

MEMORANDUM

TO: Governing Board

FROM: Megan Wetherington, P.E., Water Resources Engineer *MW*

THRU: David Still, Executive Director *ds*
Kirk B. Webster, Deputy Executive Director *KBW*

DATE: April 2, 2008

RE: March 2008 Hydrologic Conditions Report for the District

The monthly hydrologic conditions report is compiled in compliance with Chapter 40B-21.211, Florida Administrative Code, using water resource data collected from the following: rainfall (radar-derived rainfall estimate), groundwater levels (84 wells), surfacewater levels (17 lakes and 11 rivers), river flows (6 stations on 4 rivers), and general hydrological/meteorological information (drought indices and weather forecasts). Rainfall and surfacewater data are provisional, and subject to revision. Statistics are updated as revised data become available.

RAINFALL

- Average District-wide rainfall in March was 4.61 inches. The long-term March average is 4.53 inches (Table 1, Figure 1). March was the third consecutive month of average or above-average rainfall; however, Madison and Jefferson counties were significantly below average. Figure 2 shows the estimated rainfall accumulation across the District.
- The average twelve-month deficit through March 31 was 9.6 inches (Figure 3). The 24-month rainfall deficit was 23.1 inches.

GROUNDWATER

- Groundwater levels monitored in 84 wells (Figure 4) increased by an average of 3.38 feet since February. Thirty-one percent of the levels were below the 10th percentile, compared to 72% in February. The percentile is the percentage of the monthly levels that are equal to or below this month's level.
- Four wells set new March lows, and one well set a new historic low. Monthly statistics for a representative sample of wells are shown in Figure 5.
- The District issued 4 emergency permits for dry wells, for a total of 188 issued between April 1 and March 31 (Figure 6).

SURFACEWATER

- River levels fell rapidly following near-flood conditions in early March. The Santa Fe River at Three Rivers Estates crested at 0.9 feet below flood stage on March 19, and then dropped over three feet by March 31. The

Withlacoochee River near Pinetta, after cresting above flood stage on February 29, dropped more than 24 feet to pre-flood levels. An apparent monthly record low stage was observed at the Santa Fe River near Fort White prior to the March 7-8 rainfall.

- Streamflow at most District gaging stations decreased throughout the month, but remained within normal ranges by month's end (Figure 7). The Econfina River remained below normal (10th-24th percentile), while the Fenholloway and Steinhatchee Rivers were much below normal (less than 10th percentile). Discharge statistics for six river stations are presented in Figure 8.
- Lake levels generally increased, with the greatest gains in the eastern portion of the District. Levels in monitored lakes in Madison and Jefferson counties declined. No record lows were observed.

HYDROLOGICAL/METEOROLOGICAL INFORMATION

- U.S. Drought Monitor, as of March 25: Parts or all of Taylor, Dixie, Levy, Gilchrist, and Alachua counties are abnormally dry. The U.S. Seasonal Drought Outlook as of March 20 indicates that drought development is likely in the southern portion of the District.
- U.S. Geological Survey, as of March 31: Seven-day average streamflow conditions were categorized in the Coastal Rivers Basin and the Waccasassa River Basin as moderate hydrologic drought (6th-9th percentile). Suwannee River Basin streamflow conditions were categorized as normal.
- Long-range outlooks from the National Weather Service Climate Prediction Center predict below-normal precipitation through April, and no apparent trend toward below-normal precipitation through June.

WATER CONSERVATION

On March 11, 2008, the Governing Board issued an amended Phase II Water Shortage Order that includes mandatory water restrictions for all use categories including residential, commercial, industrial and agricultural. The Water Shortage Order and accompanying water-use restrictions will become effective May 14, 2008.

The District urges that water conservation be an ongoing activity for all water users, and has a variety of free water conservation information available to the public. Water is conserved by using the minimum amount needed for specific applications and by irrigating lawns, plants, and crops only when necessary and in the morning before 10 a.m. and in evening hours after 4 p.m., when lower temperature and wind velocity reduce the amount of water lost to evaporation.

