"We who join together in this Water Congress come from every watershed in Colorado, and represent every classification of water user in the state. We recognize the necessity for unity of purpose and objective in supporting the formation and execution of a stable water policy for a unified state of Colorado."

(Preamble to constitution of Colorado Water Congress, adopted 7-21-58.)

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**NEW IDEAS IN THE WORLD OF WATER:** Pasterlizer, developed by Worthington Corp., completely sterilizes water for 20 cents a thousand gallons. It leaves no unpleasant taste like chlorination. Present uses: Disaster area use (mobile mount), rural areas, industry . . . Coin operated water vendor has been installed in Pueblo. Quarter fed into machine gets you 500 gallons of water in four minutes. Water comes from tank supplied by free flowing artesian well drilled for business use. Owners found they had more water than needed, so they decided to sell some of it . . . Mechanical valve closer has been built from spare parts for $400 by a Pueblo water dep't. foreman. That's one-tenth the cost of a new machine . . . Piggy-back water tank constructed at Portland, Ore. has a 2.5 mg upper tank for use in adjacent pressure zone and a separate 3.2 mg lower tank for a lower elevation pressure zone. Both are housed in a single all-steel cylindrical structure.
Motorless pump scheme developed by Worthington Corp. uses high pressure water supply and two standard pumps. Water drives first pump backwards as a tiny hydro turbine which drives shaft-mate as conventional pump. Advantages: No motor drive, no sparks, no rpm limitations. Lightweight portable check dam for irrigation ditches has been designed at Colorado State University. Materials: Heavy-wall electrical conduit and a nylon sheet. Cost: About $14. Will fit any shape or size ditch up to 5-feet wide at top and 3-feet deep. (Progress Report 110, free from CSU Bulletin Room, Fort Collins.) Marine mower, designed to operate on an out-board powered rowboat, shears underwater growth by cutting 42-inch horizontal and vertical swaths with three blades (Jari Products, Inc., Mpls.) Self-propelled sprinkler system developed for a 160-acre Texas farm cost $17,500, is expected to pay for itself in 5 years of operation. System moves on 440-feet radius around pivot point. Wheels are turned by hydraulic cylinders moved by pumped water flowing through the pipeline. Conservation benching, involving alternate contributing and level areas on sloping ground, is called a new concept in land shaping, better than terracing. It increases beneficial use of water by concentrating runoff on small areas of cropland. New approach to water pollution control: Tax on waste discharge. It's been proposed to House Natural Resources and Power...
Subcommittee by Allen Kneese of Resources for Future, Inc. He wants to "utilize the incentive for private gain to achieve the social purpose of reducing waste discharge in an economical manner."

Idea is patterned after procedures used in the Ruhr region of western Germany . . . Individual fluoridation choice could be a practical solution for areas with fluoridation controversy.

Compact device that fits onto home water service pipe will be rented and serviced, starting this fall, by franchised dealers (Degna Corp., Paramus, N.J.) . . . Automatically controlled water softner developed for municipalities and industries constantly monitors hardness of incoming raw water and automatically injects the amount of hydrated lime required for economical, effective treatment . . . Water-solid separator machine invented by two Ohio men removes useful materials from water used in coal preparation plants . . . Soft detergents, readily decomposed by bacterial action, will be manufactured as soon as plant construction is completed . . . Detergent removal before discharge into sewers can be done economically by liquid ion-exchange process developed by General Mills, Inc., Mpls . . . Fight foam with foam: Engineers at Los Angeles' Hyperion sewage plant are adding detergents to effluent to stop foaming caused by detergents. Difference: Additive ions are positively charged. Most household detergents have negative charge. A little alum turns the tamed detergent into a gel that settles out.
WATER RESEARCH: Soil moisture evaporation was reduced 43 percent by applying hexadecanal to loam soil in lab containers at Colorado State U... Cloud seeding research at CSU has been awarded a $132,400 grant from National Science Foundation for 2 year continuation of studies near Climax started in 1960... Snow surveys by remote control is being researched by SCS at Mount Hood, Oregon. Snow weight is measured by pressure changes transmitted from large pillow (containing antifreeze) under snow. ... Use of treated sewage for spray irrigation of crops is being researched on large-scale at Penn State U... Water intake of soils can be doubled by disc plowing 24 inches deep, USDA finds in Texas experiments... Irrigation efficiency research by SCS on 513 sprinkler irrigated farms in California revealed that original application of water was 40% more than needed... Water use studies in Idaho indicate that ability of the farmer affects irrigation efficiency almost 13 times as much as length of head ditch and 6 times as much as length of irrigation run... New soft detergents may not solve ground water pollution problems, according to USGS researchers. Problem: Air is needed for bacteriological decomposition. Not all water carrying detergents is exposed to air. Example: Septic tanks... Giant electronic computer costing $2.5 million will aid long-range weather forecast research at Colorado U.
Colorado State U progress reports on water research contain these interesting facts: Simplified method has been developed for determining the effect of submergence on flow through Parshall flumes . . . Evaluation of Pendvane flow meter has indicated accuracy within + 5 percent . . . Phreatophyte research indicates that about 15,000 acre feet are consumed annually by water loving trees, plants and shrubs along the Arkansas River between La Junta and Las Animas . . . Irrigation wells on the high plains of eastern Colorado have increased in number from about 125 in 1950 to about 675 in January 1963 . . . Artificial ground water recharge at Olds Reservoir, owned by Henrylyn Irrigation District, has reversed the trend of a normally declining water table in Prospect Valley, located about 40 miles northeast of Denver . . . Ground water fluctuations are currently being recorded for about 700 observation wells in Colorado. Annual compilations are prepared of electrical power consumed by irrigation pumps in various areas of Colorado . . . Interrelationships of surface water and ground water are being studied in the Arkansas River valley between La Junta and Las Animas and along the South Platte River between Henderson and Fort Morgan . . . Spillway design flood estimates for small dams should be aided by procedural research now underway . . . Three year study of use of Colorado clays for sealing canals and ponds was completed last July 1, following evaluation of 131 clay installations.
WATER LITIGATION: Tax-ruling fight is shaping up in the Arkansas Valley. Robert Hunter of Bent County, under the Highland Ditch (mutual ditch company), deducted water assessments from gross income on his federal income tax form. This is common practice in the Valley. Internal Revenue Service agent at Lamar disallowed that portion of the deduction assigned to capital improvements of the mutual company. **Issue involves** whether rebuilding of a dam destroyed by flood is capital improvement or operation and maintenance. **Basis for IRS ruling:** The Akin case, decided in 1957 by U. S. Court of Appeals in Denver. If IRS ruling is upheld, it is feared that other previously deductible components of a mutual ditch company's annual water assessment may be declared non-deductible. **Examples:** Amount set aside for payment of principal and interest on indebtedness. Amount set aside for emergencies. Hunter will appeal. Farmers Union will join in appeal. Other ditch companies may join Hunter.

