control over hydropower licensing would be inefficient - e.g., hydropower projects that were constructed in one state but supplied power to another. The different states could have entirely different hydropower needs and priorities. The industry feels that it is in the best interests of the consumers and the states to have a national hydropower policy implemented by a federal agency.

Both Montana Power and Washington Water Power stated that while they attempt to fully comply with Montana water law, and are willing to work with the states under the current licensing process, they would have to seriously review any changes that would increase the state's authority in hydropower licensing.

C. Hydro-Power Coordinating Committee

1. FERC v. California

While the recent California case FERC v. California specifically concerned who had the authority to establish minimum stream flows, it was really the latest case to address the issue - does a federal license holder have to comply with state water law when building a dam and using the state's water? As noted in the introduction to this section on page 52, the federal district court, federal appeals court, and U. S. Supreme Court all reaffirmed FERC's long standing interpretation of the FPA as not requiring federal license holders to comply with state water law.

The U. S. Supreme Court stated that had this been the first challenge to FERC's interpretation of the FPA, the decision would have undergone different analysis, but the Court was reluctant to overturn clear case law and subsequent congressional action. The Court, noting that all other 49 states had joined in supporting California's position, suggested that the proper way to change this FERC's interpretation was through Congress.

Proposed legislation has been introduced in Congress seeking to have hydropower developers comply with both substantive and procedural state water law. The DNRC Director and Montana Attorney General have sent letters to Montana's congressional delegation requesting support for that legislation. Additionally, the bills have received the support of the Western States Water Council and the Western Governors' Association.

Western states are also interested in increasing state control over hydropower development by mandating compliance with state dam safety requirements; state facility siting laws; state shoreline protection; and increasing state authority of water quality certification.

2. Western States Water Council Action

Meeting in November, 1990, the Western States Water Council decided to endorse increased state authority over the licensing and siting of hydropower developments through amendments to the FPA and/or the federal Clean Water Act. The exact nature of the amendments has yet to be determined and will be readdressed in January, 1991. Some of the options the Council may consider include:

* supporting Idaho in its attempts to amend the licensing process by requiring state and federal concurrent jurisdiction in hydropower issues;

* removing FERC jurisdiction from all hydropower developments 5 megawatts or lower;

* amending the Clean Water Act to require compliance with state water law as well as state water quality standards;

* requiring state certification of development compliance with approved state water plans.

3. Hydropower Coordinating Committee Recommendations

The DNRC, as directed by the 1989 State Water Plan, has established a Hydropower Coordinating Committee to develop a state consultation process in which all affected parties can seek mutually acceptable agreements and present a unified front for influence in the FERC licensing process. The Committee members represent state and federal agencies as well as industry and public interest groups. The Coordinating Committee will address the Western States Water Council action on hydropower issues at upcoming meetings as it attempts to formulate an effective plan for state - federal cooperation.

Final Action

The Water Policy Committee endorses the state efforts to increase state authority over state resources in hydropower licensing issues.

VI. Reserved Water Rights Compact Commission

A. Background

Understanding the impact of quantification of federal reserved water rights on the state adjudication process, the Water Policy Committee is interested in the effectiveness and progress of the current negotiation process as implemented by the Reserved Water Right Compact Commission (Commission). The Water Policy Committee attempted to better understand the function and potential problems of the negotiation process and provide a forum where interested and concerned parties could informally discuss the issues.

The Commission, created in 1979 as part of the general stream adjudication process, is authorized to negotiate with Native American tribes and federal agencies that claim federally reserved water rights within Montana. The water rights claims of the federal entities are suspended from adjudication while they are under negotiation with the Commission. Through statute, the Commission is authorized to:

> . . . proceed . . . with an effort to conclude compacts for the equitable division and apportionment of waters between the state and its people and the several Indian tribes claiming reserved water rights within the state. . . .

Simply put, a reserved water right is a right that is implied by the federal reservation of land in a treaty, an act of Congress, or an executive order. The reserved water rights doctrine, or Winters doctrine, holds that when land is reserved by the federal government, enough water is also reserved to carry out the purpose of the reservation. Federal reserved water rights claims in Montana involve seven Native American reservations, national parks and forests, wildlife refuges, and federally designated wild and scenic rivers.

The Commission consists of two senators, two representatives, four members appointed by the Governor and one member appointed by the state Attorney General. Additionally, the nine member Commission staff completes legal and historical research and technical analysis.

