



# DROUGHT PREPAREDNESS COUNCIL

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NIM KIDD  
Council Chairperson

April 30, 2011

**TO:** The Honorable Rick Perry, Governor, State of Texas  
The Honorable David Dewhurst, Lieutenant Governor, State of Texas  
Ms. Esperanza Andrade, Secretary of State, State of Texas  
The Honorable Robert Duncan, President Pro-Tempore of the Senate, State of Texas  
The Honorable Joe Straus, Speaker of the House, State of Texas  
The Honorable Steve Ogden, Chairman, Senate Finance Committee, State of Texas  
The Honorable Kip Averitt, Chairman, Senate Natural Resources Committee, State of Texas  
The Honorable John Carona, Chairman, Senate Committee on Transportation & Homeland Security, State of Texas  
The Honorable Jim Pitts, Chairman, House Appropriations Committee, State of Texas  
The Honorable Allan Ritter, Chairman, House Natural Resources Committee, State of Texas  
The Honorable Yvonne Gonzalez-Tourelles, Chairman, House Agriculture & Livestock Committee, State of Texas  
The Honorable Pete Gallego, Chairman, House Criminal Jurisprudence Committee, State of Texas  
Mr. Ray Sullivan, Chief of Staff, Office of the Governor  
Mr. Josh Havens, Texas Governor's Office of Homeland Security

**FROM:** Assistant Director Nim Kidd, Texas Division of Emergency Management

**SUBJECT:** Statewide Drought Situation Report

Nim Kidd, Chairman  
Texas Division of Emergency Mgmt

Lance Williams, Member  
Texas Department of Agriculture

Carla Baze, Member  
Texas Department of Transportation

Chris Loft, Member  
Texas Commission on Environmental  
Quality

Michael Dunivan, Member  
Texas Forest Service

John Sutton, Member  
Texas Water Development Board

Dr. Travis Miller, Member  
Texas AgriLife Extension Service

David A. Van Dresar, Member  
Texas Alliance of Groundwater Districts

Thomas Walker, Member  
Office of the Governor  
Economic Development & Tourism

Gus Garcia, Member  
Texas Department of Rural Affairs

Richard Egg, Member  
State Soil & Water Conservation Board

Cindy Loeffler, Member  
Texas Parks & Wildlife Department

Suzanne Burnham, Member  
Texas Department of State Health Services

Dr. John W. Nielsen-Gammon, Member  
Office of the State Climatologist

Marisa Callan  
Texas Department of Housing and  
Community Affairs

## 1. NEXT COUNCIL MEETING

May 10, 2011 at 2:00 p.m. DPS Headquarters

## 2. GENERAL CONDITIONS

March 2011 brought warmer temperatures and very dry conditions to most of Texas, forcing several counties to extend or implement burn bans and several to implement water restrictions. The warmer weather also drastically increased drought and wildfire conditions across the state. At the end of the month, monthly total precipitation amounts in most of Texas were 1"-2" below normal. During the month of March, the percentage of Texas with at least moderate drought (D1) designation by the United States Drought Monitor (USDM) increased from 72.91% to 94.87% and the percentage of Texas with extreme drought (D3) increased from 12.72% to 43.07%. The Big Bend area along with Piney Woods area showed the greatest increase in severity of drought conditions. By the end of the month, the USDM had the entire state designated as at least abnormally dry (D0).

March precipitation was below normal throughout that entire state of Texas aside from some isolated areas in the Low Rolling Plains. Nearly the entire Trans Pecos has received less than 0.10" of precipitation since the beginning of 2011. During March, only areas on the Upper Coast between Houston and the Louisiana border and counties bordering Louisiana, Arkansas, and southeastern Oklahoma received more than 1" of precipitation. More than three-fourths of Texas saw March 2011 precipitation that was less than 10% of normal.

As of March 29th, an extensive area of D3 stretched from El Paso County, south to Webb County along the Rio Grande and north into San Saba and Mills counties. Another large D3 area covered most of East Texas from the Oklahoma border southward into northern Victoria County, extending from the Louisiana border westward into eastern Travis County. A third D3 area extends from Wichita County through Stonewall County in the Low Rollins Plains. Outside of areas in the Panhandle and the Coastal Bend, the rest of Texas is designated with severe drought (D2) conditions.

According, to the Climate Prediction Center, drought conditions across the entire state are expected to intensify through early summer. All areas of Texas will likely see drought conditions worsen, persist, or develop. During April 2011, the entire state of Texas south of the extreme Northwest Panhandle has equal chances of near normal, above normal, and below normal precipitation. Over the next three months (April, May and June) the Trans Pecos, South Central Texas, Coastal Bend, Upper Coast, and Lower Valley all have a 40-50% chance of below normal precipitation. The Edwards Plateau, Central Texas, and central East Texas have a 33-40% chance of below normal AMJ precipitation. The northern half of the state has equal chances of near normal, above normal, and below normal AMJ precipitation. Compounding the AMJ precipitation forecast in the southern half of the state is a greater than 50% chance of above normal temperatures during the AMJ period.

