



United States  
Department of  
Agriculture

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**INFORMATIONAL MEMORANDUM**

Risk  
Management  
Agency

**TO:** Ross J. Davidson, Jr.  
Administrator  
**FROM:** Sam Cameron /s/ *Sam Cameron*  
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Regional Office

**SUBJECT:** 2004 Irrigation Assessment; Oklahoma City Regional Office

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As required in FCIC-25010 at section 6, Paragraph 40 part E., Regional Irrigation Assessments, the following information reflects water availability conditions as of mid to late April 2004. Conditions could improve before the actual planting and acreage reporting dates from May - July in any of the areas identified in this report. Most Texas and New Mexico spring crop acreage reports are due July 1 – July 30

Lower Rio Grande Valley: (Cameron, Hidalgo, Willacy, and Starr Counties, Texas)

I. Current Assessment:

The available water situation has improved substantially since last year and on that basis we are **removing** the Lower Rio Grande Valley from our list of areas suspect of water shortages for the remainder of the 2004 crop year.

Mexico is on track to pay almost half of its outstanding water debt to the U.S. by the end of the 2004 fiscal year (October). By Jan.10, 2004 Mexico had made the average annual payment required under a 1944 treaty, and thanks to bountiful rainfall is continuing to transfer water.

The Valley had 1,276,350 acre-feet of water available or 90.4% of the combined water district’s normal annual allocation. Last year the amount of water available for allocation to all of the districts was 826,688 acre-feet or 58.8% of the combined normal annual allocation.

The average combined water use for municipal and agricultural use from 1998 through 2003 has been about 800,000 acre-feet.



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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.

During the month of February and March the Conservancy determines the amount of water that would normally be available for the first release. Last year, the Conservancy could not release any water as an initial or subsequent allocation for irrigation.

#### I. Current Assessment:

This year, no allocations are being anticipated based on the acre-feet of water currently available and the problems cited below. Any potential for a subsequent allocation will be based on any change in the mountain snow-pack or rain in the watershed and will be evaluated and established on a monthly basis. The water district will notify users by letter if and when water becomes available.

#### II. Supplemental Information:

The principal source of water for the Conchas Reservoir is rainfall that occurs throughout the watershed and to a lesser degree snow pack runoff. In a normal year 50,000 – 70,000 acre-feet of water would recharge the reservoir and allow for normal allocations. The reservoir has received essentially no recharge in over two years. Watershed run-off has been negligible over the past five years.

Water enters the Conchas canal from the reservoir via gravity flow. As of April 1, 2004, the level of the lake is 36 ft. below the spillway or 4,159 ft. elevation (75,071 ac/ft. of water). At about 4,163 ft. elevation, gravity flow of water from the lake to the canal becomes impractical because there is not enough head pressure in the lake to push water the required 40 mile run down the canal to reach the first delivery point. And, pumping water from the reservoir to the canal at this level is not economically feasible. In addition, up to one-half the water released will be lost in the delivery process before it ever reaches the delivery point. The water district considers all of these factors in determining available water for irrigation.

Red Bluff Reservoir: (Reeves, Pecos, and Ward Counties, Texas) – The Red Bluff Reservoir is on the Pecos River and services about 10,000 – 30,000 acres of crop land through 7 different water districts in Reeves, Pecos and Ward Counties in west Texas. All cropland is irrigated. The average annual rainfall of 10 – 12 inches will not sustain dry-land crops. This time last year the reservoir contained about 60,000 acre-feet of water. No allocations for irrigation were allowed last year.

## I. Current Assessment:

This year, as of March 10<sup>th</sup>, the reservoir had about 56,000 acre-feet in storage. On April 3<sup>rd</sup> – 4<sup>th</sup> thunderstorms throughout the watershed added 33,000 acre-feet to the reservoir and increased the storage to 89,000 acre-feet. The District Board of Directors and the water manager met on April 13<sup>th</sup> and determined an initial allocation of 25,000 acre feet could be made. The water district sent letters to water users within the district on April 13<sup>th</sup> notifying them of their share of the 25,000 acre-feet of water as an initial allocation.