B. Negotiation Process

As a basis for the negotiation, a technical analysis of the land and water resources involved is required. Legal and historical researchers also identify the initial purpose and priority dates of the federal reservations. At a minimum, the results of the early negotiation process must yield information regarding the original purpose of the reservation, how much water it would take to satisfy the purpose, and how much water is available to fulfill the reservation purpose. All the information gathered by the Commission is property of the state.

U. S. Supreme Court cases have found that the federal intent when entering into treaties with and reserving land for Native Americans was to encourage them to set aside their traditional nomadic lifestyles and become farmers. Therefore, the Court continues, enough water must have also been reserved to allow them to farm the reservations. This line of reasoning was supported when the Court decided that an appropriate standard to determine the amount of water reserved would be to determine the amount of acres on the reservation that could practicably be irrigated.

The "practicably irrigable acres" (PIA) standard has been used for almost 30 years, but a recent Court case may suggest that the Court is ready to consider other standards as well.

The Committee was informed that alternatives to the PIA standard for determining how much water was reserved include standards based on:

* a finding that a treaty creates a permanent homeland and the tribe should have enough water to allow them to be self sufficient. It is possible that the homeland standard could provide water for uses other than agriculture and may include a standard of living provision;

* tribal fishery rights stemming from a tribe's aboriginal treaty rights. The fishery claims can overlap with a tribes regulatory authority under the federal Clean Water Act. This standard has already been used in quantification of federally reserved rights;

* ground water rights. The courts could include ground water in the litigation/negotiation based on a finding that the surface and ground waters are sufficiently hydrogeologically connected. Including ground water in the quantification process may be used with the PIA or other standards;

* the amount of water that has actually been used by the tribes. This standard is being used when Native American tribes file claims against the federal government for deprivation of their water under the claims court statutes. The claims court standard holds that the tribes are entitled to damages for the amount of water that it could put to beneficial use without federal subsidy. Claims courts have decided they will not speculate on any hypothetical irrigation systems.

C. Concerns

With only one compact ratified by the state legislature, concerns were raised to the Water Policy Committee regarding the Commission's slow pace of negotiation in the last ten years. Interested persons suggested that the negotiation process should be streamlined and turned over to an entity that had also has the authority to litigate if required.

In response to this concern, supporters of the current process pointed out that the negotiation process itself is very cumbersome. Each state negotiating team works with tribal councils of between nine and 12 members and federal negotiating teams of five or six members. But, while somewhat unwieldy, the negotiating teams must represent a broad range of affected parties. Additionally, the issues themselves are complex and a long history of mistrust must be overcome before progress can be achieved.

One of the advantages in negotiating as compared to litigating is the number of issues that can be resolved. In litigation normally only water quantity issues, i.e. how much water was reserved and when, are addressed. The parties must then negotiate to implement that court decision. By negotiating the water quantity issues, as in the Fort Peck Compact, additional water management issues, e.g. potential sources for the water and joint federal, state and tribal administration of reserved water rights, could also be addressed and resolved.

Supporters also pointed out that only through negotiation can existing water users' rights be protected. If litigated, the courts will consider only the federal priority dates, usually far earlier than state right water users, and the amount of water reserved. It is likely that many of the basins in Montana do not have sufficient water to satisfy the federal reservations and protect existing water users. Through negotiation however, it may be possible to secure federal financial assistance for new storage projects or increase water use efficiency, making more water available or enabling the federal reserved rights holders to modify their claims.

While no one suggested a complete stop to the negotiations or a total reliance on litigation, no one stated that the existing Commission was perfect or could not be improved. The Water Policy Committee heard wide support from concerned parties, including Commission members, for an examination of the negotiation process to determine the most efficient and cost effective means of negotiation.

D. Status Update

The Commission is currently involved in negotiations with 11 entities. The Milk River Basin, declared a high priority by the 1989 legislature, is an important part of the Commission's progress. The Milk River Basin involves three Native American reservations as well as two federal wildlife refuges. All three tribal councils have passed resolutions to cooperate with the other tribes and to coordinate their negotiations with the Commission.

The most active negotiation concerns the Northern Cheyenne Tribe and federal agencies involved with the state owned Tongue River Dam. Rehabilitation of the deteriorating high hazard dam could supply additional water to satisfy the Tribe's reserved water rights. It is hoped that if the ratified negotiated compact is based on the rehabilitation/enlargement of the dam, Congress will provide financial assistance for the project. Congress approved $300,000 in federal money to be used in conjunction with an equal amount of state funds to finish the documentation required to secure additional federal assistance. Supporters of the negotiation process point to this as an example of what can be achieved through negotiations. More information on the Tongue River Dam rehabilitation project is found on page 47 of this report.