**Thornton-PUC case** proves that "legal proceedings, like politics, can create strange combinations" (Grand Junction Sentinel).

**Unusual:** Chief counsel for Denver Water Board representing cities of Grand Junction and Englewood in a water case before Colorado Supreme Court. Also represented: Denver, Fort Collins, Colorado Springs. These cities have rallied behind Thornton in oral arguments before the Supreme Court. Issue involves Thornton's right to acquire a municipal water system and sell water to
customers outside its limits without interference by Colorado Public Utilities Commission. This case may have far-reaching significance with regard to PUC jurisdiction over water rates and services for outside city customers of a municipally owned water utility.

**Colorado Public Utilities Commission** has dismissed a complaint against South Suburban Water Company (Colorado Springs area) brought by dissatisfied customers who protested strict water regulations last summer. SSWCo customers are considering further action of an undisclosed nature to force the company to expand its facilities. Manitou Springs city council is faced with a civil suit filed by two individuals acting on behalf of a "Reclamation Committee of Manitou Springs". Plaintiffs ask that the $750,000 water bond issue adopted by council be declared null and void on grounds that there was no election authorizing the bond issue and no mention in the ordinance of a specific tax levy. Leadville citizens have petitioned PUC for a rebate of "excessive" water rates charged by Leadville Water Co. during the last three years. Town of Manzonola has been awarded $6,685 for breach of contract in connection with drilling of a deep water well. La Junta well driller failed to complete the well during a two-year period. Town then employed another driller. Arvada has been sued by two persons who claim that dumping of sewage into Clear Creek near
Tennyson St. endangers their health. Problem arose when Tennyson Hills sewage bypassed Arvada's treatment plant due to overload conditions. Disputed line will be re-routed to carry sewage to points further downstream on Clear Creek . . . Thanks to Dave Miller for clarification of the Cerise case, involving the right to sue "an irrigation district" (CWC Newsletter, 9-25-63):

Attorney David J. Miller: "I am sure that you are familiar with the difference between an irrigation district and a water and sanitation district. A water and sanitation district is organized under Ch. 89-5 C.R.S. 1953 whereas most of the irrigation districts in Colorado are organized under the irrigation district law of 1905, Ch. 149 Secs 1-1 to 1-60 C.R.S. 1953. It may well be that the rule of Cerise v. Fruitvale Water and Sanitation District could be applied to an irrigation district under the theory that an irrigation district operates or performs a proprietary municipal function. However I know of no Colorado case which so holds." (Letter to Newsletter editor 10-9-63).

Blue River case comes to trial Dec. 9 in federal court in Denver. It started out to delineate rights to water stored in Green Mountain Reservoir under provisions of the consent decree of October 1955 and Senate Document 80. Now it appears to have grown to include Denver's filling of Dillon Reservoir, use of Williams Fork water as replacement for Denver's Blue River diversions, and the competition between Denver and Middle Park Conservancy District for water to store in Williams Fork and proposed Ute Park reservoirs . . . Another round in the Williams Fork battle took place this month when Middle Park WCD sought a decree for proposed Parshall project canals in adjudication proceedings in Grand County District Court . . . Eagle River case is back before Colorado Supreme Court. Denver Water Board contends that District Judge William Luby
of Eagle has failed to carry out the high court's order by refusing to include in Denver's conditional decree (granted under a 1961 Supreme Court decision) **the right to store this water.** Western slope opposition contends that the lower court has no jurisdiction outside its district, where the storage would occur.