/dd

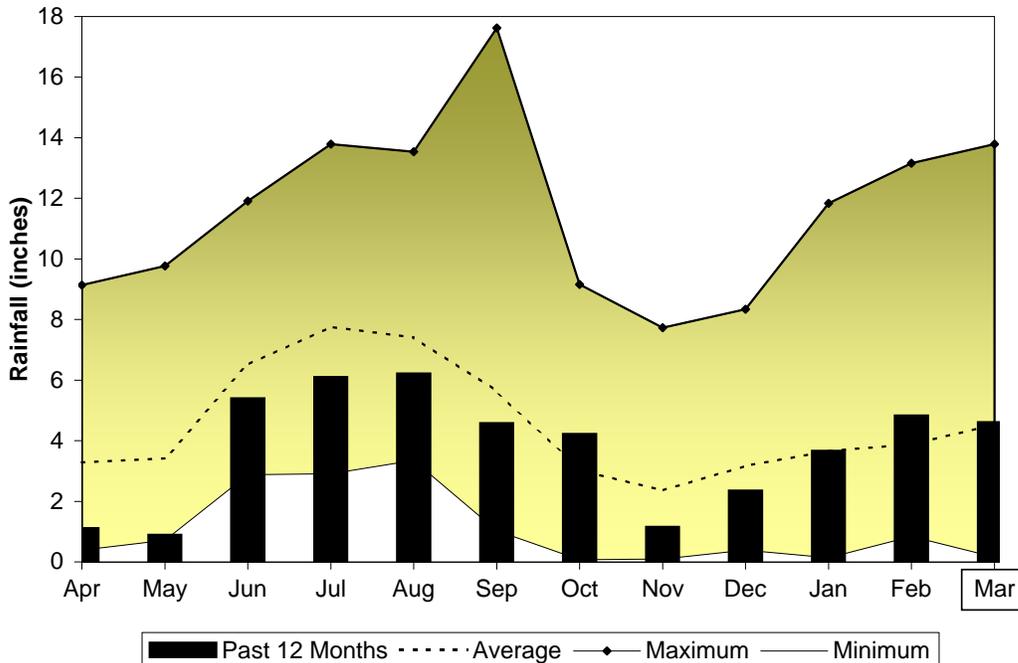
Table 1. Estimated Rainfall Totals

County	Mar-2008	Mar-2007	Last 12 Months	Mar Average
Alachua	3.98	1.32	46.74	4.30
Baker	4.78	2.38	43.60	4.52
Bradford	4.03	1.24	45.69	4.29
Columbia	4.66	1.67	43.47	4.90
Dixie	5.45	1.32	46.90	4.42
Gilchrist	4.46	1.49	43.51	4.84
Hamilton	4.46	1.12	43.16	5.16
Jefferson	2.16	1.19	45.46	6.00
Lafayette	6.50	1.58	41.43	4.85
Levy	6.12	1.48	54.21	4.73
Madison	3.10	1.26	46.89	5.59
Suwannee	5.75	1.35	42.88	5.33
Taylor	4.61	1.08	42.67	5.23
Union	4.51	1.75	42.73	4.85