Final Action

The Water Policy Committee:

A. Endorses the equitable negotiation of federal reserved water rights; and

B. Endorses the continued efforts of the Reserved Water Rights Compact Commission in reaching those equitable negotiated settlements.

Section 5. STATE WATER PLAN

I. Introduction

The Water Policy Committee is closely involved in the development of the state water plan. The Department of Natural Resources and Conservation is required to consult the Committee and solicit its advice when preparing the plan. Additionally, the Committee must analyze and comment on the state water plan in its biennial report to the legislature.

Towards that end, this section of the report will first briefly review the history of state water planning process and examine the reasons for and the scope of the changes in this biennium's water planning process. The report also identifies concerns that have arisen regarding the current planning process. Finally, the report presents the state water plan recommendations and remaining issues regarding the state water plan process and the Committee's role in that process.

II. Background

The state water plan statute was first enacted in 1967, but prior to 1987 the planning effort consisted of studies and large-scale basin plans funded largely by federal money. In 1987, after considering comments on the planning process by the Select Committee on Water Marketing, and minor statutory revisions by the 1985 Legislature, the DNRC initiated the current process. The state water plan is now viewed as a proactive problem solving tool. With the publication of the 1991 water plan, the DNRC completed the second cycle of water planning conducted under the new process.

In 1988, during the first planning cycle under the new process, a number of concerns where raised by individuals and organizations both within and outside of state government. Many of these concerns focussed on the planning process itself:

* lack of definition of the roles and responsibilities of the participants, including the public;
* confusion over who should be making what decision and when;
* perception of unbalanced representation on the advisory council and on the technical committees; and
* inadequate time to evaluate alternative solutions and resolve conflicts.

Most of the problems identified with the 1988 planning process could be attributed to the newness of the process itself. The DNRC however, slightly modified both the form and function of the water planning administrative structure to improve the 1990 water planning process. The 1990 planning process:

* increased the public representation on the Advisory Council from two to five members;

* increased the amount of time the steering committees had to evaluate issues and consider alternative responses;

* allowed earlier public input into the planning process by holding public meetings to identify and prioritize critical water management issues;

* increased the potential for public access to the planning process by providing a state-wide series of open houses regarding the development of the draft water plan sections and then a series of public hearings on the draft plans themselves.

These changes, and the entire water planning process itself, are described in more detail in the following section.

III. Process

A. State Water Plan Advisory Council

The 15 members of the State Water Plan Advisory Council are appointed by the Governor to work with the DNRC and develop a two year agenda for addressing water issues needing state attention and then assist the state in devising policies and actions to address those needs. The membership of the Council represents a wide range of interests with a common goal - maximizing Montana's water resources for the benefit of all.

The Governor has stated:

> The mission of our Advisory Council is to build a coalition of support for a state water plan that maximizes our essential water resources for the next decade and beyond.

The make-up of the Advisory Council includes representatives from agriculture, industry, sportsmen, and environmental communities along with federal, state, local and tribal government officials.

The DNRC director, using comments from the public and the Advisory Council, decides what issues will be addressed during the two year planning process. These issues are then assigned to specific steering committees for more detailed examination.

B. Steering Committees

The DNRC, with assistance from the Advisory Council, appoints citizens to the steering committees which are chaired by a Council member. Steering committee membership again reflects a broad range of perspectives and allows for public involvement in water planning. The steering committees are responsible for a close examination of the issues and the preliminary identification of available options and potential solutions. After the steering committees have analyzed the issues and identified options to address those issues, the draft plan sections including recommended options are sent back to the Advisory Council for review and public comment.

C. Public Comment

As mentioned earlier, one of the concerns identified with the first cycle planning process was inadequate public participation. The opportunity for public involvement was increased in the second cycle planning process.

1. Scoping Meetings

In May 1989, 10 state-wide public scoping meetings were held to attempt to determine what issues the public considered critical and should be addressed by the 1991 State Water Plan. The meetings also provided an opportunity for DNRC staff to hear comments on the water planning process itself.

After the meetings, the Advisory Council recommended that the following specific issues be addressed in the 1991 state water plan.

