"Today, in our affluent and complex society, we see a concern and a recognition by the very people we serve that our natural resources are not unlimited. They recognize as do we that if we are to retain a wide variety of natural habitat, we will have to make certain that the maintenance and enhancement of environmental quality becomes an equal partner of the multiple purpose concept and not relegate it to the role of a fringe benefit." (Ellis L. Armstrong, Commissioner of the Bureau of Reclamation, November 20, 1969)
explained that the proposed changes in the water law would save considerable money and would remove the possibility of inadvertently omitting, and thus eliminating, a water right in subsequent tabulations.

The motion to adopt the proposed water law change was made by Rep. Clarence Quinlan (Antonito).

UPPER COLORADO RIVER COMMISSION ACTS TO PROTECT UPPER COLORADO RIVER WATER

The Upper Colorado River Commission, at a meeting held in Denver in December 5, adopted a resolution designed to protect the water rights of the Upper Colorado River Basin states granted under the Upper Colorado River Basin Compact when federal contracts are negotiated for the operation of a thermal power plant at Page, Arizona. The plant will be used to furnish power for pumping Colorado River water to Central Arizona under the provisions of the recently enacted Colorado River Basin Project Act. By a 4-0 vote the commission adopted this resolution:

"In any year that the aggregate of all consumptive uses of water in the Upper Colorado River Basin in the State of Arizona is estimated to exceed the 50,000 acre-feet apportionment of water to the State of Arizona under the terms of the Upper Colorado River Basin Compact the Secretary of the Interior shall limit deliveries of water under his jurisdiction in such a manner that the total consumptive use of water in that year in Arizona in the Upper Colorado River Basin will not exceed 50,000 acre-feet, unless and until the necessary legal arrangements have been made to supply additional water from other sources."

The Upper Colorado River Basin Compact allows Arizona to use 50,000 acre-feet of Upper Colorado River water annually, as the north-eastern portion of Arizona, including the Navajo Indian Reservation, is tributary to the Upper Colorado River above Lees Ferry. Commission members became concerned when they discovered that the Department of Interior had already entered into certain water delivery contracts whi
did not express the 50,000 acre-feet limitation as provided in the Compact.

The main concern of the commission is that projections show consumptive use of water by the power plant, added to water allocated to the Navajo Indian Reservation, will exceed the 50,000 acre-feet limit as soon as the power plant and related developments are in operation.

The Navajo Tribal Council has declined to waive rights to water beyond the 50,000 acre-feet limitation which stem from a court decision granting the Navajo Indians water for their use.

Other actions taken by the commission include:

- Asking that a paragraph be included in all contracts concerning the Page Power Plant which would state that operations of the plant must be in compliance with the "Law of the River".

- Requesting that increased evaporation of water from Lake Powell caused by warm water returning to the reservoir from the Page Plant be charged to Arizona.

- Requesting that the Secretary of the Interior measure the water used by the Navajo Indians in the Upper Basin.

- Requesting the Department of the Interior to terminate the 1962 operating criteria adopted for Lake Powell. (New criteria per Colorado River Basin Project Act are being developed.)

The State of Colorado was represented on the Commission by Felix L. Sparks, director of the Colorado Water Conservation Board, acting in the absence of Governor Love. Sparks was a co-author of the resolution as a member of the commission's Legal Committee.

* * * *

Following the December 5 meeting, representatives of the Upper Colorado River Commission met in Washington with Upper Basin Congressmen and Interior Secretary Hickel in the attempt to secure incorporation of the
commission's resolution in contracts relating to the Page generating unit. Their efforts failed and the contracts were signed as originally negotiated.

Hickel said the contracts were signed to speed up construction, but he assured commission representatives that he would issue a directive stating that the water use limitation as imposed by the Upper Basin Compact would not be exceeded. He also stated that the Compact itself offers sufficient guarantees.