## 3. OVERALL STATEWIDE DROUGHT CONDITIONS

Based on drought indices through the end of March 2011, the drought has developed throughout the state: by PDSI and CMI, all climate regions were in various degrees of drought or dryness conditions, and in seven climate regions the drought had escalated to higher levels compared to a month ago. The NOAA Climate Prediction Center predicts that drought is likely to develop, persist, or intensify for most of the state over the next three months.

### Palmer Drought Severity Index (PDSI):

By this index, all 10 climate regions in Texas were in drought / dry spell, with the East Texas and Trans-Pecos regions in "Severe drought". Eight regions escalated to higher levels of drought during the month.

#### Crop Moisture Index (CMI)

By this index, all regions were in drought, ranging from “Slightly” (3 regions) to “Excessively” (4 regions) dry conditions. Eight regions escalated to higher levels of drought during the month.

#### Standardized Precipitation Index (SPI)

The drought distribution by this index has minimal change compared to a month ago, with one region escalated from “Moderate “ dry to “Severe” dry but another reduced from “Moderate “ dry to near “Normal”. All other regions remained in same drought degree levels. Only three regions are in drought according to this index.

#### Keetch-Byram Drought Index (KBDI)

By this index, all climate regions were either in High or Very High fire risk conditions. During the month, five regions escalated to higher fire risk levels.

#### Stream Flow Index (SFI)

Stream flows were near normal or high range in all except Trans-Pecos region.

### **4. WATER UTILITY STATUS**

April 2011, began with 70 public water systems on the drought list that asked customers to restrict water use by following outdoor water use restrictions. Of these systems, 36 asked customers to follow a mandatory watering schedule and 34 are asking customers to follow a voluntary watering schedule.

Seasonal forecasts continue to predict the drought to persist or intensify in many areas of the state. The states reservoir and river levels are continuing to fall. The majority of the water systems are still allowing outside watering and have no restrictions in place. However increasing demands may trigger the water systems to implement the response stages of their Drought Contingency Plans.

### **5. WATER RIGHTS – STATEWIDE**

New temporary water use permit applications are being reviewed on a site-specific basis and issued if there is sufficient surplus water at the requested source. Applications for new water use permits and amendments to existing permits remained consistent for the month. Water rights owners in the Brazos River Basin whose permits contain a Hale Clause restrictions are observing the less severe stream flow restrictions of their permits during the winter months. The availability of unappropriated water for new permits continues to decrease in all river basins in the State, and the search for long-term, dependable alternate sources of water remains a high priority issue.

## 6. WATER RIGHTS – LOWER RIO GRANDE / RIO GRANDE WATERMASTER (RGWM)

**Current Conditions:** On March 26, 2011, the U.S. combined ownership at Amistad/Falcon stood at 94.90% of temporary conservation capacity, impounding 3,326,343 acre-feet, up from 81.74% of normal conservation capacity, impounding 2,772,628 acre-feet a year ago at this time. Overall the system is holding 94.75% of temporary conservation capacity, impounding 5,794,144 acre-feet with Amistad at 100.64% of conservation capacity, impounding 3,296,347 acre-feet and Falcon at 88.67% of temporary conservation capacity, impounding 2,518,065 acre-feet. Mexico has 94.54% of temporary conservation capacity, impounding 2,467,801 acre-feet at Amistad/Falcon.

**Allocations:** As of printing the February ownership report, the U.S. has allocated 31,228.738 acre-feet to Class A & B water rights, which include irrigation, mining and recreation. Additionally, the U.S. has an amount of approximately 669,597 acre feet for future allocations in 2011.

**Storage & Loss Amistad vs. Falcon:** The U.S. is currently storing approximately 1.841 million acre-feet at Amistad (100%) and approximately 1.485 million acre-feet (89.2%) of temporary conservation capacity at Falcon. Evaporation and seepage losses at Amistad cycle, as of 03/26/11, are 66,158 acre-feet. For the same period, the U.S. has lost 85,971 acre-feet at Falcon.

**Releases to meet demands:** As of March 26, 2011, Mexico has released 50,963 acre-feet from Amistad and 296,812 acre-feet from Falcon Mexico needs. The U.S. has released 361,365 acre-feet from Falcon and 130,880 acre-feet from Amistad for U.S. needs. Combined with gains between Amistad and Falcon, U.S. inflows to Falcon have totaled 269,993 acre-feet. The U.S. demand in the lower Rio Grande has been met at a rate of 75% by direct Rio Grande inflows and Amistad releases this year.

