"While enlightened policy-makers, administrators, and legislators can do much to bring about orderly development and conservation of water, in the last analysis progress toward these ends will depend upon the people of Colorado . . .

"What are Colorado's people doing through their government, and what might they do, to ensure a supply of their most precious resource that will meet the demands of a rapidly growing population and a changing economy?" (League of Women Voters of Colorado in "Colorado's Water Resources", December 1958)

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Recent floods gave the Corps of Engineers' Missouri River flood control system its first big test. Result: It passed the test with flying colors.

Flood peak at Omaha of 125,000 second feet was almost cut in half by the Corps' five big mainstemmers . . . Fort Peck, Garrison, Oahe, Ft. Randall, Gavins Point. These dams held back 100,000 SF while passing only 32,000 SF at Gavins Point.

Only Fort Peck was in operation during the 1952 flood on the Missouri River which caused $157 million damage. With the completion of Big Bend Dam, located in South Dakota between Oahe and Ft. Randall, the Corps will have virtual push-button control over the Missouri River during floodtime. It's an excellent example of river control through coordinated reservoir operations.

The Corps has come a long way on the Missouri since its feuding days with the Bureau of Reclamation. Differences were resolved in the early forties when the two agencies developed the Pick-Sloan plan. Some called it a shot-gun wedding borne of necessity. The Corps got the mainstem development. The Bureau got the tributary development. The Flood Control Act of 1944 made it all legal.

The Big Mo has many moods. It's also called the Big Muddy . . . too thick to drink, too thin to plow. One point of view has long maintained that flood control is achieved upstream on the watersheds, long before the runoff gets into the main channel. This viewpoint was written into the 1944 Flood Control Act by grant of authority to the U.S. Dep't. of Agriculture for flood retardation work on watersheds.
USDA tossed the upstream engineering ball to its Soil Conservation Service. The SCS program was later strengthened by the Watershed Protection and Flood Prevention Act (PL 566). It authorized federal loans to local soil conservation districts for flood retardation work on watersheds.

USDA has asked Congress for $27.8 million for watershed protection work in 1961... 22% more than it received in 1960. Colorado has a stake in at least one SCS watershed project appropriation request. It's the proposed $655,000 Vineland project, six miles east of Pueblo. Four dams would control runoff in an area which averages $47,000 a year in crop damage due to floods. Bessemer and Pueblo soil conservation districts requested the project.

SCS celebrates its 25th anniversary on April 27th. It doesn't compete with the Bureau and the Corps on river control. SCS is limited by law to watersheds under 250,000 acres and to reservoirs under 5,000 acre feet. But sometimes it appears to compete with downstream water users. This potential conflict created quite a stir at the last NRA convention.

Eyebrow-lifter on SCS's reservoir construction program... No water rights! When is an SCS dam retarding floods and when is it depriving the holder of a senior water right of his water? No one is more aware of this potential conflict then Ken Chalmers, Colorado's SCS State Conservationist, who was raised on an irrigated ranch in South Park.

Chalmers: "Great care and diligence must be exercised to see that these (state water statutes) are complied with in every detail so that any federal participation in upstream development is not subject to the criticism that state's rights and the statutes governing the storage, diversion, pumping and distribution of water resources have been ignored." (Four States Irrigation Council, Denver, 1-15-60)

Operation of SCS's flood retardation reservoirs is a problem. Some would like to see single purpose operation aimed solely at maximum flood prevention benefits, with as little regard as possible for water rights. This is what western water users fear. Present practice in Colorado is for SCS to arrange with downstream interests and the State Engineer for a maximum time interval for emptying all flood retardation structures on a SCS project. Ungated structures are designed to accomplish this.
Chalmers wonders if greater mutual benefits couldn't be achieved through coordinated operations. One possibility: Let the State Engineer's Office operate gated SCS reservoirs at its discretion, using them to hold back water during free river periods for later release to irrigators when they need it. Another possibility: Work out operating agreements between junior and senior appropriators below SCS projects. Seniors would agree to pass on to juniors an agreed-upon percentage of the extra water made available by upstream SCS flood retardation operations.

Chew on this Chalmerism a while: "Is a water right, irrespective of the date of adjudication thereof, a static instrumentality?"

Chalmers: "Specifically, what I have in mind is this: My father filed on water rights on the upper reaches of the Platte River in 1880. At the time he filed on those water rights the watershed itself was more or less in a semi-virgin state. Mining in that particular period had not developed to the extent that it did in the 1900's, there had not been the full utilization of timber resources for ties, mine props and saw timber, and the area was not subject to as much grazing as later became common in the '90's and the 1900's.

