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INFORMATIONAL MEMORANDUM

TO: Ross J. Davidson Jr.,
Administrator

FROM: Ronald L. Berryhill /s/ *Ron Berryhill*
Director

SUBJECT: Oklahoma City Regional Office 2002 Irrigation Assessment

As required in FCIC-25010 (LAM) at section 6, Paragraph 40, part E., our assessment of areas within the region where there is a suspected lack of irrigation water for the 2002 crop year is as follows.

Lower Rio Grande Valley: (Cameron, Hidalgo, and Willacy Counties, Texas) - Palmer Drought Severity Index for the Lower Valley is currently designated "incipiently dry". The Crop Moisture Index designates the area as "abnormally dry". The Climate Prediction Center predicts normal precipitation and above normal temperatures for most of Texas including the Lower Valley through April 2002. The combined water available in Amistad and Falcon reservoirs for both agricultural and municipal use is currently at about 34 % of capacity. The lowest reading experienced over the past 5 years occurred in the fall of 1998 when it dropped to about 19% of capacity and has remained at very low levels since.

The U.S. watershed contributes about 57% of the total inflows. Last year Mexico did not release some 1 million acre feet of water owed to the U.S. However, earlier this month Mexico released 92,000 ac. ft. that is currently being allocated to the water districts and is reflected in the combined total available water referenced above (34 % of capacity).

The historically low storage levels in the reservoirs over the past several years, combined with the fact Mexico is withholding water that would normally contribute to as much as 40% of the inflows, has caused much more concern among district managers and producers than in recent years for an adequate supply of water being available throughout the growing season to properly irrigate crops. Until Mexican water once again contributes to normal inflows, most water district managers do not believe they can count on previously expected water.

Approximately 700,000 acres are currently under irrigation in the Lower Valley. Most of the area normally receives about 10 inches of rainfall in the February through July growing season for most annually planted spring crops. Precipitation from tropical storms/depressions and hurricanes during the months of September and October average 7.5 inches. Heaviest water use for irrigation for all crops occurs from May through July.

Historically, the Lower Valley will use about 1.2 million-acre feet of water annually for both municipal and agricultural use. The average combined water use in the Lower Valley over the three year period 1998 – 2000 has dropped to about 801,000 acre feet and is reflective of cutbacks in recent years. Current storage levels in Amistad and Falcon are at 1.127 million-acre feet and include Mexico's recent 92,000 ac. ft. contribution.

Based on current storage levels plus normal inflows from the U.S. side of the watershed for the remainder of the growing season minus normal demands for outflows, the Water Master predicts there should be a balance of about 22 % of capacity in the reservoirs by Sept 1. This estimate does not take into account any additional inflows that might result from a resolution to the water issues with Mexico. The Water Master indicated irrigation shut down or diversions to municipal use should not occur until the combined reservoir levels fall to around 10 % of capacity.

Although most of the indicators above generally suggest adequate water for the remainder of this growing season, as in years past, there are undoubtedly going to be isolated cases and unique situations applicable to specific water districts that will cause water shortages to occur. Although we do not currently expect wholesale water shortages to any large degree, the Lower Valley should remain on our suspect list for the remainder of the 2002 crop year until water storage in the reservoirs return to normal levels.

Accordingly, Cameron, Hidalgo and Willacy Counties in the Lower Rio Grande Valley of Texas should, as for the past several years, remain an area with a suspected lack of irrigation water throughout the growing season.

Conchas Reservoir: (Quay County New Mexico) - The Conchas Reservoir in southern San Miguel County New Mexico provides water for irrigation to about 41,000 acres in adjoining northern Quay County under the authority of the Arch Hurley Conservancy District. There is about 60,000 acre feet of water available in the reservoir at the current time but only about half of that amount is actually deliverable. The difference is lost in the delivery process. The primary delivery system for the irrigation district is the Conchas Canal. A secondary canal, the Hudson, is about 1 mile south of Tucumcari and extends northeast for a distance of about 26 miles. Crops grown under irrigation include alfalfa, peanuts, grain sorghum, cotton, wheat, corn grain/silage, tomatoes, vegetables, and melons.

The principal source of water for the Conchas reservoir is surface runoff and to a lesser degree snow pack. Water enters the Conchas canal via gravity flow. The level of the lake is currently 33 ft. below the spillway. Gravity flow of water from the lake to the Conchas Canal will likely become a problem when this level falls below about 46 ft. at which time water will have to be pumped from the reservoir. However, after a similar occurrence in 1981, the Conservancy determined the cost of pumping water from the reservoir at this level could not be recovered in water sales and may no longer be considered economically feasible. So, once levels reach this point, water will likely no longer be provided.

The system is totally dedicated to agricultural use and becomes operational in March with the first water delivery normally beginning in April. Available water is allocated equally and uniformly among all members of the district at

the beginning of each irrigation season.

During the months of February and March the Arch Hurley Conservancy determines the amount of water that will be available for the first release. This year, based on the 60,000 ac. ft. of water currently available, a beginning allocation has been set at 3” for the first watering. New allocations will be established on a monthly basis until they run out of water or the situation improves. At the pumping level of 46’ below the spillway approximately 24,000 ac. ft. of water will remain in the reservoir.

Following is a comparison of water use and availability over the past 3 years:

	<u>Water Level</u>	<u>ac. ft. Avail.</u>	<u>ac ft. Released</u>	<u>ft/ac Released</u>
Feb 2000 -	2’ < spillway	250,000 ac. ft.	118,244 ac. ft.	2.9’
Feb 2001 -	15.5’ “	152,800 ac. ft.	92,519 ac. ft.	2.3’
Feb 2002 -	33 “	60,000 ac. ft.		3” Initial

Both furrow and sprinkler irrigation practices are carried out within the area. When orders for water are placed, the water master will calculate the amount of water needed in the delivery to provide the 3” of water for the acreage being irrigated.

Based on the abnormally low level of water currently available and the severe restriction on the initial allocation, acreage serviced by this district in Quay County, New Mexico is suspected of having a lack of irrigation water for the growing season.

Red Bluff Reservoir: (Reeves, Pecos, and Ward Counties, Texas) – The Red Bluff Reservoir is on the Pecos River and normally services approximately 5,000 acres of cropland in adjoining Reeves, Pecos, and Ward Counties in the western part of Texas. All cropland is irrigated in these counties as the rainfall, 10 to 12 inches annually, is too low to produce non-irrigated crops.

The Red Bluff Reservoir is essentially out of water at the current time. The principal irrigation districts that normally service the three county area are the Red Bluff Power Control District, Imperial water district, and Ward County Irrigation District number one.

Surface water via reservoirs and lakes has been the principal water source for irrigation throughout this area because of the high salt content/toxicity of ground water. Well water being used for irrigation in this area should be tested for it’s salinity content and deemed acceptable for crop use in accordance with Extension Service recommendations before applying it to any cropland.

Links to sites with information on water use by crop and additional irrigation information relative to Texas, Oklahoma, and New Mexico can be found on the Oklahoma City, Regional Office Web Site accessible through the RMA Public Web Site at http://www.rma.usda.gov/aboutrma/fields/ok_rso/index.html.