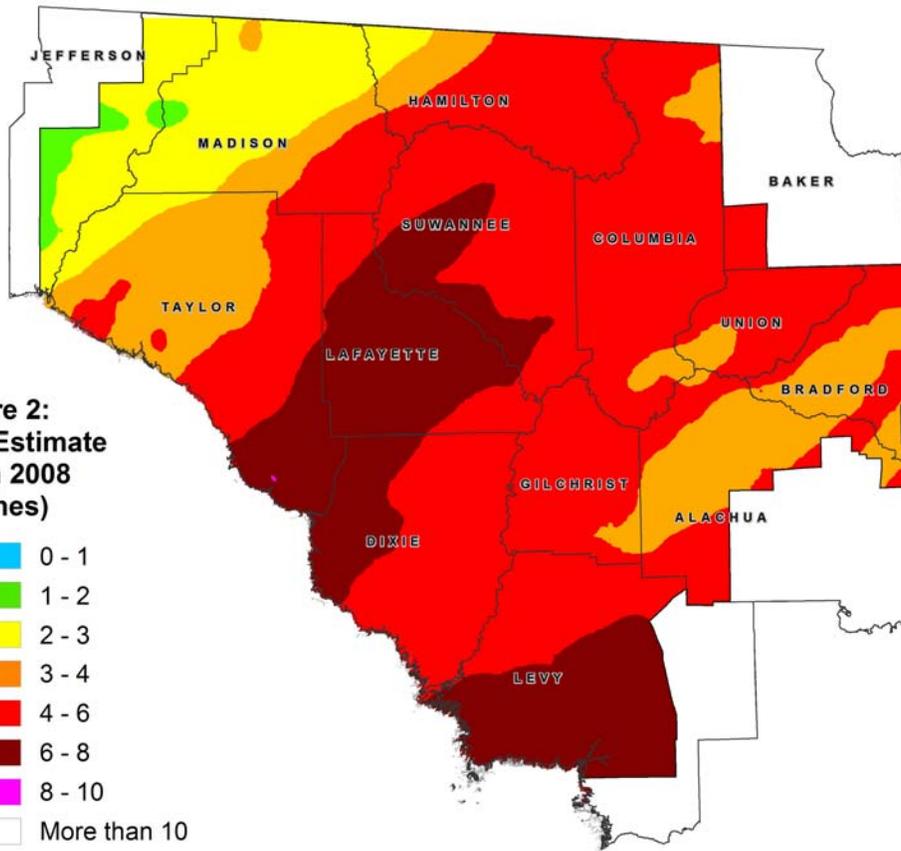
March 2008 Average: 4.61
 Historical March Average: 4.53
 Historical 12-month Average: 54.71
 Past 12-Month Total: 45.13
 12-month Rainfall Deficit: -9.58

(Rainfall reported in inches)

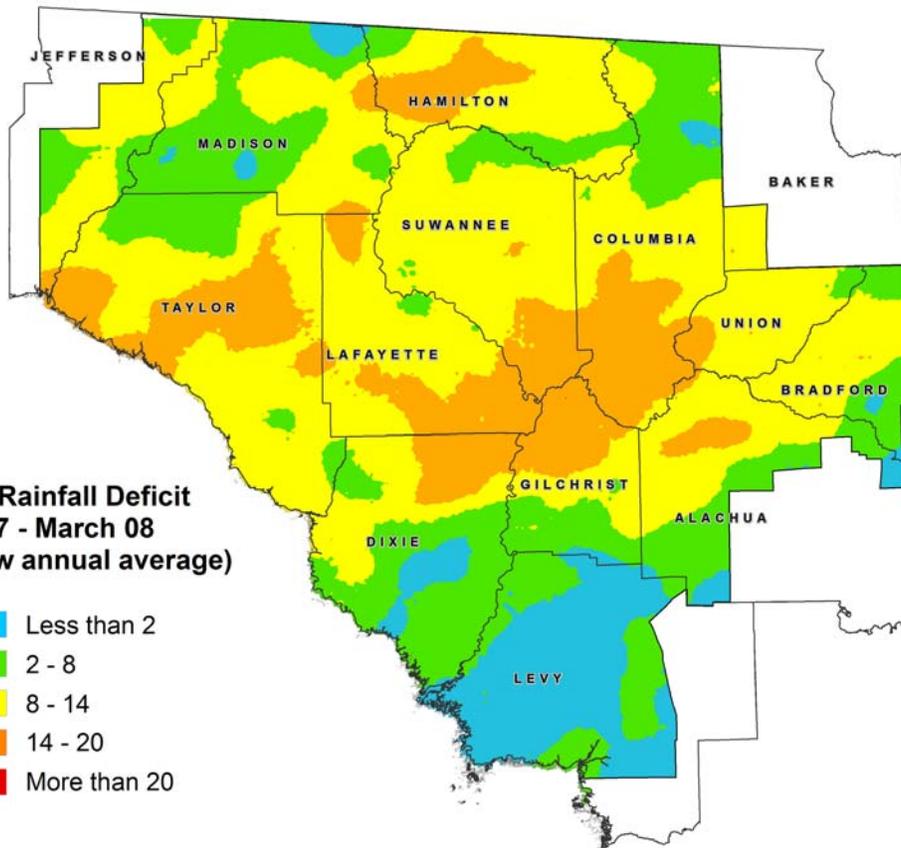
Figure 1: Comparison of District Monthly Rainfall