**Upper Rio Grande (New Mexico):** Currently, Elephant Butte in New Mexico is at 23.20% of capacity, impounding 469,400 acre-feet and Caballo Dam in New Mexico, downstream of Elephant Butte is at 14.64% of capacity, impounding 33,239 acre-feet.

**Outlook:** The National Weather Service continues to report that moderate to strong La Nina conditions result in extremely dry weather across deep South Texas. The drought conditions are mainly affecting agricultural interest and allowing for elevated fire risk danger.

Additionally, according to the U.S. Drought Monitor, the entire Rio Grande Basin continues to experience drought conditions ranging from “Abnormally Dry” to “Severe Drought” in areas from between Presidio and Cameron Counties.

## 7. SOUTH TEXAS WATERMASTER – GUADALUPE / LAVACA / SAN ANTONIO / NUECES REGION

**Area Counties:** Bee, Goliad, Victoria, Calhoun, Refugio, Aransas, San Patricio, Nueces, Kleberg, Jim Wells, Duval, Live Oak, Kenedy, Willacy, Brooks, and Jim Hogg

**Rainfall and Area Conditions:** Some scattered rainfall events occurred during the month of March in this area. These rainfall events provided some soil moisture to area farmlands, but were not sufficient to produce runoff into area streams. As a result, the stream flows of most area streams continue to decline and are flowing below the mean average for this time of the year. The U. S. Drought Monitor indicates that counties to the far west including Jim Hogg and Willacy Counties and parts of Duval and Brooks are currently experiencing

“Severe Drought” conditions at this time. Counties in the central part of this area including Live Oak, Calhoun, and Victoria Counties as well as parts of Bee, Goliad, Jim Wells, Brooks, and Kenedy Counties are experiencing “Moderate Drought” conditions at this time. Other counties including Nueces, Kleberg, San Patricio, Aransas, and Refugio Counties as well as parts of Bee, Goliad, Jim Wells, and Kenedy Counties are currently experiencing “Abnormally Dry” conditions at this time. Most of the surface water diversions in this area continue to be for municipal and industrial use with little irrigation use being noted.

**Approximate Stream flow Conditions:**

Site	March Beginning flows CFS	March Ending Flows CFS	March Historical Mean CFS
<b><i>South Texas Watermaster</i></b>			
Guadalupe River near Victoria	710.00	657.00	1820.00
San Antonio River near Goliad	303.00	232.00	587.00
San Antonio River at McFaddin below Goliad	447.00	362.00	489.00
Guadalupe River near Tivoli	1050.00	977.00	2120.00
Mission River near Refugio	18.00	12.00	72.00
Nueces River at Calallen Dam	0.00	13.00	199.00
Aransas River near Skidmore	9.20	8.90	22.00

Stream flows of the Guadalupe River continue to flow over the “saltwater barrier” near Tivoli, Texas. All major streams, however, are flowing below their historical averages.

**Corpus Christi Reservoir System:** The Corpus Christi Reservoir System did not receive significant inflows for the month of March. The level of the reservoir system has decreased and was at 79.2% of capacity at the end of the month, impounding 754,729 acre-feet compared to 67.0% of capacity, impounding 638,171 acre-feet at this time last year. The level of Choke Canyon was at 78.0% of capacity, impounding 542,447 acre-feet compared to 69.5% of capacity, impounding 483,001 acre-feet at this time last year. The level of Lake Corpus Christi is at 82.5% of capacity, impounding 212,282 acre-feet compared to 60.3% of capacity, impounding 155,170 acre-feet at this time last year. The City of Corpus Christi continues to divert much of their monthly water supply needs from Lake Texana.

**Drought Restrictions:** During the month of March, while there is 660 cubic feet per second (CFS) or less at the USGS Gage at Victoria, the City of Victoria can only take 10 percent of the stream flows present at that time. During the month of March, the City is diverting less than the 10 percent of stream flows.

**Area Counties:** Atascosa, Karnes, Gonzales, Wilson, McMullen, Dewitt, Guadalupe, Lavaca, Fayette, Colorado, Wharton, and Jackson

**Rainfall and Area Conditions:** The southernmost portions of this area received 0 to 0.2 inches of rainfall for the month of March, and the eastern portions of the area, including the Lavaca area, received 0 to .5 inches. Oat, wheat and rye crops are in the latter stages of maturity and farmers have planted most of the corn crop in this area. There has been very little irrigation activity in the area. Lake Texana is at 75% of capacity, 39.3 ft. above mean sea level.

According to the U.S. Drought Monitor, this area is experiencing “Abnormally Dry to Severe Drought” conditions at this time.

