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Agriculture, energy on governors' agenda

Secretary of Agriculture Bob Bergland is one of three speakers who have been invited to address the fifth annual Missouri River Basin Governors' Conference this summer. The conference will be held at the Kirkwood Hotel, Bismarck, N.D., July 10-11, following the 33rd quarterly Missouri River Basin Commission meeting. North Dakota Governor Arthur A. Link is host governor.

In addition to agricultural issues, the conference will focus on energy development in the basin and energy resource development on Indian lands. Others invited to speak are Department of Energy Assistant Secretary for Resource Application Ruth Daves and Council of Energy Resource Tribes Chairman Peter McDonald.

"With coal reserves in North Dakota, Montana and Wyoming expected to produce 36 percent of U.S. coal by 1990, and

agriculture long-established as the predominant industry in the basin, it is especially appropriate that Missouri River Basin governors share views on these issues," said MRBC Chairman Millard W. Hall in announcing the conference.

Missouri River Basin states provide approximately one-third of the nation's wheat, one-fourth of the sorghum, one-fifth of all corn grown for grain and one-fifth of all livestock and poultry. Upper basin coal reserves have been estimated at 165 billion tons.

The 33rd quarterly Commission meeting will begin at noon Wednesday, July 9, with business continuing through the afternoon of July 10. The Governors' Conference will begin with a banquet Thursday evening, July 10, followed by a plenary session Friday morning, July 11. The conference will adjourn at noon.

The Year of the River

Missouri Governor Joseph Teasdale has proclaimed 1980 as "The Year of the River" in Missouri. The proclamation hails the Missouri River as "the state's major artery; a great, majestic, powerful river that gave life to our forefathers and sometimes took it as well." Missourians are urged by the proclamation "to support programs to restore some of the river's historic diversity and ecological wealth." The January 1980 edition of "Missouri Conservationist," published by the Missouri Department of Conservation, is dedicated to the "Year of the River" theme.



James accepted, regional plan deferred to May meeting

The James River Subregional Analysis is officially completed, but acceptance of the first biennial update of the regional plan for the Missouri River Basin will not be considered until May as a result of action at the 31st quarterly meeting of the Missouri River Basin Commission.

Meeting in Denver Feb. 6-7, the commission approved the draft final report from the James River Subregional Analysis, a review of problems and needs in the James River basin of eastern North Dakota and South Dakota. Recommendations and conclusions from the analysis will now be incorporated into the basinwide regional plan.

Consideration of the regional plan was postponed on the recommendation of the Planning Committee. The committee was satisfied with the body of the plan but was not willing to act on an environmental impact statement appended to the report, according to committee chairman Capt. James Glasgow, Department of Transportation.

Glasgow reported timing and content were the principal committee objections to the appendix. The environmental impact statement prepared by MRBC staff at the request of the Planning Committee was not completed far enough in advance of the commission meeting to permit review and comment by commission members and alternates. The regional plan had been completed in December, and was circulated for review during January without the environmental statement. The appendix was referred back to staff for revisions prior to further commission review.

"This is not only the first time the Commission has updated the regional plan," MRBC Chairman Millard W. Hall said. "It is also the first time Water Resources Council guidelines have been specific in requiring an environmental impact statement." No environmental statement was prepared for the first regional plan, "Missouri River Basin Water Resources Plan," published in 1977.

In other action, the commission delayed approval of the fiscal year 1981 budget and established the Ad Hoc Committee on Energy and Water as a full standing committee. The Energy and Water Committee was authorized to establish advisory committees to investigate water-related energy issues in the Missouri River Basin. In addition, the committee will continue to produce the "Status of Electric Power Report" for the basin.

The commission concurred with Policy Committee and State Caucus recommendations in postponing approval of the fiscal year 1981 budget. The committee wanted additional time for review, and State Caucus members requested additional information and further investigation of optional deadlines for state contributions.

The regional plan and fiscal '81 budget will be on the agenda for the 32nd regular quarterly commission meeting May 5-7 in Kansas City, Kans. That meeting will be a joint session with the Arkansas-White-Red Basins Interagency Committee(AWRBIAC).

Kansas Governor John W. Carlin will address a joint luncheon of the two bodies. The state of Kansas, a member of both agencies, is coordinating the meeting program. Also featured on the joint program is a panel discussion of state, regional and federal perspectives in water resources planning.

