THE TEXAS WATER PLAN--
IMPORTS TO WEST TEXAS AND NEW MEXICO

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It is almost impossible to view water planning in Texas without first looking at some of the contrasts of our State which produce the complexities that compound our water problems.

Some of these contrasts---I will not attempt to recite all of them---are our land elevation, rising from sea level to 8,750 feet near El Paso; our annual rainfall ranges from 56 inches in Southeast Texas to 8 inches in far West Texas, where most of it may come in a single storm or two---we've had some years when East Texas stations measured more than 100 inches while West Texas recorded only two inches during the year.

Our contrasts have produced subfreezing weather on the High Plains, while the Lower Rio Grande Valley basked in semitropical warmth. Our farming and ranching have reversed their geographic bases, adding to our water problems. The large cattle ranges of West Texas have given way to cotton and grain, while East Texas' cotton and corn fields have gone to grass---changes induced by the lush pastures of East Texas and the development of irrigation in the West.

Texas' economy is no longer geared to cotton, cattle, and corn. We have moved from an agricultural state to one of industrial importance. Yet, agriculture continues to have a major role in our economy.

Despite more than 150 major surface reservoirs having a conservation storage capacity---not yield---in excess of 27 million acre-feet, 85 percent of all water used in Texas comes from our ground water resources. In some areas of Texas, ground water is essentially the only source of water supply.

We have 23 river basins, ranging in size from small basins encompassing only a few counties to those such as the Brazos which spans the State from the New Mexico border to the Gulf of Mexico.

Our rivers generally flow from northwest to southeast---from water-deficient to water-sufficient areas. This adds to our complexities in the development of our water resources.

Depleting ground water resources in major parts of our State and a growing population---the U. S. Census Bureau recently released its population projections for 1975, pointing out that Texas would only be outranked in population by California and New York at that time ---have caused us to realize the necessity of planning the full development and management of our water resources.

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Three and a half months ago we presented the Texas Water Plan to the people of our State. Its completion climaxed some four years of intensive study and planning, including more than 27 public hearings on our preliminary Plan in all sections of Texas.

The Texas Water Plan will be the flexible guide for the development and management of our water resources---and if we are fortunate---an imported supply of surplus water from the lower Mississippi River to meet our needs and some of the requirements of Eastern New Mexico into the next century.

We learned early in our studies that Texas does not have within its borders enough water to meet our growing needs beyond the last decade of this century. We expect to pass from water sufficiency to water deficiency during that period.

According to what we believe to be realistic and conservative projections, Texas will require in 2020 about 32 million acre feet of ground and surface water annually for municipal and industrial uses, for the maintenance of our irrigated agriculture, and for other essential and beneficial purposes.

We will need more than 12 million acre-feet of water annually for municipal and industrial requirements. We will need more than 16 million acre-feet annually to maintain our irrigated agriculture at levels necessary to provide the food and fiber we will need to help sustain our growth and to share in supplying the needs of a growing nation.

To provide the amounts of water we will need means we must fully develop all of our in-state water resources. Even so, we will still be short.