**Stream flow Conditions:** Stream flow conditions in this area are all below historical means.

Site	March Beginning flows CFS	March Ending flows CFS	March Historical Mean CFS
<b><i>South Texas Watermaster</i></b>			
San Antonio River near Falls City	246.00	243.00	414.00
Cibolo Creek near Falls City	48.00	33.00	81.00
Guadalupe River near Gonzales	652.00	547.00	1920.00
The Lavaca River at Edna	40.00	31.00	300.00
Navidad River near Hallettsville	6.40	4.40	124.00
Atascosa River near Whitsett	7.20	7.20	35.00
Frio River near Tilden	.17	.01	98.00
Nueces River near Tilden	.77	.00	114.00

**Drought Restrictions:** There are no Water Right permits being restricted in this area at this time.

**Area Counties:** Bandera, Blanco, Kendall and Kerr Counties

**Rainfall and Area Conditions:** This area received 0.10 to 0.25 inches of rainfall for the month of March. The Crop Moisture Index indicates this area of the hill country is classified as “Excessively to Abnormally Dry”. Most of the surface water diversions in this area are for municipal and industrial uses with a few surface water permit holders irrigating hay and sod fields. The U.S. Drought Monitor indicates that this area is currently experiencing “Severe Drought” to “Extreme Drought” conditions.

**Stream flow Condition:** All the major streams and their tributaries are below their historical averages

Site	March Beginning flows CFS	March Ending flows CFS	March Historical Mean CFS
<b><i>South Texas Watermaster</i></b>			
Guadalupe River at Kerrville	48.00	55.00	140.00
Guadalupe River at Comfort	71.00	57.00	222.00
Medina River at Bandera	24.00	27.00	154.00

**Drought Restrictions:** Currently three water right permits along the South Fork of the Guadalupe River (SFGR) have reached their flow restrictions and are not allowed to divert. Temporary water permits along the SFGR are suspended. All other temporary water rights issued in the San Antonio River Basin (above Lake Medina) and the Guadalupe River Basin (above Canyon Lake) are reviewed on a case by case basis.

**Area Counties:** Edwards, Real, Kinney, Uvalde, Zavala, Dimmit, Medina, and Frio

**Rainfall and Area Conditions:** There was no relief from the severe drought conditions across the South West Texas area during the month of March. There was no reported

rainfall for the month. There have been very few surface water diversions in this area due to little or no stream flows. Crops being irrigated in the area are wheat, cabbage, onions, hay grazer and pecans. Soil conditions are exceptionally dry.

The U.S. Drought Monitor indicates that this area is experiencing “Severe Drought” to “Extreme Drought” conditions at this time.

**Stream flow Conditions:** Most stream flow readings in this area are at or near historical lows at this time.

Site	March Beginning flows CFS	March Ending flows CFS	March Historical Mean CFS
<b><i>South Texas Watermaster</i></b>			
Nueces River at Laguna	34.00	32.00	114.00
Nueces River near Brackettville	.14	.14	4.90
Nueces River below Uvalde	4.00	4.30	67.00
Frio River at Concan	28.00	24.00	97.00
Sabinal River at Sabinal	.37	.16	22.00
Leona River near Uvalde	0.00	0.00	42.00

**Drought Restrictions:** A permit on the Leona River has met its restrictions and is no longer about to divert. Permits that have not met their stream flow restrictions are being regulated. The Zavala/Dimmit Water District is not allowing diversions other than for Domestic and Livestock use.

**Area Counties:** Bastrop, Bexar, Blanco, Caldwell, Comal, Fayette, Frio, Guadalupe, Hays, and Medina

**Rainfall and Area Conditions:** Approximately 0.10 inch of rainfall was measured in the San Antonio Regional Area for the month of March. The U.S. Drought Monitor dated March 29, 2011 indicates the San Antonio Regional Area is experiencing “Severe Drought” to “Extreme Drought” conditions at this time.

**Stream flow Conditions:** The flows in the Guadalupe, San Marcos, and Blanco Rivers have continued to decrease due to the lack of rainfall for the month of March. The small creeks and perennial creeks have continued to remain dry. Irrigation use has started to increase and industrial use remains constant.

Site	March Starting flows CFS	March Ending flows CFS	March Historical Mean CFS
<b><i>South Texas Watermaster</i></b>			
Guadalupe River at Spring Branch	88.00	67.00	380.00
San Marcos River at Luling	160.00	149.00	533.00
Blanco River at Wimberley	40.00	34.00	163.00

As of March 31, 2011, Canyon Lake Reservoir was at 906.63 feet elevation and 94.94% of capacity, impounding 359,957 acre-feet. Lake Medina Reservoir was at 1044.53 feet

elevation and 59.33% of capacity, impounding 151,193 acre-feet. San Marcos Springs were flowing at 154 CFS. The historical monthly average for the San Marcos Springs in March is 191 CFS. Comal Springs were flowing at 286 CFS. The historical monthly average for the Comal Springs in March is 310 CFS. The J-17 Bexar reading was at 663.2 on March 31.