WESTPO: Looking out for Western states

The Western Governors' Policy Office (WESTPO) is in business to provide numerous services and to save money for the 10 states it represents, according to Philip Burgess, WESTPO executive director. Burgess told guests at the luncheon before the 31st MRBC meeting the organization formed after several governors became alarmed at "a proliferation of regional organizations" costing some states more than \$2.7 million in annual dues.



Burgess

WESTPO consolidates the functions once assigned to separate regional groups, and maintains a small permanent staff contracting additional short-term staff as needed. The organization actively lobbies nationally for legislation and programs to benefit member states, Burgess said. In addition, WESTPO seeks opportunities to promote the economic interests of its members.

"We try to get out front, to be pro-active," he said. As an example, he cited WESTPO investigation of "the substantial market for Western steam coal in Japan and Taiwan." He said current discussions center on the obstacle of moving coal overland through the mountains to West Coast seaports.

WESTPO serves as a conduit for information among member states, as a forum for intergovernment management and decisionmaking and as a forum for public and private sector interchange on regional issues. Its 10 members include 6 Missouri River Basin states: Colorado, Wyoming, Montana, North Dakota, South Dakota, and Nebraska. Other members are Alaska, Arizona, New Mexico and Utah.

Analysis suggests solutions to James River woes

The James River of eastern North Dakota and South Dakota is a prime example of what MRBC Chairman Millard W. Hall frequently refers to as "the unpredictability of water in the right place at the right time" in the Missouri River Basin.

The James River flows east, then south from near Fessenden, N.D., 710 river miles to join the Missouri River east of Yankton, S.D. Along the way, it has the flattest gradient of any river its length in North America. From its headwaters in North Dakota to the South Dakota border (about 200 miles), the channel drops 280 feet. The river's slope decreases rapidly at the North Dakota-South Dakota border, so that over the remaining 500 miles of flow in South Dakota it falls only 100 feet. It takes a full three weeks for water in the main channel to traverse the state.

The flat gradient is associated with several problems characteristic of the river. Steeper slopes of tributaries produce relatively swift current. In flooding situations, this swiftly moving water flows into the James River channel faster than it can drain downstream. When this happens, flow in the James can actually reverse at some points with water flowing upstream — sometimes for several days.

Also because of the flat James River channel, floods do not generate high peak flows but are marked by very long inundations of land. Some floods may last for several months.

Another problem occurs as the water current slows in northern South Dakota. Sediment from upstream turns into silt. Water is then lost from the river due to evaporation and plant transpiration, especially as the river flows through Sand Lake National Wildlife Refuge.

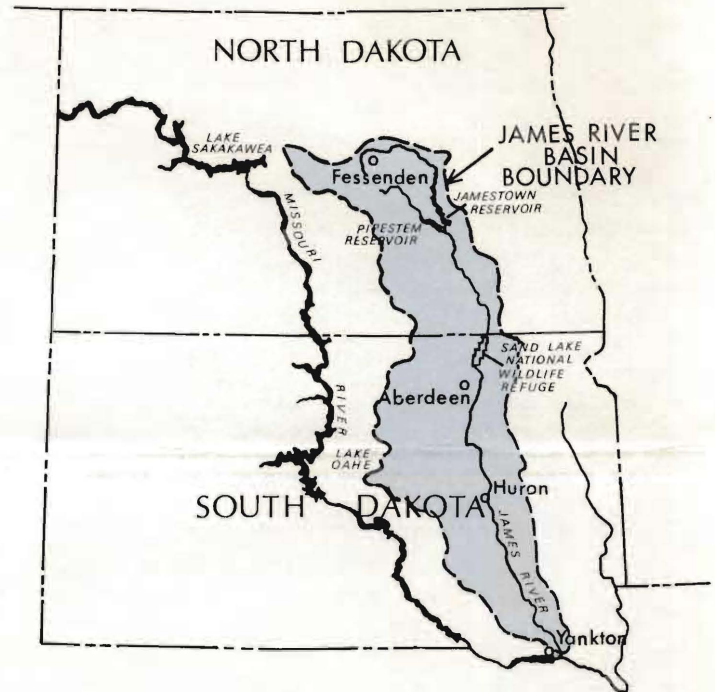
Precipitation is sporadic and can vary as much as 15 inches from year to year. Rainfall is not evenly distributed month-to-month during the growing season. While this does not necessarily mean a constant threat of drought in the basin, it does mean that agriculture production is also sporadic, depending on rainfall.