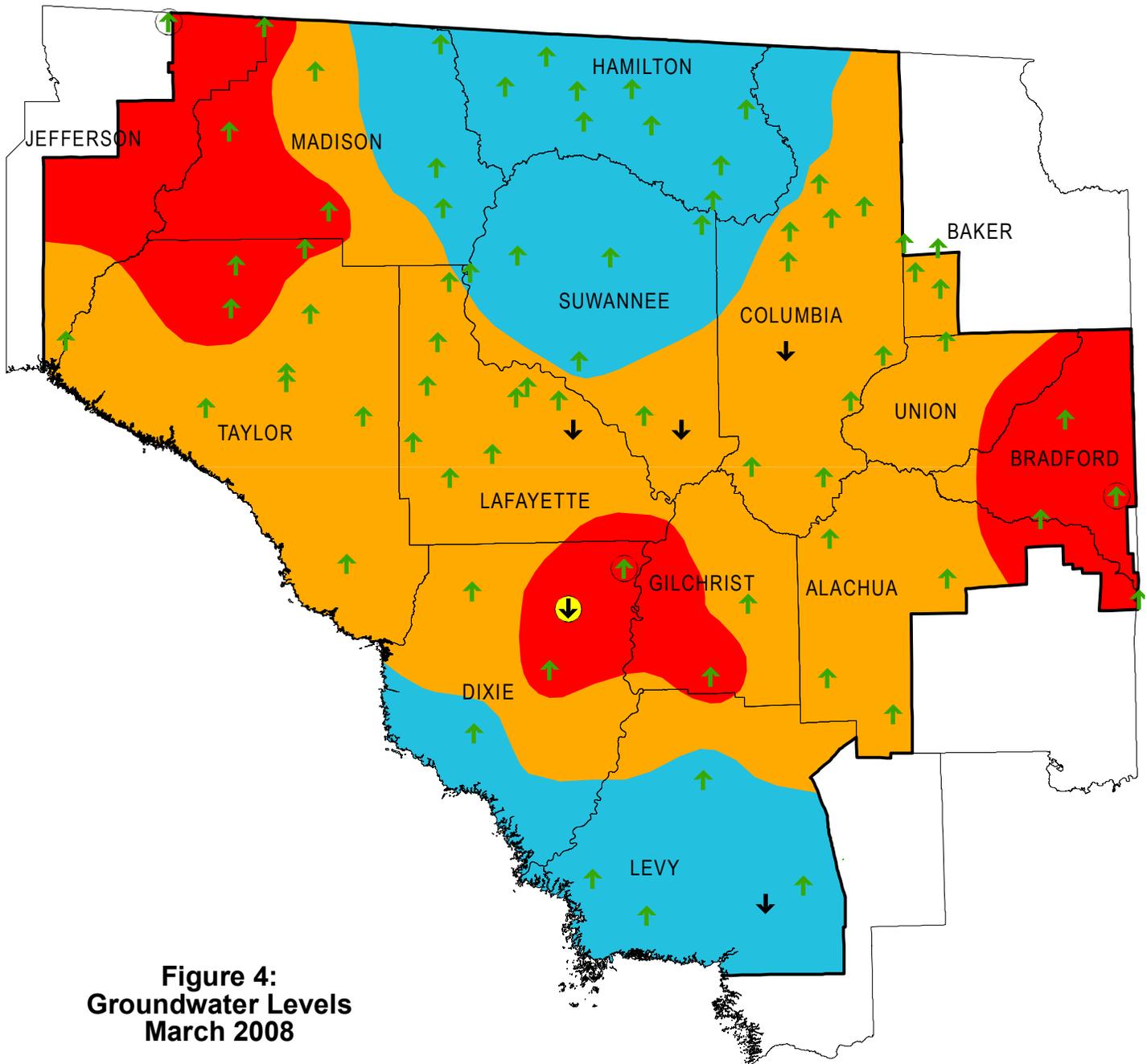


**Figure 2:
Rainfall Estimate
March 2008
(inches)**



**Figure 3: Rainfall Deficit
April 07 - March 08
(inches below annual average)**



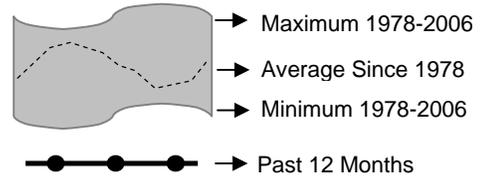


- High
(Greater than 75th Percentile)
- Normal
(25th to 75th Percentile)
- Low