**Drought Restrictions:** There are no additional drought restrictions on the San Antonio River at this time.

**Area Counties:** Sterling, Tom Green, Irion, Concho, Coke, Glasscock, Runnels, Reagan, Schleicher.

**Rainfall and Area Conditions:** The Concho River Valley received below average rainfall amounts for the month of March. Rainfall in San Angelo was 0.13 inch. Areas surrounding San Angelo received slightly higher rainfall amounts. The average rainfall for the month of March is 1.08 inches. The total amount of rainfall for the year is 0.40 inches. The Texas Crop Moisture Index indicates the area as having “Excessively Dry” soil conditions. The State Drought Monitor Index indicates the Concho Valley as having “Moderate” to “Extreme” conditions. Preparations for planting of sorghum and cotton have begun.

**Stream flow Conditions:** Area reservoirs are showing a decrease in the amount of storage from the previous month’s amounts. Lake Nasworthy is at 82% of capacity, impounding 8,348 acre-feet. O. C. Fisher is at 2% of capacity, impounding 1,809 acre-feet. Twin Buttes Lake is at 17% of capacity, impounding 31,953 acre-feet.

Site	March Beginning Flows CFS	March Ending Flows CFS	March Historical Mean Flows
<b><i>Concho Watermaster</i></b>			
Spring Creek above Twin Buttes Reservoir	4.80	0.00	17.00
Concho River at San Angelo and Bell St.	6.30	14.00	27.00
South Concho at Christoval	3.80	5.00	20.00

**Drought Restrictions:** A notification of potential drought restrictions based on current low flows was sent to water right holders and diverters on March 4th as a measure of preparedness. Currently there are restrictions and/or curtailment of diversions based on priority dates in the Concho Valley. All requests for diversion must be approved prior to diversion.

**8. UPPER COLORADO (Concho River watershed not included)**

The upper Colorado River area received less than normal precipitation during March 2011. The National Weather Service in San Angelo reported monthly precipitation of 0.10 inches, which is 0.89 inches less than normal. According to the U.S. Drought Monitor, area drought conditions in Crockett, Sutton, Kimble, Mason, Irion and Reagan counties are “Extreme”; Sterling, Schleicher, Menard, McCulloch counties have “Severe Drought” to “Extreme Drought” conditions; Tom Green County has “Moderate Drought” to “Extreme Drought” conditions; Coke county has “Moderate Drought” conditions; and Concho county has “Moderate Drought to Severe Drought” conditions. USGS gauges indicate that flow in the Colorado River near Gail down to Colorado City was less than USGS long term medians. Flow in the Colorado River near Silver to Ballinger was also less than USGS

long term medians. The San Saba River has flow less than the USGS long-term median from Menard to San Saba. The North Llano River above and the Llano River below Junction to the Llano River below Mason are flowing less than the USGS long-term median. The pool levels of EV Spence Reservoir and OH Ivie Reservoir have decreased from February levels. The pool levels are 2.1% and 30.1% of capacity, respectively.

## 9. TEXAS PANHANDLE AND SOUTHERN HIGH PLAINS

### Amarillo Area:

Lake Greenbelt started the month at 52.67 feet and ended March at 52.51 feet. Lake Mackenzie started the month at 71.21 feet and ended March at 70.79 feet. Lake Meredith started the month at 38.4 feet and ended March at 38.23 feet. The National Weather Service in Amarillo has recorded a total of .06 inches of moisture since March 1, 2011. This is .99 inches below the average for March.

Reservoir Status as of 03/30/11

Reservoir (Basin)	Conservation Pool Elevation	Current Elevation	Percent of Capacity
Greenbelt (Red)	2664.00	2632.50	27.25
Mackenzie (Red)	3100.00	3020.77	12.57
Meredith (Canadian)	2936.50	2851.24	0.45

### Lubbock Area:

Reporting Station: Lubbock Preston Smith International Airport (as of 04/02/11)

	Precipitation (in.)	Average(in.)	Departure(in.)
March	0.35	0.82	-0.47
2011 Year-to-date	0.84	2.03	-1.19
Snowfall	0.0	.7	-0.7

Reservoir report: (Status as of 04.04.11)

Reservoir Basin (Brazos)	Conservation Pool (elevation)	Current (elevation)	% of Capacity	% Change (from last report)
Alan Henry	2220.00	2217.12	92.01	-0.98
White River	2372.20	2355.28	32.10	- 0.22

The long term drought situation has not changed. Lake Meredith is temporarily no longer supplying water to the City of Lubbock. All communities previously noted as initiating water restrictions remained on those restrictions. There was no change to the list since the previous report. The Cities of Amherst, Levelland, and Lubbock remained on mandatory drought restriction status. The Cities of Ralls, Crosbyton, Spur and Post, White River MWD, and Valley WSC in the South Plains area remained on voluntary drought restriction status.