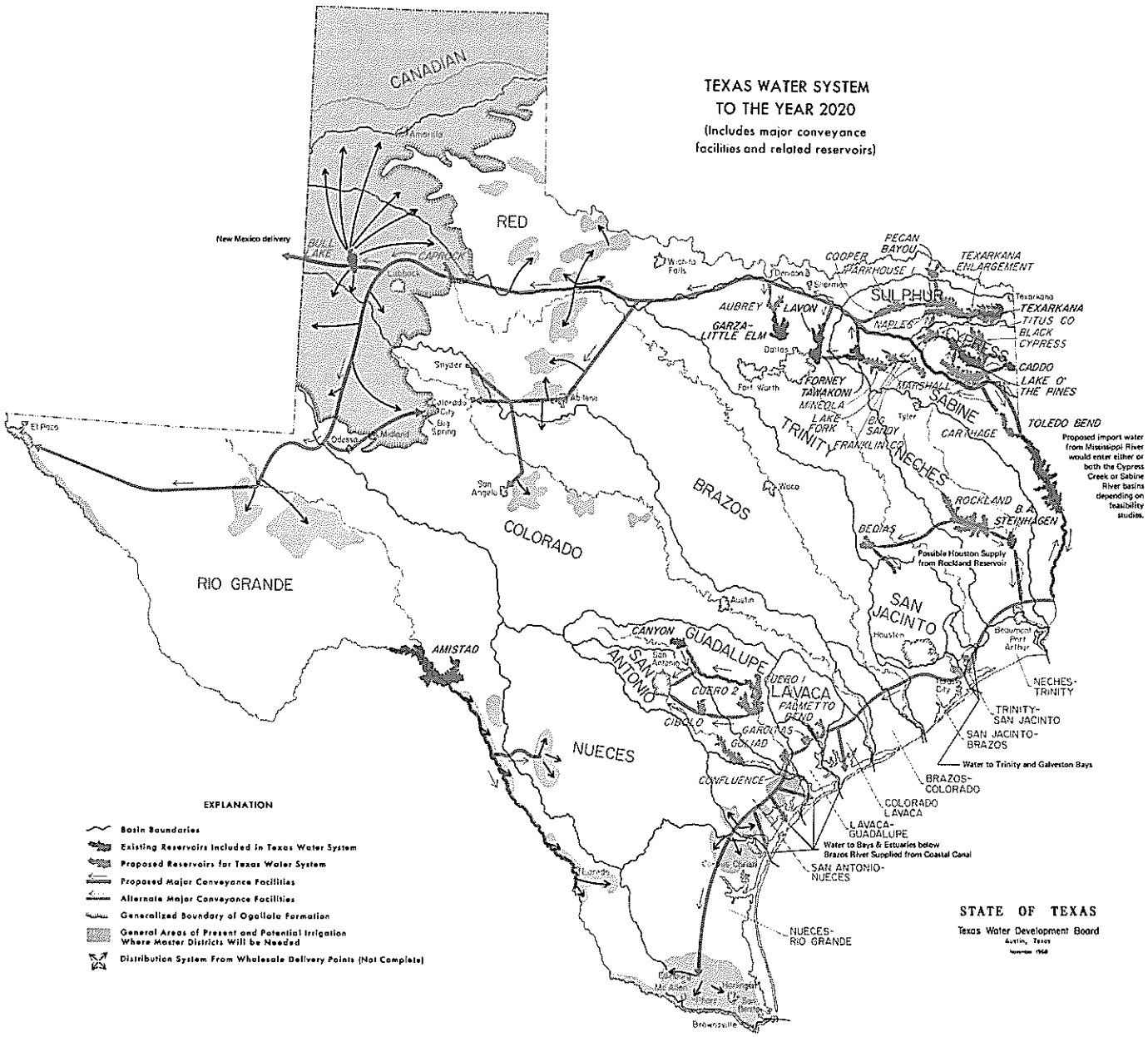
We have based the Texas Water Plan on the premise that the State's water resources will be fully committed by 2020 and that 12 to 13 million acre-feet of surplus water will be available from the lower Mississippi River for import into Texas, with 1.5 million acre-feet of this water annually scheduled for export to Eastern New Mexico.

Texas today has 157 major reservoirs, each having a conservation storage capacity of 5,000 or more acre-feet, existing or under construction. Sixty-seven reservoirs or alternate reservoirs for water supply, flood control, recreation, navigation, and other beneficial uses are proposed in the Texas Water Plan.

With the full development of our in-state water resources and an imported supply of some 13 million acre-feet of water annually, we feel we can meet our water requirements into the next century.

We hope to accomplish this goal with the Texas Water Plan.

I would like to take a few minutes to give you a brief description of the elements of the Texas Water Plan.