"All of these uses of the watershed had their effect upon 1) the delivery of water to my father's ditch and 2) the period of flow during various seasons of the year. What about this water right in 1960? This question presents many problems requiring wise judgment. Should we take the position of adjusting ourselves to changes so that there will be derived a maximum benefit of water resources?" (Four-States Irrigation Council)

Your Water Congress is interested in ideas like these. Send in your ideas and your reactions to the ideas of others.

In the arid West, it's a short step from flood to drought. Professor Carl Hubbs of the University of California's Scripps Institute of Oceanography says the past 30 years have probably been Southern Cal's driest period in at least 50,000 years.

Hubbs: "We ought to be prepared, on the existing incidence, to meet the very strong possibility, if not the probability, of even increased aridity in the southwestern regions, including southern California and Baja California. It would be unwise to plan otherwise."

Geography question: Where does Southern California get most of its water supply?

Answer: From the Colorado River.
Flow of the Colorado River during water year 1959 was the fourth-lowest of record. The annual flow of 6.75 million acre feet was only 55% of the 38-year average. But this hasn't reduced deliveries of Colorado River water to cities and farms in Southern California. Each of the four big California water agencies using Colorado River water showed higher Colorado River diversions in 1959 than in 1958.


Abbot's highly-publicized forecasts have riled meteorological waters. Irving P. Krick of Denver thinks he can out-sunspot Abbot. Walter Orr Roberts of Boulder has a more conservative viewpoint.

Krick: "We found some value in his (Dr. Abbot's) work back in the 30's. Our method now incorporates what Abbot's doing and goes beyond. In fact, with computer equipment we maintain in in Zurich, Switzerland, we can pull out a forecast for any place in the Northern Hemisphere up to 1985."

Roberts: "Any statement that predicts drought for any particular year must be considered speculative."

Sunspotters from seven nations exchanged ideas in mid-April at a week-long solar-weather seminar held at California U's Lake Arrowhead conference lodge. They had much to talk about. Instrument-laden weather rockets have recently been fired twice as high as the conventional weather balloon range. Weather eye satellites may be the forerunner of a new method of weather forecasting... detailed visual observation of cloud types all over the world by television cameras orbiting in space.

Colorado recreation interests are moving into the flood control-drought control complex. They want space in federal multi-purpose reservoirs... particularly space in Cherry Creek and John Martin reservoirs. Cherry Creek is the Corps of Engineers' big flood control reservoir near Denver. It was designed 10,000 acre feet conservation space plus 85,000 acre feet flood control, with ungated spillway. Storage capacity could be increased to about 229,000 acre feet with gates.
State Engineer Whitten stored 5,000 acre feet of surplus water in Cherry Creek during 1957. Through strenuous efforts he managed to hold on to this storage water through months of red-tape negotiations with the Corps. By 1959 he had increased the storage to 10,000 acre feet. This spring he got it up to 18,000 acre feet.

The Corps finally granted the State of Colorado a 10,000 acre foot permanent pool for recreation purposes. Recently the Corps agreed to enlarge the permanent pool to 15,000 acre feet. Whitten tried to hold the 3,000 AF excess storage for later release to downstream irrigators when they needed it . . . and to cover reservoir evaporation losses. But the Corps ordered the excess released without delay.

Note the possibilities for Water Congress action in future Cherry Creeks. A strong, united Colorado water users' organization, able to move quickly in the right direction, might go far towards convincing federal river operators of the wisdom of adjusting reservoir operations within safe limits to achieve local benefits. This is not a Water Congress vagary . . . it's water at the headgate when you need it!

John Martin Reservoir is another problem. Located on the Arkansas River between Lamar and Los Animas, it is Colorado's largest reservoir. Capacity: 645,000 acre feet, split 367,000 acre feet conservation and 278,000 acre feet flood control. The Corps of Engineers built John Martin in 1948 at a cost of $16 million and has since operated it. But not for recreation purposes. The authorizing legislation didn't provide for a recreation pool.

John Martin's flood control pool is unused except for temporary holding back of flood waters. FC space in John Martin's hotel is reserved for a sinister future occupant . . . recurrence of the big 1921 flood, greatest of record in the Arkansas Valley.

The permanent pool problem at John Martin has been stewing for years. But the Corps has been reluctant to permit any encroachment on its flood control space. Last September, matters worsened. John Martin went dry. The stench of dead fish reached the sensitive nostrils of conservationists all over the U.S.
Water Information Center, New York City: "Greedy irrigators have taken the last drop of water from John Martin Reservoir in southeastern Colorado, according to 'Conservation News', and private citizens all over Kansas and Colorado are up in arms over what they consider to be an outrage . . . Over one million fish planted by the Colorado Game and Fish Department died in the dried-out pool, and the putrid odor of decay that spread over the entire area only served to make the matter worse."