## 10. WILDLIFE CONCERNS

No information was received by the time of this report.

## 11. AGRICULTURE CONCERNS

The drought intensified across all of the state over the last month, bringing many normal agricultural operations to a standstill. The Texas wheat crop is in the bullseye with the projected harvest down 49 percent from 2010 according to an April 1 estimate. The overall crop condition rating for wheat stood at 36 percent of normal compared to a rating of 77 percent at this time in 2010. As conditions in the major wheat producing areas have continued to decline sharply, this estimate will likely be revised downward, as wheat yields decline sharply with hot, dry weather during boot, bloom and grain fill. Crop insurance adjusters are busy across the hardest hit areas of the state as they begin processing insurance claims on wheat stands destroyed by prolonged dry weather. Many wheat producers are opting for grazing, hay and silage on the deteriorating crop.

The hard winter weather and the prolonged drought have severely inhibited regrowth in pastures and rangeland over most of the state. Pastures are slow to green up and are producing little forage. Livestock producers are still feeding hay and supplement at a time when forage is normally abundant. Of great concern to ranchers are water resources. Stock tanks are drying out and livestock water is becoming problematic in widespread areas of Texas. Hay prices are increasing due to high demand and high fuel prices.

Farmers that have access to irrigation water are pre-irrigating land that will be planted to cotton in the Rolling Plains and High Plains. Dryland fields in these regions are too dry for field work to further prepare for planting. Much of the corn crop in South Texas, along the Gulf Coast and in Central Texas was planted in marginal moisture. This crop is showing a great deal of stress as high winds and high temperatures cause high evaporative demand and rapid water loss.

AgriLife Extension field reporters made the following observations for the week ending April 2:

Central: The region remained extremely dry. Trees were showing extreme drought stress, and pecans were budding late. Warm weather forced wheat and oats to begin heading. High winds robbed what was left of topsoil moisture. Rainfall was needed to prevent widespread crop failures and grazing reductions.

Coastal Bend: There was almost no rain throughout February and March. Field crops emerged and needed rain. Dry soils prevented some farmers from planting the rest of their crop. Some were cultivating grain sorghum and corn fields. Warm-season grasses were slow to recover from winter dormancy due to lack of rain and damage from cold January and early February weather. As winter pastures matured, they provided less forage. Some livestock producers continued to feed hay and supplemental feed.

East: Conditions across much of the region remained very dry and windy, with warmer than normal temperatures. Lakes and ponds were receding. Burn bans were declared in some counties. Pastures were greening up but needed moisture for growth. Spring calving

continued. Livestock were in fair to good condition, with producers still providing supplemental feed.

North: Soil moisture ranged from very short to adequate. Days were cooler, but there was only light rain in some areas, just enough drizzle to wet the soil surface. Camp County reported some much-needed rainfall along with some hail. Most corn was already planted, but desperately needed rain as it began to emerge. Ranchers were ready to plant summer grasses, but with soil moisture short, they were hesitant. Soybean and sorghum planting was in progress. In some areas, pond levels were down three to five feet. Winter small grains were harvested for silage. Farmers in some areas said this was the driest March they had ever seen. Rangeland and pasture conditions ranged from very poor to fair.

Panhandle: Dry and windy conditions continued, and soil-moisture levels were very short to short, with most counties reporting very short. Wheat was in very poor to fair condition, with most counties reporting poor. Rangeland was in very poor to good condition, with most reporting poor. Farmers continued preparing land for spring plantings. Cattle were in good condition. Mite, Russian aphid and green bug numbers were increasing in wheat in some areas. Wildfire danger remained high.

Rolling Plains: The region continued to have sustained high winds, warm days and very little moisture, which raised the risk of wildfires. Most counties remained under burn bans. In some areas, farmers continued to irrigate wheat. Others began to pre-water ground for cotton planting. Dryland farmers were turning acreages into insurance providers for disaster adjustments. Livestock were in fair condition with supplemental feeding.

South: Rangeland and pastures, already in poor condition, worsened. A cold front made its way through the area and brought milder temperatures but no rain. Soil-moisture levels were short to very short. Livestock producers were providing supplemental feed at a steady rate. Also, they were culling calves earlier than normal due to the declining quantity and quality of forages, and very low stock-tank water levels. Ranchers were using windmills and wells to at least provide water for livestock as tanks are running dry. Growers in Frio County were planting some sorghum and cotton, but overall very limited acreage of either crop will be planted unless there is rain. In the eastern part of the region, there was little fieldwork being done. Producers there were still waiting for rain. In Zavala County, growers were harvesting cabbage, planting watermelons in pre-irrigated fields, and harvesting spinach. Onions in that part of the region progressed well. Most producers reported no harvesting of dryland wheat or oats due to the drought. In Cameron and Starr counties, row crops had all germinated and were progressing well, and onion harvesting was in full swing.