The board of directors and water manager meet monthly to evaluate any potential effects for future allocations. If conditions improve during the remainder of this month or in May, any potential change in the allocation will be evaluated at that time and growers will be advised accordingly.

## II. Supplemental Information:

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 its salinity content and deemed acceptable for crop use in accordance with Extension Service recommendations before applying it to any cropland.

The water source for the reservoir comes from water released from impoundments along the Pecos River in New Mexico and from rainfall that normally occurs within the reservoir's watershed. The reservoir will hold about 290,000 acre-feet at full capacity.

Water releases from the impoundments in New Mexico normally occur in October or November for use during the next crop year's growing season. The combined inflows from both sources (impoundments and rainfall) on an annual basis average around 80,000 to 100,000 acre-feet. Normal allocations for irrigation could be expected with reservoir storage levels at around that same capacity (100,000 acre-feet). Water from the reservoir is only used for agricultural purposes but the water manager must keep in reserve the last 40,000 acre-feet of water for conservation and dam maintenance purposes.

**Elephant Butte Reservoir: (New Mexico - Dona Ana County; Texas - El Paso and Hudspeth Counties)** - Elephant Butte Reservoir provides water for irrigation districts in Dona Ana County New Mexico and the adjoining counties of El Paso and Hudspeth in Texas.

The principal source of water for Elephant Butte Reservoir comes from snow-pack runoff from the southern Rocky Mountains in Colorado and New Mexico. Winter snow-pack normally occurs from November – January. Recharge from runoff occurs from March – May. This area has not received a normal snow-pack in the past 5 years. A normal run-off would contribute about 937,000 acre-feet of water annually and it is usually the first of June before any of that runoff actually reaches Elephant Butte Reservoir.

About 80% of the water in the reservoir is for agricultural use. The reservoir provides water service for about 7,900 users along the Rio Grande River in southern New Mexico (Dona Ana County) and west Texas (El Paso and Hudspeth Counties). Pre watering of acreage intended for planting annuals usually begins in February in most of this region.

*Dona Ana County New Mexico:*

#### I. Current Assessment:

This district covers about 90,000 acres of cropland. A typical season's allotment is normally 2 – 2 ½ acre-feet. .

Last year the district started with an initial allocation of 3 inches per acre and was able to allocate an additional 8 inches as snow-melt recharged the Elephant Butte in May - June to end the season with a total allocation of about 11 inches.

This year the district estimates it will have 220,000 acre-feet of water available for this year's allotment and has set an initial allocation of 4 inches per-acre. The district anticipates being able to allocate at least 8 more inches for the remainder of the year for a total allocation of 12 inches.

This district has faced severe drought in the past and survived by relying on groundwater pumped from wells to supplement the reduced surface water supply. Many, but not all, growers in this district have the capability of supplementing surface irrigation with groundwater from individually owned wells. Farmers who had wells pumped to other farms or transferred their surface water to farmers who didn't have wells. As a result, there really wasn't much of a reduction in production even with very short surface water supplies.

#### II. Supplemental Information:

As was required last year, irrigation orders must be placed in advance and orders for the 1<sup>st</sup> block release of the initial 4-inch allotment can be placed from February 23 to April 1 for March 15 – April 7 deliveries.

Orders for the 2<sup>nd</sup>, 4-inch block release can be placed from May 19 – July 7 for June 15 – July 15 deliveries.

Orders for a 3<sup>rd</sup> and final 4-inch block release can be placed from July 19 – August 23 for August 8 – 30 deliveries.

Unlike last year, small tract irrigators of less than two acres are not limited to one-irrigation. Water orders can be placed with the water district during 3 different block releases that begin in March and end August 29.

Information on when these block releases are available along with other information can be found at the following web-site; <http://www.ebid-nm.org>.