* Drought Management

* Water Storage

  - Storage Policy and Site Selection

  - Storage Finance

  - Storage Regulation

2. Open Houses

After the steering committees finished their initial issue analysis and identification of options, the "draft" plan sections were sent to the Advisory Council. In May 1990, nine state-wide open houses were held to elicit public comment on the draft recommendations.

The open house concept was a change from the first planning cycle process of public meetings. Open houses are thought to provide more flexibility in responding to public interest and comments. As opposed to a public meeting, where an individual may have to wait for the opportunity to speak on a particular issue, an open house can allow for an interested individual to focus his or her time and energy on a specific topic, ask questions, make appropriate comments, and then leave. Additionally, it was hoped that an open house would remove some of the apprehension commonly associated with speaking at formal public meetings and provide an opportunity for productive one-to-one communication. Public turn out at the open houses was generally low but this may only reflect the non-controversial nature of this biennium's issues as compared to the issues in 1988.

3. Public Meetings

After the open houses, the Advisory Council reviewed the public comments, made adjustments to the recommendations and published proposed "final" plan sections. Testimony on the plan sections were received at three public meetings in August, 1990. Written comments were also accepted by mail.

This was the last opportunity for official and formal public comment on the plan sections. After the public meetings, the DNRC and the Advisory Council presented the final recommendations to the Board of Natural Resources and Conservation for final adoption in November, 1990.

IV. Concerns with the Process

Most would agree that the planning process modifications made by the DNRC from the first planning cycle were a significant improvement. However, the DNRC has identified areas where the process can be further enhanced.

Through questionnaires and surveys of the Steering Committee members, the DNRC compiled the following list of general observations regarding the planning process:

* Compensate private parties for participation on the Steering Committees.

* Include more legislators on the Steering Committees.

* Include more public interest representatives on the Steering committees.

* Include fewer government representatives on the Steering Committees, but ensure that sufficient technical expertise is available to the committees.

* Define the objectives and tasks of the Steering Committees.

* Provide more (relevant) information to the Steering Committees.

* Provide more time for the Steering Committees to do their jobs.

* Clarify how the Steering Committees should make decisions.

* Limit the number of study-type recommendations.

* Utilize a neutral facilitator, as needed, to help run Steering Committee meetings.

* Experiment with different length meetings (e.g. one-half day meetings and two-day, weekend meetings).

The DNRC and the State Water Plan Advisory Committee will consider these concerns during the next planning cycle.

V. State Water Plan Recommendations

This section of the report will present the final recommendations of the state water plan. They are presented only to familiarize the reader with the issues and provide a context for the discussion of Water Policy Committee options regarding the recommendations. A more detailed presentation of the issues and options is found in the relevant plan sections themselves.

A. Drought Management

1. Policy Statement

It is the policy of the State of Montana to support proactive drought management at the local level to protect the natural resources, economic base, and lifestyles of Montana citizens. This policy requires programs for drought monitoring, assessment, preparedness, mitigation, and assistance.

The state must consider the needs of all water users during drought, including dryland and irrigated agriculture; municipal and rural water suppliers; energy producers; mining and mineral processing, forest products, tourism, recreationists, and recreation-based businesses; and individual water users. Incentives should be provided for all water users to act to prevent or reduce the effects of drought. State technical and financial assistance should be provided to water users in a consistent and predictable manner. Water users should consider the risks posed by drought when making major management decisions and should know what to expect from government if drought occurs.

2. Issues and Recommendations

Eight functions are identified as necessary for implementing the state's proactive drought management policy. The issue is how to accomplish these eight functions.

Issue 1 - *Drought Monitoring and Early Warning*

Recommendations

1. Pursue the calculation of the PDI for smaller geographical areas.

2. Encourage the continued development and revision of basin-specific SWSIs.

3. Improve coordination in the collection, interpretation, and reporting of the PDI, SWSI, and other drought forecasting and monitoring information. This information must be passed on to people in time for them to make decisions to reduce their vulnerability to drought.

Issue 2 - *Impact Assessment*

Recommendation

Coordinate the efficient and timely assessment of impacts related to various water uses. A list of the individuals with the expertise to assess impacts should be maintained.

Issue 3 - *Coordination of Governmental Actions*

Recommendations

1. Replace the current drought plan, by directive of the governor, with a document that incorporates the recommendations of the state water plan.

2. Reassign responsibility for state drought management coordination from the Disaster Advisory Council to a permanent Drought Advisory Council.