(Water Newsletter, 12-4-59)

Larry Sparks, CWCB director, went to work on the John Martin permanent pool problem. He drafted proposed legislation to be submitted to Colorado's congressional delegation. **Objective:** Authorization for the Corps of Engineers to relinquish 10,000 acre feet of John Martin flood control space to a permanent pool for recreation use. This space would be filled by the Colorado Game and Fish Department with water acquired by the purchase of irrigation ditch rights, followed by legal transfer and conversion of these rights to storage.

**It sounded like a good idea** all around. Fish interests were willing to purchase water rights . . . just like the water users of Colorado have been asking them to do for years. Irrigators wouldn't get hurt because their storage allocation and their water rights would remain unchanged.

**But water is a complex matter.** It's everybody's business and sometimes everybody has a different viewpoint. Arkansas Valley irrigation interests wanted a single package deal covering all future relationships with the fish interests in John Martin. **Their viewpoint:** The proposed legislation was only one prong of a many pronged problem involving water administration, the Arkansas Compact between Kansas and Colorado, reservoir sedimentation, evaporation losses, legal philosophy . . . too complex and too dangerous a problem to attack piecemeal.

Irrigators tagged silting as a major John Martin problem. They see more silting with a permanent pool and fear that the reservoir silt will encroach upon their conservation pool. **They like silt water.** It reduces ditch seepage losses.
Jim Romer, Vice President, Amity Mutual Ditch Co: "We are below John Martin in District 57 ... The loss of silt in our water comes straight through, lowers the quality of our irrigating water. Our ditches were all developed for flood control water and we have more seep problems when we have the clear water and the silt water going right through the bottom of the dam does twice as much good and is of real economic value to us when it does come that way." (CWCB meeting 2-16-60)

Tom Kimball, Director of the Colorado Game and Fish Department, muddied the permanent pool waters considerably when he told CWCB last February that he needed a 20,000 acre foot recreation pool in John Martin instead of 10,000.

Faced with these problems, CWCB tabled Sparks' proposed legislation. It needs time to reorient its thinking on state water policy fundamentals.

Felix L. Sparks: "This Board does not only represent the irrigators of this state, it also represents the people of the state of Colorado, and I think if we fall into the habit of stating that we represent any particular group we have done a disservice to the people of this state." (CWCB meeting 2-16-60)

John Barnard, Jr.: "At one time I and several members of this Board took violent exception to the position expressed by the Bureau of Sports Fisheries and Wildlife in connection with Curecanti Reservoir. We felt their opposition was more emotional than real ... As far as I am concerned, the opposition (to the John Martin permanent pool) that has been expressed so far has been far more emotional than real. If this Board takes the position that it has no duty to give consideration to the feelings of a large number of people that John Martin Reservoir could be available for recreational purposes, we are in the same obstructionist position that the Bureau of Sports Fisheries and Wildlife was in connection with that project." (CWCB meeting 2-16-60)

When the Fryingpan-Arkansas Project is built, John Martin's storage pools will be even muddier. Fry-Ark's proposed Pueblo Reservoir would relieve John Martin of some of its flood control burden. Then who gets the un-needed flood control space?

Meanwhile, the permanent pool issue probably won't rest on the conference table very long. Big John has only 21,000 acre feet in storage now, compared with 256,000 acre feet stored at this time a year ago. It will probably go dry again this June.

Colorado water users are going to have to give serious attention to outdoor recreation pressures. Some 39 million people spent $2.5 billion on pleasure boating in the U.S. during 1959. Boating equipment sales increased to $465 million in 1959 ... up $45 million over 1958 sales. Coloradans have over 30,000 privately owned motor boats, representing over $20 million worth of taxable property.
Hunting and fishing in Colorado is worth an estimated $100 million annually, according to Tom Kimball. Colorado hunting and fishing license sales hit a record high of over 600,000 in 1959. In the 1930's, Colorado sold about 90,000 fishing licenses a year.

Cal Queal, Denver Post: "Recreation water sells goods, employs people, boosts income and pays bills. That's why it has taken its place among the major beneficial uses of water. The fact that water law doesn't recognize it is beside the point."

The Colorado Game and Fish Department ended the fiscal year with over $3.2 million cash reserve and with total assets of nearly $12 million. It's working with a $3.7 million biennial appropriation, derived entirely from revenues collected by the department. It is embarking on a $1 million capital improvement program to develop new fishing waters by dam building and reservoir acquisition. G & F is buying 1,376 acre La Jara Reservoir in Southern Colorado for $191,000 as a starter. Kimball wants to develop nine new fish reservoirs in Western Colorado by 1962.