*El Paso County Texas:*

The El Paso County Water district provides irrigation water to approximately 69,000 acres in El Paso County. The water district's normal water allotment is around 376,000 acre-feet. Last year their allotment was about 55,000 acre-feet with an initial allocation of 8 inches per-acre.

I. Current Assessment:

The district's current allotment is 90,000 acre-feet. The initial allocation has been set at 12 inches per acre. Any additional allotment will depend upon actual inflows to Elephant Butte from this spring's snow-melt in May - June or intermittent spring/summer storms.

II. Supplemental Information:

Last year the water district added 45 new wells to supplement the district's surface water allotment from Elephant Butte with groundwater pumped from the El Paso aquifer. The district is adding 21 more new wells to put on line this year. Collectively, the wells can add 6,000 acre-feet of additional water per month, (an additional 2 inches per producer per month). This additional water will be available to producers in addition to any surface water allocation from Elephant Butte.

The Bureau of Land Management's most optimistic forecast, based on favorable snow-pack, is that the district could end up with 170,000 acre-feet by June or July but has not actually factored this figure into the current allocation.

A realistic/accurate assessment of surface water available from Elephant Butte will not be available until late May or June. The water district is forecasting irrigators will eventually have at least as much water available for the year as was available last year, possibly more.

*Hudspeth County Texas:*

The Hudspeth County Conservation and Reclamation District (HCCRD) provides irrigation for agricultural producers in Hudspeth County. Before onset of the current drought, the HCCRD depended upon water diversions from the Rio Grande downstream from El Paso for most if not all of its water needs. The amount of water it was able to divert depended upon water the El Paso district did not use along with irrigation tail-water from that district, and releases from water treatment plants, etc.

Very little if any water passes El Paso these days and now the district depends almost entirely on water it can pump from mostly shallow wells to meet the needs of irrigators in their district. Acreage in the top one-third of the county is still irrigated in part by individually owned wells in addition to any water that might be available to irrigators from HCCRD. Irrigators in the bottom two-thirds of the county are totally dependent upon water HCCRD can provide from its wells for their irrigation needs.

## I. Current Assessment:

HCCRD anticipates they will be able to provide as much water for irrigation this year as was provided last year, about 25 per cent of the water they would receive in a normal irrigation season, and have notified all irrigators in the district by letter. Individually owned wells may still provide a reliable source of water in the upper one-third of the county at the current time. But, due to the high salinity content of groundwater in this area the water should be tested and deemed appropriate for crop use before applying it to insured crops.

HCCRD will issue monthly advisories to water users as a method of notification for any changes to the current status of water in the district

### Ogallala Aquifer: (Andrews, Gaines, and Yoakum Counties in Texas)

Andrews, Gaines, and Yoakum Counties in Texas have been reported as counties suspected of having inadequate irrigation water supply. All of the water used for irrigation in these counties comes from the Ogallala Aquifer, one of the largest aquifer systems in the world, extending from southern South Dakota and eastern Wyoming through Colorado, Nebraska, Kansas, Oklahoma, New Mexico, and Texas.

Andrews, Gaines, and Yoakum counties are on the extreme southern edge of this aquifer and changes in climatic conditions over geologic time have resulted in changes in erosion patterns within the aquifer itself, causing the Ogallala to be cut off from its original supply of water and formation materials. The southern portion of the formation in Texas and New Mexico is now a plateau, cut off on all sides. The saturated thickness of the aquifer does vary throughout the formation and can be as shallow as 20 feet in some areas.

## I. Current Assessment:

Some but not all of the wells pumping water for irrigation in this area of the aquifer have experienced water supply problems in various degrees for the past several years. Unlike surface water situations where water district allocations form the basis for the amount of water available for the season, groundwater shortages tend to be more dependent upon individual well location and pumping ability as a basis for water availability.

As such, adequacy of water determinations in these situations must be made on an individual, case by case basis. Please refer to the Irrigated Practice Guidelines in the NCIS, M-901 LAM or the FCIC –25010-1 as to adequacy of water for irrigation determinations for policyholders in these three counties who experienced water availability or delivery problems last year.