TEXAS WATER SYSTEM
TO THE YEAR 2020
(Includes major conveyance facilities and related reservoirs)
CANADIAN
RED
RIO GRANDE
COLORADO
BRAZOS
NUECES
SAN JACINTO
NECHES
TRINITY
SABINE
New Mexico delivery
BULL LAKE
CAPROCK
AMISTAD
AUBREY
LAVON
GARZA-LITTLE ELM
PECAN BAYOU
COOPER
SARDIS
TEXARKANA ENLARGEMENT
SULPHUR
TEXARKANA
TITUS CO
BLACK CYPRESS
CYPRESS
CADDO
LAKE O' THE PINES
MARSHALL FORD
FORNEY
TAWAKONI
MINEOLA
LAKE FORK
BIG SANDY
FRANKLIN CO
CARTHAGE
TOLEDO BEND
Proposed import water from Mississippi River would enter either or both the Cypress Creek or Sabine River basins depending on feasibility studies.
ROCKLAND
B. A. STEINHAGEN
BEDIAS
Possible Houston Supply from Rockland Reservoir
CANYON
GUADALUPE
SAN ANTONIO
CUERO 1
CUERO 2
LAVACA
PALMETTO BEND
CIBOLO
GARCITAS
GOLIAD
CONFLUENCE
NECHES-TRINITY
TRINITY-SAN JACINTO
SAN JACINTO-BRAZOS
Water to Trinity and Galveston Bays
BRAZOS-COLORADO
COLORADO LAVACA
LAVACA-GUADALUPE
Water to Bays & Estuaries below Brazos River Supplied from Coastal Canal
SAN ANTONIO-NUECES
NUECES-RIO GRANDE
Amarillo
Lubbock
Wichita Falls
Denison
Sherman
Texarkana
Dallas
Fort Worth
Abilene
Snyder
Colorado City
Big Spring
Midland
Odessa
El Paso
San Angelo
Waco
Austin
Houston
Beaumont Port Arthur
Tyler
Laredo
Brownsville
EXPLANATION
Basin Boundaries
Existing Reservoirs Included in Texas Water System
Proposed Reservoirs for Texas Water System
Proposed Major Conveyance Facilities
Alternate Major Conveyance Facilities
Generalized Boundary of Ogallala Formation
General Areas of Present and Potential Irrigation Where Master Districts Will be Needed
Distribution System From Wholesale Delivery Points (Not Complete)
STATE OF TEXAS
Texas Water Development Board
Austin, Texas

A major portion of the Plan is what we call the Texas Water System. It is comprised of reservoirs, canals and pipelines, pump stations and other facilities necessary to manage an imported water supply and the water resources of Texas' river basins having interim or long-term surpluses needed to meet in-basin needs, and for the movement of surpluses available to our semiarid and arid areas---about half of Texas---and for the movement of imported water to Eastern New Mexico.

The System includes three divisions: the Eastern, Trans-Texas, and Coastal.

The Eastern Division includes facilities in the State's eastern basins necessary to move imported water from points of delivery to the Trans-Texas and Coastal Divisions.

The Trans-Texas Division includes storage and regulating reservoirs, interconnecting conduits, and pump stations in the Northeast Texas basins; the Trans-Texas Canal extending westward from the Dallas-Fort Worth area to terminal storage on the High Plains near Lubbock, then south and west to serve the Trans-Pecos region, and a connecting pipeline for movement of water to El Paso.

The Division would provide water for municipal and industrial purposes to Dallas-Fort Worth and some of the other cities and towns within the Division and water to maintain irrigation in North Central Texas, the High Plains, and the Trans-Pecos. Eastern New Mexico water---1.5 million acre-feet---would be picked up at Bull Lake Reservoir northwest of Lubbock and moved to the Texas-New Mexico border on a "share-the-cost" basis between Texas and New Mexico.

The Trans-Texas Canal would be a man-made river stretching some 400 miles from Dallas-Fort Worth to Lubbock.

The Coastal Division would transport water for municipal and industrial uses, for irrigation, and for our bays and estuaries from the Sabine River on the eastern border of Texas to the lower Rio Grande Valley.

Other "works" proposed by the Plan include the Interstate System for moving surplus water across Louisiana to the Texas border; projects not associated with the Texas Water System but which will be needed to meet local water requirements; and facilities designed for purposes other than water supply---flood control, water quality, protection of water supplies from salt-water intrusion, and for hurricane protection.

The development of Texas' water resources and the importation of water will be costly. Our estimates of the cost of the Plan---in today's dollars---is some $9 billion, with the State's share to be between $2.5 and $3.5 billion.

The Plan has been formulated on the concept that its financing would be based on full repayment by water users of reimbursable costs under Federal and State policies.

The Water Development Board has made recommendations for local, State, and Federal actions which we feel are essential for the successful implementation of the Plan.

The Texas Legislature, now in session, is moving ahead in its deliberations on the legislative actions we feel are needed to implement the Plan. There is much to be done. All the problems ahead are not those of engineering. Our major problems are people and money.

We have first to convince the people of Texas of the need to move massive quantities of water to our metropolitan areas and to our arid and semiarid sections of Texas. We must convince the people of Louisiana and the other Delta States that we are not trying to "raid" their water, and want only to share that which is surplus to their needs and requirements.

The Congress must be convinced of the need to allocate the large sums necessary to make the Texas Water Plan a regional water plan, serving Louisiana, Texas, and a part of New Mexico.

These problems are not insurmountable, but they must be overcome if we are to continue moving forward with the nation into the 21st Century and to meet our responsibilities to generations yet unborn.