The Drought Advisory Council would be chaired by a representative of the Governor's Office and representatives of each of the other agencies previously represented on the Disaster Advisory Council, though not necessarily the directors of those agencies. Non-voting representatives of federal and local governments and public and private interest groups should also be appointed.

The Drought Advisory Council would have authority to:

a. review and report drought monitoring information;

b. identify those areas of the state with a high probability of drought and target reporting and assistance efforts to those areas;

c. upon request, appoint and organize local drought advisory committees for those areas. Committee membership should be comprised of state and local government officials, including county disaster services coordinators and conservation district supervisors; local water user groups, including dryland and irrigated agriculture, municipal and rural water suppliers, energy producers, mining and mineral processing, forest products, tourism, recreationists and recreation-based businesses, and interested citizens;

d. request state agency staff to provide technical assistance to local drought advisory committees.

Issue 4 - *Triggering Mechanisms*

Recommendations

1. To insure that drought-response efforts correspond to the magnitude of specific drought conditions, the drought plan should recommend specific actions corresponding to numerical indicators of drought severity. Actions should be linked to numerical thresholds as drought conditions both intensify and recede.

2. Both the PDI and the SWSI should be used as triggering mechanisms. The PDI should be used to indicate drought severity to dryland agriculture, and the SWSI to forecast and measure the severity of drought for surface water users.

Other drought monitoring information should also be considered. If this information indicates that the PDI or the SWSI are not accurate indicators of drought severity, actions should be taken earlier or later than the triggering mechanisms would suggest.

Issue 5 - *Assistance Programs*

Recommendations

1. Update the list of available state and federal assistance programs in the state drought plan.

2. Provide technical and financial assistance to local drought advisory committees for promoting local drought preparedness.

3. Oppose elimination of the federal crop insurance program, and support changes in this program that will make it more efficient and attractive to producers.

Issue 6 - *Funding for Drought Management Programs*

Recommendations

Apply for grant funding from the Montana Water Development Program, Renewable Resource Development Program, or other state or federal sources for a pilot drought management program.

Issue 7 - *Research and Educational Programs*

Recommendations

1. Encourage the use of existing water educational programs, including those of the Extension Service, Soil Conservation Service, conservation districts, and the water education program being developed at the Water Resources Research Center.

2. Support ongoing research into ways to improve drought monitoring, assessment, and mitigation.

3. Publish and distribute a comprehensive annotated directory of available educational resources about water conservation.

4. Better utilize the media and other means of communication for informing the public about drought management options and activities.

Issue 8 - *Drought Mitigation Strategies*

Recommendations

1. Increase the educational emphasis given to the watershed-related aspects of forest and range management, i.e., managing plant and tree ground-cover to minimize drought impacts.

2. Inventory and review operating plans of all existing reservoirs in water-short basins to encourage reservoir operators to adequately consider drought contingencies.

3. Inventory and review the operating plans of state-funded reservoirs to insure that these plans address drought contingencies. Where no operating plans exist for these reservoirs, such plans should be developed and implemented. Also, these reservoirs should be rehabilitated to operate at design capacity and improve the state's capabilities to respond to drought consistent with State Water Plan recommendations for the rehabilitation of water storage projects.

4. Establish stronger economic and other incentives for private investments in water conservation.

5. Consider feasible water storage where it will increase water supply security.

6. Consider basin closure by petition of local water users, as provided by law, to preclude over-appropriation and further aggravation of water shortage situations.

7. Encourage voluntary water conservation by domestic, municipal, and industrial water users.

8. Clarify state law so that water right holders who conserve water are clearly allowed to sell or lease the salvaged water in a manner that does not adversely affect existing water users.

9. Improve water use and conveyance efficiencies in agricultural, municipal, and industrial systems where such improvements will not adversely affect groundwater supplies or return flows needed by other water users.

10. Clarify state law to clearly allow the voluntary, temporary changes of private water rights and contract water exchanges. Such changes could reallocate water to highly valued offstream and instream water uses, whose users anticipate water short years. Such reallocations would be regulated by the state to insure the protection of other potentially affected water users and would have to be planned well in advance of the anticipated dry years.

11. Urge the Board of Natural Resources and Conservation to adopt rules requiring the installation of water measuring devices where the device will significantly help to resolve conflict and improve the distribution of water during drought in water-short drainages.

12. Find ways to expedite the resolution of local water use conflicts and water rights enforcement during drought before the general adjudication process is completed.