Sen. Clifford Hansen (Wyoming) deplored the unilateral action taken by the Interior Department and he expressed concern that an Interior directive agreeing to comply with the Compact has no legal basis, and that such a directive could be reversed by any future Secretary.

Following the meeting, Wyoming representatives said they are considering legal action in the attempt to resolve the issue. Senator Gordon Allott (Colo.) said he would talk to Governor Love and the Colorado Water Conservation Board about the possibility of a lawsuit, but he noted that legal action is a state, rather than a congressional, decision.

**GUESSWORK TAKEN OUT OF RAIN MAKING**

"GIVEN FAVORABLE WEATHER CONDITIONS, we can make it rain with pinpoint accuracy anywhere anyone desires." This positive statement was made in an interview with the Colorado Water Congress by Frank R. Lee, Littleton, consultant for the Weather Engineering Corporation of America (WECOA), international cloud-seeding experts. Lee also stated that the patented rain-making process, called "Weathercord", used by his company
can produce increases in precipitation up to 100 percent—"a claim which no other operator can make."

Lee emphasized that research on rain making is important and should be continued, but the time has long since come when the research should be put to practical application. "There are many areas in the United States that need more water now instead of twenty years from now."

The process developed by WECOA incorporates an explosive device impregnated with silver iodide crystals. The device is dropped from an airplane flying at altitudes ranging from 17,000 to 22,000 feet, timed to explode a concentration of silver iodide crystals into the heart of moisture-laden clouds. "This is the secret of pin-point accuracy", Lee said. Percentage of increase in precipitation is controlled by the number of explosive devices detonated. The process "glaciates the cloud and it has to rain," Lee noted.

Answering a question as to comparing the "Weathercord" process with the ground generation process, Lee said, "it is never certain that a specific ground-seeding operation is creating extra precipitation, and if precipitation is increased it is difficult to prove just how much." He pointed out that research to date on the ground generation process shows that expected increase in precipitation may vary from 20 to 30 percent. By the "Weathercord" process, as much as 100 percent increase can be predicted.

"This is not idle guesswork," Lee said, "as these claims have been statistically proven by work being done by WECOA in Iran for the last three years in an area similar to Colorado in terrain and climate."
U.S. News & World Report, reporting on WECOA rain-making activities in Iran, had this to say in its September 15, 1969 issue:

"Before the rain makers came in the autumn of 1967, growth of Teheran had been slowed and irrigation of 715,000 acres had been hampered by six years of drought. Now there is adequate water for the city and for the irrigated land supplied by three reservoirs.

"Additional runoff into the three reservoirs is estimated at around 1.5 million acre-feet of water annually.

"As far as Iranian officials are concerned, 'Weathercord' works. They have renewed the rain-making company's contract for a third straight year. Added water is costing about 60 cents an acre-foot. That compares with a range of about $3 to $15 an acre-foot for irrigation water in the Western U.S."

Commenting on this report, Lee said, "skeptics will argue that it would have rained in the area anyhow, but the facts prove otherwise as no rain fell outside of the seeded areas.

Lee was a technical assistant in the office of Sen. Peter Dominick (Colo) during the first four years of Dominick's term in office. Dominick is the sponsor of congressional legislation designed to authorize federal expenditures for augmentation of water supplies in the Colorado River Basin by rain-making techniques.

ITEMS IN BRIEF

U.S. Sen. William Proxmire (Wisconsin) charges that the federal outlay of $5.4 billion to date for water pollution control has done little to clean up the nation's waterways. Proxmire said a potential solution to the industrial water pollution problem would be a federal fee charged to industries on the basis of the amount of wastes they dump into the nation's lakes and streams. "This would give them a meaningful incentive to curb pollution." Concerned conservationists are fearful of Proxmire's suggestion, as they believe industry would only pass such assessments on to the consumer, thereby delaying needed pollution control.