South Plains: The district remained very dry. Farmers were pre-watering and doing other field work in preparation for spring plantings. Most counties were still under burn bans. Temperatures ranged from highs in the 80s to lows in the 30s. Lubbock had a record high of 94 with blowing dust on March 3. Pasture and rangeland conditions required livestock still to be given supplemental feed. Wheat continued to suffer from lack of rain.

Southeast: Liberty County received about 0.25 of an inch of rain, which helped some but not enough to really provide drought relief. The condition of livestock continued to decline as pastures worsened. Most wheat was headed but very short in some areas

Southwest: The region remained very dry. As measured in Uvalde, March ended with only a trace of rainfall, bringing the year-to-date cumulative rainfall to 0.9 of an inch, compared to a long-term average of about 3.7 inches for the same period. The accumulation of dry forage and dry winds gusting more than 30 mph have increased the risk of roadside and field fires. Irrigated corn, sorghum, sunflower and cotton fields made good progress. However dryland crops will need rain very soon to make any progress. Most pasture and rangeland grasses greened up, but generally remained dormant due to lack of moisture. Forage availability was below average.

West Central: Warm and extremely dry conditions continued. There was very little field activity — not even planting of spring crops — due to dry conditions. Wheat needed rain soon to be harvested for grain. Most wheat fields will be grazed out. Rangeland and pastures showed some spring green-up and peach tree bud-break started. Stock-tank water levels continued to drop. Livestock were in fair condition with supplemental feeding.

## 12. WILDFIRE CONCERNS

The Keetch-Byram Drought Index (KBDI) is used to help determine the potential for fire risk. It is a numerical index where each number is an estimate of the amount of precipitation, in 100ths of an inch, needed to bring the soil back to saturation. The index ranges from 0 to 800, with 0 representing a saturated soil, and 800 a completely dry soil. The relationship of the KBDI to fire danger is, as the index increases, the vegetation is subjected to increased moisture stress. KBDI levels and their relationship to expected fire potential are reflected in the following:

**KBDI = 0 – 200**: Soil moisture and large class fuel moistures are high and do not contribute much to fire intensity. This is typical of the spring dormant season following winter precipitation.

**KBDI = 201 – 400**: Typical of late spring and early growing season. Lower litter and duff layers are drying and beginning to contribute to fire intensity.

**KBDI = 401 – 600**: Typical of late summer and early fall. Lower litter and duff layers contribute to fire intensity and will burn actively.

**KBDI = 601 – 800**: Often associated with more severe drought and increased wildfire occurrence. Intense, deep-burning fires with significant downwind spotting can be expected. Live fuels can also be expected to burn actively at these levels.

As of March 31<sup>st</sup>, 2011, there were 212 counties (illustrated in Attachment 2) with KBDI values in excess of 400. The values indicate areas within these counties are beginning to experience or sustain dry conditions which could result in an increased fire risk potential.

The Drought Preparedness Council is comprised of state agencies concerned with the effects of drought and fire on the citizens of the State of Texas. The attached information was compiled and provided by representatives listed below. Points of contact, telephone numbers, and web site addresses are also provided.

Nim Kidd, Texas Division of Emergency Management, (512) 424-2436, fax (512) 424-2444, website: <http://www.txdps.state.tx.us/dem>

John Sutton, Texas Water Development Board, (512) 463-7988, fax (512) 463-9893, website: <http://www.twdb.state.tx.us>

Chris Loft, Texas Commission on Environmental Quality, (512) 239-4715, fax (512) 239-4770, website: <http://www.tceq.state.tx.us>

Richard Egg, Texas State Soil & Water Conservation Board, (254) 773-2250, fax (254) 773-3311, website: <http://www.tsswcb.state.tx.us>

Lance Williams, Texas Department of Agriculture, (512) 463-3285, fax (800) 835-2981, website: <http://agr.state.tx.us>

Dr. Travis Miller, Texas AgriLife Extension Service, (979) 845-4808, fax (979) 845-0456, website: <http://texasextension.tamu.edu>

Cindy Loeffler, Texas Parks & Wildlife Department, (512) 912-7015, fax (512) 707-1358, website: <http://www.tpwd.state.tx.us>

Carla Baze, Texas Department of Transportation, (512) 416-3270, fax (512) 416-2941, website: <http://www.txdot.state.tx.us>

Michael Dunivan, Texas Forest Service, (830) 997-5426, website: <http://txforests.tamu.edu>

Suzanne Burnham, Texas Department of State Health Services, (512) 801-9816, fax (512) 458-7111, website: <http://www.dshs.state.tx.us/>