13. Develop a model water conservation ordinance or contract clause for adoption by municipalities and rural domestic water suppliers.

B. Water Storage

Subsection 1: Water Storage Policy

1. Policy Statement

Water storage (including the construction of new projects and the rehabilitation and expansion of existing projects) shall be considered equally with all other practical options in any search for solutions to water resource problems.

When the water storage option is determined to be the water management tool that best solves the problem and promotes and enhances the general welfare of the people of Montana, then it should be actively pursued.

The pursuit of water storage projects requires a strong and focused commitment by the state. Given the limited resources of the state, priorities must be established among water storage projects in order for the state to be able to make a commitment to the most important water storage projects.

2. Issues and Recommendations

Issue 1 - *Prioritizing New Projects*

Recommendation

The priority of new water storage projects should be established according to which projects best satisfy options 1 through 10, realizing that some of the criteria may not apply in some cases.

1. Solve the most severe problems.
2. Provide multiple uses and benefits.
3. Provide for public uses.
4. Show strong evidence of broad citizen support.
5. Have the ability to obtain non-state sources of funding.
6. Protect and seek to enhance social, ecological, cultural, and aesthetic values.
7. Improve local and state economic development.
8. Help resolve Indian and federal reserved water rights.
9. Support water conservation activities.
10. Promote the use of water reserved under Montana law.

Issue 2 - *Prioritizing Rehabilitation Projects*

Recommendation

Identify the high-hazard projects most needing repair based on the criteria listed under The Role of Storage in Water Management, those listed in Issue 1, and the following criteria:

a. Protect public safety

b. Impacts of not repairing project

Issue 3 - *Allocating State Funds*

Recommendation

Allocate the state funds available for water storage based on the following order of preference:

a. Resolve threats to life and property posed by high-hazard facilities that are in an unsafe condition.

b. Improve and/or expand existing water storage facilities.

c. Plan and/or construct new water storage facilities, including onstream, offstream, and nonstructural.

Subsection 2: Water Storage Financing

1. Policy Statement

Financing water storage is an important aspect of water development in Montana. The State of Montana should focus resources on understanding, coordinating, and improving funding programs for water storage development, operation, maintenance, and rehabilitation.

Although specific financing packages must be developed on a site-specific basis, all beneficiaries should be considered for a responsible role in repaying the cost of water storage projects. The financial costs of operating and maintaining water storage facilities should be assured prior to construction, and the costs of rehabilitation and replacement should also be considered.

2. Issues and Recommendations

Issue 1 - *Information, Education, and Assistance*

Recommendations

1. Document existing programs. Creating and updating a directory may facilitate the financing of water storage projects.

2. Designate a person (in the Department of Natural Resources and Conservation, the Montana Water Resources Association, the Environmental Quality Council, or the Water Resources Research Center) as a "water storage development coordinator" to facilitate efforts to develop water storage projects.

Issue 2 - *State Water Resource Funding Programs*

Recommendations

1. Create a new special revenue account (the "Water Storage Special Revenue Account") to be used exclusively for funding water storage projects.

The new account would receive 25 percent from both the Water Development Special Revenue Account and the Renewable Resource Development Account. The funds in the Water Storage Special Revenue Account would be expended as authorized under current water development accounts, including grants, loans, and to underwrite bonds.

2. If the funds deposited in the new "Water Storage Special Revenue Account" are not used during a given biennium, the funds should accumulate rather than be transferred to other programs.

3. Seek authorization for allocating a higher percentage of existing non-renewable resource funds (e.g., coal severance tax revenues) to the development of Montana's renewable resources, particularly water.

4. Authorize the use of 25 percent of the funds over and above the statutory minimum balance of $100 million on the Resource Indemnity Trust (RIT) Fund for water storage projects.

Issue 3 - *Cost-sharing and Coordination*

Recommendations

1. Encourage Resource Conservation and Development areas (RC&Ds) to develop funding packages and create broad-based coalitions to support water storage development.

2. Make use of existing authorities associated with public entities such as conservancy districts, irrigation districts, and water and sewer districts to tax and collect fees for purposes of funding water storage projects. If existing public authorities are not adequate for the proposed purposes, make the appropriate modification.

3. Identify potential sources of private sector funding and integrate these on a site-specific basis. These sources might include contributions from various water user groups, such as irrigators, industries, recreationists, conservation and preservation groups, and others.