These general characteristics of the basin have long been a source of frustration to area residents. The James River Basin Subregional Analysis was undertaken in 1978 under MRBC leadership to examine specific related water problems.

The goal of the study was to pinpoint relationships among these problems and offer suggestions toward solutions or mitigation of negative impacts. Two years, numerous study group meetings and numerous public meetings later, the report from the analysis has been made. Included are 11 major conclusions and recommendations for over 60 specific actions to be taken by local, state, and federal entities.

Among the major conclusions:

- Farmland is an abundant natural resource in the region, but lack of dependable rainfall frequently limits full production. Coupled with out-migration of the area's young people and low per capita income, the area is



James River Basin

economically depressed by contrast with the rest of the country. Large-scale public irrigation projects and greatly expanded private irrigation systems would help improve this depressed condition.

- The Initial Stage Oahe Diversion Unit (authorized since 1968, but with construction currently at a standstill for lack of federal appropriation) will probably not be built as authorized as a result of public opposition. However, it should not be deauthorized until replacement projects are authorized.
- Improved domestic water supply is needed in north-central South Dakota. Federal funds are needed to complete studies of potential pipeline transfer of treated water from the Missouri River into this area. (Principally, such funds should complete investigation of the feasibility of one such proposal by the WEB Water Development Association.)
- The Missouri River Basin Commission should establish an Ad Hoc James River Interstate Coordinating Committee to continue to facilitate communication and coordination in the study area.

Some recommendations were implemented almost immediately during the course of the analysis; others are being reviewed. All of the recommendations were endorsed for inclusion in the MRBC regional plan which communicates activities having regionwide impacts to state officials and the federal government.

More than one Missouri river?

There is only one Missouri River, but attempts by many different studies to assess the amount of water available in the Missouri River and its tributaries would lead one to believe there are many different Missouri Rivers, according to Donald Ohnstad, MRBC hydrology study director. A \$2.3 million, 3-year hydrology study now underway is intended to change that.

The basinwide hydrology study is an effort to create a definitive picture of hydrologic resources in the basin. That means establishing an accepted data base for evaluating changes and planning for water use.

"An agreed upon basinwide hydrologic data base is essential because the variety of agencies and entities concerned with water use otherwise have no way of resolving quantification issues—water rights, interstate compact agreements, and conflicting upstream/downstream needs, for example," Ohnstad said.

The variances among studies done to date are demonstrated by comparing figures from the "Missouri River Basin Framework Study" (published 1971) and the "Second National Water Assessment" (published 1979). Two reference points on the Missouri River main stem are most often used to summarize water data in the Missouri Basin—Sioux City, Iowa, and the mouth of the Missouri River near St. Louis, Mo.

The framework study estimates current net depletions above Sioux City at about 6.4 million acre-feet per year as compared to about 9.7 million acre-feet per year estimated by the national assessment. (National assessment figures shown here are taken from the state/regional future, data prepared for the assessment by the 10 basin states. The national assessment also included estimates contributed by federal agencies for the same reference points called the national future.) The framework study shows current estimated average annual flow at Sioux City to be about 20.6 million acre-feet; the national assessment estimates about 18.5 million acre-feet.

At the mouth, net annual depletions are estimated by the framework study to be about 11.7 million acre-feet, and the estimated annual outflow from the basin about 53.9 million acre-feet. The national assessment estimates about 15.5 million acre-feet depleted annually and about 49.4 million acre-feet outflow annually. Beyond these main stem discrepancies, estimates resulting from the two sources differ among individual tributaries by as much as 100 percent.

The 2.1 million acre-feet per year difference in estimates of average annual outflow at Sioux City alone would be enough water to accommodate the domestic needs of the basin's 10 million residents for one year. Planners agree these differences are statistically significant.

The framework study used 1970 as its base year; the national assessment used 1975. However, the difference in base years does not fully explain these widely varying estimates. The different figures are caused primarily by differences in estimated

irrigated acreage and estimated unit water consumption for irrigation from surface and groundwater sources.