* * * *

The controversial water quality standards submitted by states to the Federal Water Pollution Control Administration may face another, stiffer test. Indications from Washington point to a reopening of all state standards because a report on water quality criteria for aquatic life indicates that accepted dissolved oxygen limits may be too low for protection of aquatic life. (Western Water News, November, 1969)
Arizona Supreme Court recently upheld the Arizona State Ground Water Code which forbids the drilling of new water wells in critical water-short areas and forbids the pumping of ground water from one basin to another. This action puts a cloud on a recently completed $3.2 million water pipeline to the city of Tucson.

Arkansas River Compact Administration, at a meeting in Lamar on December 9, postponed a decision to provide water for a 10,000 acre-feet permanent pool behind John Martin Dam for another year. A motion to provide the pool died for the lack of a second.

Governor Love appointed J. Sid Nichols, Colorado Springs, Thomas W. McCurdy, Olney Springs, George E. Everett, Jr., Salida, Charles L. Thomson, Pueblo, and Natural Resources Director Tom Ten Eyck to represent Colorado on the Four State Water Committee of the Arkansas River Basin Development Association. The purpose of the committee is to study and discuss development of the Arkansas River resources.

President Nixon signed the $4.7 billion Public Works Appropriation Bill which includes $11.5 million for the Fryingpan-Arkansas project, $9.5 million for the Chatfield Dam, $2,350,000 for the Trinidad project, and planning funds for Count Carbon Dam, Dallas Creek and Dolores projects, and a provision allowing local financing of the Animas-La Plata project. The bill also includes $1.4 million in construction funds for the Bostwick Park project.

THROUGH THE WATER METER

Cities of Pueblo and Aurora are planning to raise water rates by approximately 25 percent . . . Tom Ten Eyck, director of the Colorado Department of Natural Resources, recently accepted an award as winner of the 1969 Keep America Beautiful competition . . . Ted Gill, veteran State Senator from Hillrose, suggests lengthening major irrigation ditches in Colorado to increase ground water recharge . . . Repairs recently made to the Game, Fish and Parks Division Highline Reservoir near Grand Junction have satisfactorily reduced leakage, according to a statement released by State Engineer Clarence L. Kuiper and State
Geologist John W. Rold . . . A. S. Dean, 83, Las Animas, died in the Bent County Memorial Hospital on December 1. Dean was one of the principal leaders in procuring construction of John Martin Dam . . . Commissioners from five northeastern Colorado counties recently voted against the formation of a Northern Colorado River Basin Authority in accordance with the recently enacted SB 258. Larimer County Commissioners were the only ones to vote for the proposal . . . Bijou Creek drainage basin residents voiced no opposition at recent public hearings on Corps of Engineers proposals for upstream flood control dams on Bijou Creek . . . Atomic Energy Commission denied a claim by the High Line Canal Company for alleged damages to the Busk-Ivanhoe diversion tunnel resulting from the Rulison underground nuclear explosion. The commission said it recognizes only proven claims within a 25 to 30-mile radius of the blast site.

APPOINTMENTS

James L. Ogilvie, 58, project manager for the Pryingpan-Arkansas Project, to the position of manager of the Denver Water Department, effective February 16, 1970. Ogilvie replaces Bruce McRae who has been manager of the Water Department since 1966. Last August McRae requested the Denver Board of Water Commissioners to transfer him to manager of major projects for the board. The board granted McRae's request and he has been serving in a dual capacity since then.

Dan D. Noble, Norwood, Colorado banker, to the State Senate, replacing Wilson M. Rockwell (Maher), Montrose County rancher, recently resigned.

COMING EVENTS

COLORADO WATER CONSERVATION BOARD - January 14, 1970, Denver, Colorado, Diplomat Motel, 10:00 A.M.

COLORADO WATER CONGRESS ANNUAL MEETING - February 25 and 26, 1970, Denver, Colorado, Continental Denver Hotel. Joint meeting of Executive and Rules Committee - February 25, 2:00 P.M. General meeting - February 26, 10:00 A.M.