**Orchard Mesa Irrigation District** legal battle over internal management problems now includes a criminal charge filed against one of the district directors . . . **Colorado-Ute Electric Assn.** is asking Routt County District Court for changes in points of diversion and type of use involving 30 second feet of water . . . **Four Counties Water Users Association** (John Elliott) is seeking conditional decrees in Grand County District Court . . . Colorado lawyers attending the Bar Association's convention in Colorado Springs heard **Ed Jenkins** (USGS engineer) talk on "The Bender Case in Retrospect--Problems of Administration of Underground Water". They also heard **Felix L. Sparks** (CWCB director) state that the best talent of the Colorado legal and engineering professions should be marshalled to solve one of the state's most critical water problems--**administration of ground water.** Sparks also declared that no type of water recodification can be effective unless **both ground and surface waters** are treated as an entity. . . . Well users note that the Supreme Court's decision in the **Mesa County Case** did not do away with the requirement for obtaining permits from the state engineer's office:
George W. Colburn: "The Supreme Court's decree in the Mesa County Case did not affect the Colorado Ground Water Law as far as the requirement for getting the 'use of ground water permit' or the 'well construction permit' as stipulated in that Statute. The user, as we understand it, must still obtain a permit to use ground water, and the well driller must still be licensed and obtain a permit to construct a well on any land in the state of Colorado." (Senior engineer, ground water section, state engineer's office. Letter 10-10-E3 to CWC Newsletter editor.)

Salt Lake City attorney's office has ruled that there is no liability resting on the city to fence, cover or barricade a canal. ... California has asked U.S. Supreme Court for a rehearing of the high court's June 3 decision in the Arizona-California case. California contends that the court made errors of fact and law in construing the 1928 Bounder Canyon Project Act to give Arizona more benefits than its legislators claimed at that time. ... California Supreme Court will hear arguments next month on the legality of a proposal to sell $327 million worth of bonds to supplement the $1.75-billion authorized in 1960 (Feather River project) ... Ownership of water in thousands of playa lakes in Texas was opinioned by Texas Water Commission's legal staff. Conclusion: These are surface waters, owned by owners of the lands upon which they appear, to which no riparian rights attach, and to which appropriation status does not apply. ... Alabama ruling, following appeal to circuit court, favors a private power company in a dispute with an REA related cooperative which sought to borrow $20 million from the federal government at 2% interest to construct generating and transmission facilities that the investor owned company could provide at less cost.
COLORADO WATER NEWSBITS: Reserve November 22 for the annual meeting of the Colorado Water Congress, Brown Palace Hotel, Denver.

Pollution problems on the South Platte River will be discussed at a meeting between state and federal officials, Denver, Oct. 29.

Water research symposium will be a feature of the annual meeting of the American Society of Agronomy in Denver, Nov. 17-21.

Ditch companies in the Grand Valley have received questionnaires from Colorado University concerning experiences of water users in transferring water rights. Richard Bratton, Gunnison lawyer and a director of the Colorado Water Congress, was awarded the annual Junior Bar Award of Merit at the Colorado Bar Assn. convention. The Association's annual Award of Merit went to Clyde Martz of Denver. Martz's books on water and mineral law are nationally recognized.

Pumped storage project on North Fork of South Platte River appears potentially feasible to Bureau of Reclamation engineers. USBR has issued preliminary reconnaissance report on the project (without action recommendation), as part of a Bureau-wide effort to inventory potential pumped storage sites. North Fork plant would produce 500,000 kw and would cost $155 million.

Parkville Water District (Leadville) residents have authorized a $500,000 general obligation bond issue for purchase (through condemnation) of Leadville's privately owned water system.

Educational booklet on the natural resources of Colorado is being prepared by Interior Dep't. Another Gunnison County fish dispute
is brewing. State Game, Fish and Parks Dep't has $200,000 in federal funds to spend on a fishing reservoir to replace stream fishing destroyed by Curecanti project dams. GF & PD wants to build a constant level single purpose reservoir. Local water users want irrigation storage capacity.

Forest Service regulation requiring outlets of reservoirs in national forests to have a minimum diameter of 18 inches is being protested by Colorado River Water Conservation District.

"Water Rights, Transfers and Prices" is the title of a doctoral dissertation being prepared by J. Ernest Flack, a Stanford U student who formerly taught at Colorado U's engineering school.

WATER NEWS FROM OTHER STATES: North Dakota legislature has invoked the appropriation doctrine and has adopted a priority of use system. Previously, both riparian and appropriation doctrines had been recognized. N. D. law now states that in case of conflict between use of water for different purposes, domestic and municipal have first priority, livestock second, irrigation and industry third. Procedure for cancellation of a water right, following non-use for three consecutive years, was also adopted. North Dakota legislature has set up another self-help water development fund with a $200,000 appropriation.