The implications of these discrepancies for planners are analogous to problems that might be encountered in the average home when more than one individual is drawing from the family checking account without closely monitoring the balance. If the balance is not reconciled so that all who have access to the account are operating from the same understanding of money available and priorities for spending, the results could range from minor nuisances to major financial setbacks. If the account were overdrawn, the family credit rating or longterm financial security could be at risk.

Similarly, if planners and others who make determinations on use of water from a common source — in this case, the Missouri River system — do not have a common understanding of availability and an agreement on distribution, many who depend on water for daily personal needs or business-related needs will pay the price. That price could be merely an undesirable inconvenience, such as a green lawn turning brown. Or, it could be a more drastic problem such as a shortage of water for irrigation.

The plan of study for the MRBC hydrology study approved in February calls for cooperation and contribution of time and expertise from all 10 basin states and 12 separate federal bureaus. The overall study objectives have been distributed among five interactive work groups. Four groups will determine data for surface water supply including instream water uses; groundwater depletions; agricultural water use including identification of irrigated lands; and industrial, municipal, energy and rural domestic water use. This baseline data will be used by the system methods and operations work group to develop a computerized method for predicting future conditions and assessing the impact of variables.

Work groups will meet for the first time March 13-14 in Omaha in a joint session which marks the beginning of implementation of the plan of study. The meeting will be an orientation for all personnel representing contributing state and federal agencies.

Ohnstad said the study requires a major coordination effort because each state and federal agency has reasons for preferring methodologies or data sets that may not be included in the study. "There is always a risk that an agency or state will lose interest or revoke its commitment if its immediate interests are not being met," he said.

But he is optimistic that the study will reach its goal of providing a definitive baseline for basinwide planning, and will not be just one more set of disputed estimates.

"We've had good cooperation and commitment from all parties in creating the plan of study," Ohnstad said. "This level of commitment should continue as the work group activities get underway and the participants realize they have an opportunity to develop a tool that water resources managers throughout the basin can use."

MRBC takes priorities to Congress

The Missouri River Basin Commission briefed congressional staff members on regional water resources program priorities in the nation's Capitol Monday, Feb. 11.

The commission's annual priorities process provides a regional viewpoint of water program needs in the 10-state Missouri River Basin. The 1980 report was distributed to Congress before the briefing, and lists fiscal year 1981 priorities intended to guide congressional action in considering the FY 1981 budget.

Making the presentation were MRBC Chairman Millard W. Hall, state-elected Vice Chairman Vern Fahy of North Dakota, and Alan Hersch, senior water resources planner and coordinator of commission priorities activities. Bill Ramige, director of administration and public affairs, accompanied the trio.

Chairman Hall described the river basin commission (RBC) concept. He delineated congressional directives governing RBC's and the importance of developing ongoing regional priorities. Vice Chairman Fahy stressed the role of the states in the priorities process and explained the need for the regional viewpoint in supporting program authorization and funding. Hersch described the process MRBC uses to formulate the annual priority listing, and answered several questions about the program.

Seventeen members of Missouri River Basin congressional staffs attended the briefing, including two committee staff members. Pat O'Meara, executive director of the National Water Resources Association, also attended. Ned Leonard, aide to Sen. George McGovern, D-S.D., and Joe Western, aide to Rep. Virginia Smith, R-Neb., assisted in making arrangements for the meeting.

"This briefing is a first step in a concentrated followup effort to make decisionmakers more aware of programs urgently needed in the basin," Chairman Hall said. Another step will be a similar briefing of appropriate federal agency staffs to achieve incorporation of the Commission's FY 1982 priorities into the recommended administration budget.

Webb is Iowa member

James Webb, director of the Iowa Natural Resources Council, has been named to succeed William Brabham as Iowa member of the Missouri River Basin Commission. Webb is no stranger to river basin commission activities, having directed regional contributions to the 1975 National Water Assessment for the Ohio River Basin Commission.

His career as a planner covers several fields and several states. A native of Missouri, he received a masters of public health degree in sanitary engineering from the University of Michigan, Ann Arbor. He has held planning and administrative positions in Kansas, Nebraska and Ohio, and was technical secretary of the Natural Resources Development Board in Illinois for six years.