Issue 4 - *Payment by Beneficiaries*

Recommendations

1. Continue having irrigation, hydropower, municipal, and industrial beneficiaries repay some of the project costs through user fees, and allow the sponsor together with the funding source to make site-specific recommendations on whether those fees will adequately cover the costs of the benefits.

2. Conduct a study on the feasibility of having recreational beneficiaries repay a portion of the project costs associated with recreational opportunities. Among the options that might be assessed are:

a. A fee, on a site-specific basis, to individuals who take advantage of the recreational benefits associated with water storage projects funded with public resources. Like an entrance fee to a state or national park, the fee would be assessed each time a person participates in some recreational activity related to the water storage project. An annual user's pass would also be available for each site. The funds generated from the fee would be designated for water storage development that includes recreational or fish and wildlife benefits.

b. A "water development" stamp. This stamp would be required of anyone purchasing a fishing, duck hunting, boat, or other water-related license. The funds generated from this stamp would be designated for water storage development that includes recreational or fish and wildlife benefits. Such funds would have to be controlled in a manner consistent with state-federal requirements outlined in Section 87-1-701-714, MCA.

c. An increase in the Motorboat Fuels Tax to be used for water storage development that includes recreational or fish and wildlife benefits.

d. A generic "land and water conservation" license for anyone using public lands or water. At least some of the money generated from these licenses would be designated for water storage development that includes recreational, fish and wildlife, and/or environmental benefits. Such funds would have to be controlled in a manner consistent with state-federal requirements outlined in Section 87-1-701-714, MCA.

e. The Department of Fish, Wildlife and Parks providing appropriate funds on an individual project basis through agency funding mechanisms.

3. Continue to use tax revenues to provide a portion of fish, wildlife, recreational, and other environmental benefits associated with water storage projects.

4. Continue to use tax revenues to provide a portion of the irrigation, municipal, industrial, and hydropower benefits associated with water storage projects.

5. Charge individuals and groups that benefit from the flood control and navigation benefits of a new water storage project. Create one of the several resource districts possible under Montana law to collect fees and/or require beneficiaries to pay taxes.

Issue 5 - *Economic Value of Alternative Uses*

Recommendation

No recommendation. While this is an important issue, it is not a high priority. It could be integrated into the study outlined in Issue 4, Option 2.

Subsection 3: Water Storage Regulations

1. Policy Statement

Water storage is one of several tools available for managing Montana's water resources. A substantial number of laws and regulations affect water storage activities and are necessary to protect vital public interests and environmental values. The state of Montana should act to ensure that laws and regulations are reasonable and properly administered to allow for the use of storage as a viable water management tool.

2. Issues and Recommendations

Issue 1 - *Duplicative Laws and Regulations*

Recommendation

1. Identify unnecessary duplications and inconsistencies and recommend corrective measures. This evaluation could address one or more of the following issues:

a. Identify duplicative requirements, overlapping administrative jurisdictions, and inconsistent definitions of common terms.

b. Identify federal laws whose administration could be assumed by the state to improve efficiency and enhance sensitivity to local problems and concerns.

c. Identify overlapping state regulatory authority.

NOTE: The implementation of the recommendations **highlighted** below require Water Policy Committee action next interim. A brief staff analysis in *italics* is also provided.

Issue 2 - *Costs Related to Dam Safety*

Recommendation

Evaluate the Montana Dam Safety Act and implementing regulations to:

a. Determine the acceptable degree of risk to public safety and appropriate allocation of responsibility for that risk between the public, government, and dam owners.

Staff Analysis: The Montana Dam Safety Act requires that by July 1, 1995, existing high-hazard dams must obtain a permit from the DNRC verifying that the dams satisfy safety standards.

To date, studies have been completed on approximately 33 of 85 high-hazard reservoirs to determine the modifications needed to satisfy the standards. The cost of rehabilitating state-owned high-hazard dams is expected to exceed $200 million.

The public policy question the WPC is being asked to answer for the state is this: "How much risk is acceptable", and "Who should assume it?" There is a tradeoff to be made between the cost of building or rehabilitating a dam on one hand, and the risk to public safety on the other.

If risk to public safety is increased -- for example by changing the definition of "high-hazard" so that the loss of more than one life is acceptable or allowing a lower minimum spillway capacity -- the cost of reservoir construction and rehabilitation is decreased. Conversely, increased safety (less risk to the public), increases costs. The WPC is being asked, during the next interim, to decide where the balance is between cost and safety.

b. Determine whether the definition of a high-hazard dam should be modified.