Thomas Walker, Office of the Governor, Economic Development & Tourism, (512) 936-0169, fax (512) 936-0141, website: <http://www.governor.state.tx.us/divisions/ecodev>

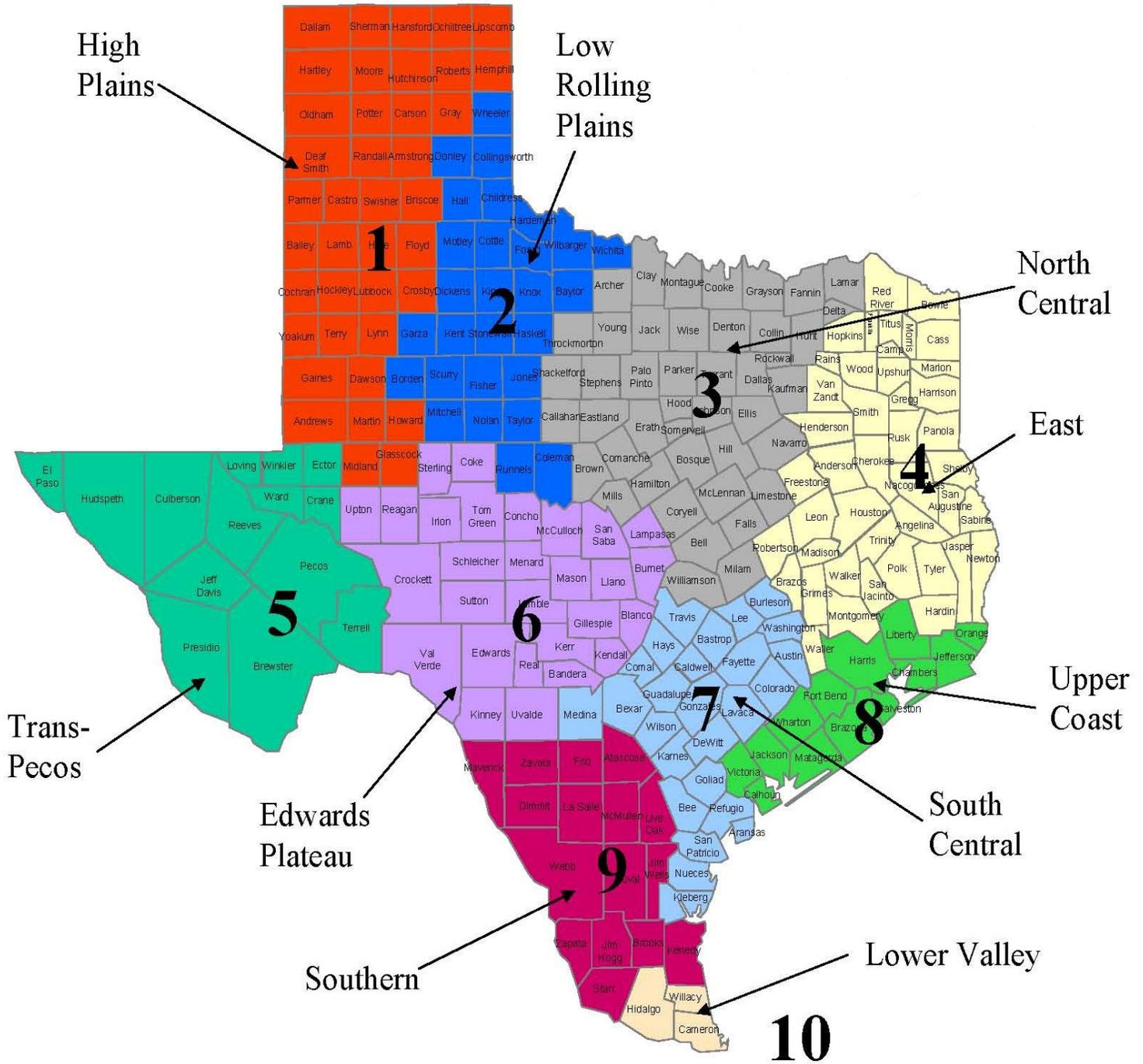
David A. Van Dresar, Texas Alliance of Groundwater Districts, (979) 968-3135, fax (979) 968-3194, website: <http://www.texasgroundwater.org/>

Dr. John W. Nielsen-Gammon, Office of the State Climatologist, (979) 862-2248, fax (979) 862-4466, website: <http://www.met.tamu.edu/osc/>

Gus Garcia, Texas Department of Rural Affairs, (512) 936-7876, fax (512) 936-6776, website: <http://www.tdra.state.tx.us>

Marisa Callan, Texas Department of Housing and Community Affairs, (512) 475-3964, website: <http://www.tdhca.state.tx.us>

# Attachment 1 Climatic Regions



# Attachment 2

## Counties with Extreme to High Fire Danger