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The Missouri River Basin Commission is a state-federal body charged with coordination, planning and communication for water and related land resources in the ten-state region drained by the Missouri River, in accordance with Public Law 89-80. Ten states, ten federal agencies, and two interstate water compacts are represented on the commission. They are Colorado, Iowa, Kansas, Minnesota, Missouri, Montana, Nebraska, North Dakota, South Dakota and Wyoming; the U.S. Departments of Agriculture, Army, Commerce, Energy, HEW, HUD, Interior and Transportation, and the Environmental Protection and Federal Emergency Management Agencies; and Big Blue River Compact Administration and Yellowstone River Compact Commission. Canada is an observer.

Dr. Millard W. Hall, chairman; Vern Fahy, North Dakota, vice chairman

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About ground water--

A leaflet containing facts about ground water published by the U.S. Geological Survey (USGS), Department of the Interior, is available for public distribution.

Written in nontechnical terms, the leaflet is part of a series of popular publications prepared by USGS to answer inquiries about a variety of earth science subjects. It was prepared to help clarify confusing concepts related to the nature, occurrence, and quality of ground water, and how it is located, developed, and used.

Single copies of the 23-page illustrated leaflet "Ground Water" are free upon request from the U.S. Geological Survey's Branch of Distribution, 1200 South Eads Street, Arlington, VA 22202.

IN MEMORIAM

This issue of the Basin Bulletin is dedicated to the memory of William Brabham, director of the Iowa Conservation Commission who represented Iowa on the Missouri River Basin Commission from 1973 until his death Jan. 13, 1980. Bill was Chairman of the Middle and Lower Missouri Flood Plain Committee. He had fought respiratory ailments for several years prior to his death.

MRBC colleagues passed a resolution of appreciation in his memory at the 31st quarterly meeting. It stated, in part, "Be it resolved that the members of the Commission individually recognize Bill's courage and good nature during his illness and convey their sincere sympathy to his family at this time of remembrance."

Basin notes

Planners in upper basin states (Montana, Wyoming, North Dakota and South Dakota) have collaborated in launching a new publication for comprehensive planners. Called "The Western Planner," the first issue came out in January and was edited by Arthur H. Greenberg, project manager of the Western Coal Planning Assistance Project. (For subscription information, write The Western Planner, P.O. Box 127, Terry, MT 59349.) . . . The U.S. Water Resources Council has completed its analysis of the level B study program. A report is expected soon . . . The Department of the Interior/Geological Survey has issued a booklet entitled Synthetic Fuels Development: Earth Science Considerations. In easily understood prose, the booklet explains the technical processes involved in synthetic fuels production and explores the relationship of synthetic fuel development to water supply. Photographs, maps, tables, and other graphic devices contribute to the clarity of information presented. (U.S. Government Printing Office Stock No. 024-001-03256-2) . . . The U.S. Water Resources Council has issued final procedures for evaluation of national economic development (NED) benefits and costs in water resources planning (level C). The Federal Register of Dec. 14, 1979, includes the rules and regulations.

MRBC oversees 13(c) assessment

The Missouri River Basin Commission recently supervised an assessment of potential water impacts associated with the \$1.2 billion Great Plains Gasification Plant to be built at Beulah, N.D. Most of the work on the project was completed during February under an agreement with the U.S. Water Resources Council (WRC).

A draft report forwarded to WRC summarizes conclusions about the availability of water to meet the requirements of the project, supporting activities and other development induced by the project; the changes in water resource quantity and quality conditions which would occur as a result of the project; and the environmental, economic and social impacts which would accompany changes in water resources conditions. The report will be reviewed by WRC prior to publication of findings in the Federal Register.

The assessment was required by section 13(c) of the Federal Nonnuclear Energy Research and Development Act of 1974, and is the first such study to be undertaken since the law was passed. The law states the Water Resources Council shall conduct water assessments of commercial nonnuclear energy facilities "for any proposed Federal assistance for commercial application pursuant to (the) Act . . ." WRC officials anticipate similar 13(c) studies will be undertaken as other nonnuclear development plants are proposed and built around the country.

The North Dakota coal gasification complex will include the proposed gasification plant and coal mines located about six miles south of Lake Sakakawea, a reservoir formed by Garrison Dam on the Missouri River. The site is about 65 miles northwest of Bismarck, N.D., and adjoins an 880-megawatt, coal-fired generating station under construction. Construction of the gasification complex is scheduled to begin in April.



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