Last October, Colorado conservationists took a cue from Colorado water users. They joined forces in a single, united organization called the Colorado Conservation Council. Its nine-member board represents groups like the Isaak Walton League, the Colorado Wildlife Federation, sporting goods companies and local hunting and fishing clubs. Its purpose is to give Coloradans better hunting and fishing through coordination, information and promotion.

Colorado Conservation Council didn't waste any time. It tackled the big job of amending the state constitution by vote of the people next November. Objective: Reorganization of the Colorado Game and Fish Commission. The amendment is aimed at making the commission virtually independent of other parts of state government. CCC needs 50,000 signatures on petitions to get the amendment on the ballot.

Keypoints of the proposed G & F shake-up: The present eight-man commission would be reduced to four appointees by the governor, subject to removal by the governor for inefficiency. The governor's natural resources director would be the fifth commission member. The commission would have the right to condemn access routes
to public land across private property. It would also have full control over all funds received by the G & F Department, plus the exclusive right to decide how the money should be spent.

**A major fight is shaping up.** Battle cry of the opposition is "empire building". Farm and ranch interests are lining up solidly against the proposed amendment. Irrigation district boards are voicing opposition. The Colorado Game and Fish Commission vigorously opposes the amendment. Some say the Game and Fish Department (paid staff) is pushing the amendment behind the scenes. **Backing the Conservation Council** are city interests who feel the rural block in the Legislature has frustrated reform of outmoded game and fish practices whenever it has felt that ranchers' prerogatives were threatened.

The Colorado constitutional amendment is **but one battle in a general war** over multiple-purpose use of land and water resources in the West. Federal agencies have a private battle of their own underway. Interior's National Park Service, with 24 million acres under its supervision, is casting its empire-building eyes upon some 180 million acres administered by USDA's Forest Service . . . or so the USFS views it.

NPS doesn't like FS's multiple-use philosophy which includes logging, grazing and mining along with camping, hunting and fishing. The Forest Service thinks the Park Service should make better use of the land it already has.

**The Secretary of Agriculture** has asked for $22.8 million to launch Operation Multiple Use . . . the biggest improvement program ever undertaken in national forests. Benson has also proposed federal legislation "To authorize and direct that the national forests be managed under principles of multiple use and to produce a sustained yield of products and services."

**Benson:** "Statutory recognition of multiple use would serve not only to recognize each of the resources named in the bill, but also as a protection against advocates of single use. With the growing value of national-forest resources, their accelerated use and increased accessibility, the pressures for single use of specific national-forest areas are growing tremendously."

**CWCB Director Sparks:** "It is the recommendation of the staff of this Board that this (multiple use of forests) legislation be energetically supported".
Incidentally, Colorado's congressional delegation is calling for immediate development of state park system in Colorado, through legislation authorizing transfer of federal land by the Secretary of Interior to the states for park purposes.

Number one battlefield continues to be the proposed federal wilderness legislation. Senate executive committee hearings on the Wilderness Bills are about to resume, after a two-month sidetracking by civil rights debates. The bill probably won't see final form until the Outdoor Recreation Resources Review Committee reports next year.

Current discussion of wilderness legislation centers around the O'Mahoney substitute bill. It's a re-write of the Wilderness Bills incorporating some of the Allott amendments (Senator Gordon Allott of Colorado) plus a few more . . . probably 40 to 50 amendments in all. Unfortunately, the O'Mahoney substitute doesn't include one vital Allott amendment concerning wilderness area exceptions for rights-of-way for water development facilities. Wildlifers are violently opposed to the O'Mahoney substitute.

Some kind of wilderness legislation will eventually pass. Positive thinking, rather than negative thinking, will be required of Colorado water users. Strong efforts will be required to assure that right-of-way problems are taken care of.

Dr. Ed Clark, Colorado's Director of Natural Resources: "I don't think we can take a purely 'against' position on this thing. I think Colorado is going to have to come up with its own plan for wilderness, designate those areas which we are willing to see go into wildernesses and then stand pat on that program."

GWCB viewpoint: "The Wilderness Bills as presented to Congress, with their amendments, are unsatisfactory and are opposed by this Board. The Board favors the continuance of the right of public and private agencies to avail themselves of the advantages of law as it now exists to secure necessary rights-of-way across federal lands for conservation purposes, particularly for the development of water and water rights and for water resources, and that the administrative agencies should be required, before extending the wilderness principles farther in Colorado, to consult with, and secure the advice of, the State of Colorado and its appropriate agencies before taking any such action to extend the wilderness areas."