Staff Analysis: The Montana Dam Safety Act presently defines a high-hazard dam as any reservoir that retains 50 acre-feet or more of water that, if it fails, would likely cause a loss of life. Classification as high-hazard does not imply nor determine whether or not the dam is structurally sound. The WPC is being asked to decide if the existing definition is adequate, or if it should be modified. The definition potentially could be modified by increasing the number of lost lives deemed acceptable; changing the acreage requirement; or addressing the issue of property damage.

c. Determine whether the high-hazard classification should be expanded into a risk scale that allows structural design requirements to reflect probable risk to life and property.

Staff Analysis: Do all high-hazard dams present the same risk to public safety and loss of property? Should a large dam immediately above a city be treated differently than a small dam some miles above a campground? The present system of classifying high-hazard dams does not evaluate the relative level of risk associated with a given reservoir. The Water Policy Committee is being asked to decide whether the classification system should be expanded to include a "risk scale," and if so, what factors should be considered is assigning relative levels of risk.

d. Determine whether the Department of Natural Resources and Conservation should be given greater discretion to substitute alternative means of addressing risks, such as early warning systems, for structural design requirements.

Staff Analysis: This is fairly self-explanatory: The Water Policy Committee is being asked to decide whether there are other acceptable means of addressing risk, presumably that are less expensive, than stringent structural design requirements.

Issue 3 - *Inability of Private Entities to Obtain Water Reservations*

Recommendation

1. Revise the Montana Water Use Act to extend the 10-year limit on developing water use permits associated with water storage development.

2. Provide public education to encourage water reservations for multipurpose uses.

3. Evaluate the Montana Water Use Act and the desirability of:

a. Allowing private entities to obtain water reservations.

b. Designating or creating a public body to advance water reservation applications for private entities.

Staff Analysis: Under the Montana Water Use Act, only public entities may apply to reserve water for existing and future beneficial uses, including those involving the storage of water. Private entities are prohibited from directly obtaining water reservations. However, historically, many private entities have been able to reserve water through a public body: For example, agricultural interests have been able to reserve water via conservation districts and industry via bodies of local government concerned with development. The concern here is that excluding private entities from acquiring water reservations may preclude some private development of water storage having public benefits.

Issue 4 - *Lack of Information about Water Storage Laws*

Recommendations

1. Prepare, distribute, and regularly update, (1) a directory of laws and regulations applicable to water storage, and (2) a booklet describing the major requirements and identifying administrative agencies; both suitable for use by laypersons.

2. Develop and administer a targeted program of education to promote awareness of legal requirements and sources of information applicable to the development and operation of water storage projects.

3. Designate a person to serve as an information coordinator for permitting and regulatory issues related to water storage development.

Issue 5 - *Repairing Wilderness Area Dams*

Recommendation

Develop a public process, which may include the U.S. Forest Service, Bureau of Land Management, Department of Natural Resources and Conservation, dam owners, conservationists, consultant firms, and other interested persons, to identify problems and develop appropriate solutions.

Final Action

The Water Policy Committee endorses the water plan recommendations and recommends that the 1991 Water Policy Committee undertake the analyses noted.

VI. Remaining Issues

The Water Policy Committee's policy options found in the 1989 Report to the 51st Legislature have largely been addressed by the second water planning cycle. However, two issues from 1989 were reexamined.

1989 Report Issue 3 -

Should an entity be required to approve the state water plan? The present statute requires that the DNRC receive approval from the Board of Natural Resources and Conservation prior to adopting the state water plan. At issue is whether the BNRC should retain its approval authority, particularly given that:

1) the plan is a comprehensive, coordinated multiple use water resources plan involving the jurisdictional authority of the DNRC and other agencies;

2) the plan appears to be advisory only; and

3) the BNRC is not directly involved in developing the plan elements.

The 1989 report recommended that the established BNRC adoption be retained for the 1991 state water plan but that:

> (i)n future years, other options for obtaining legislative or other approval without BNRC consideration should be explored.

Final Action

1991 Water Policy Committee recommends that the current state water plan BNRC adoption process be reexamined by the Water Policy Committee before the 1993 legislative session.

1989 Report Issue 5 -

Should the State Water Plan Advisory Council be established or described by statute? The SWPAC and its membership is presently declared by order of the Governor.

The 1989 report recommended that:

The planning process should continue for another biennium before a statutory council is considered.

Final Action

The 1991 Water Policy Committee endorses the current SWPAC appointment process.

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