(10th to 25th Percentile)
- Extremely Low
(Less than 10th Percentile)

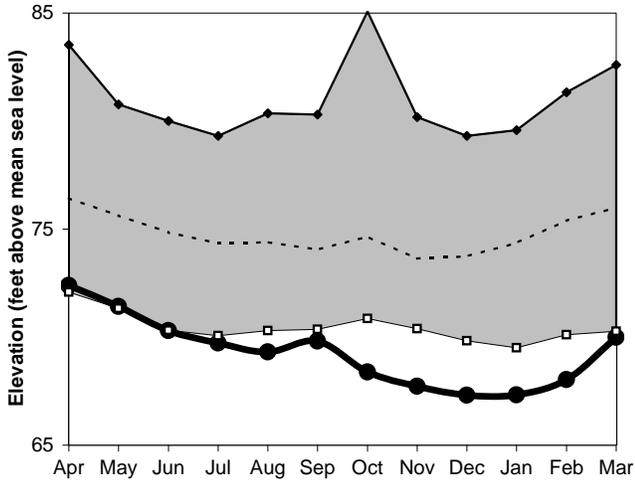
- Well Level Increase Since Last Month
- Well Level Decrease Since Last Month
- Record Monthly Low
- Historic Low

Figure 5: Monthly Groundwater Level Statistics

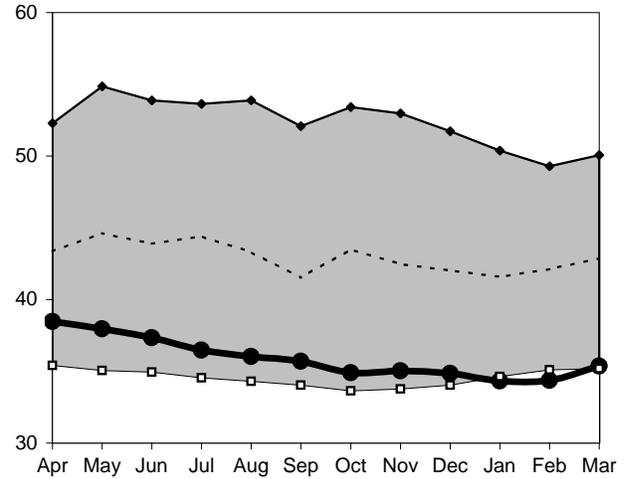
Levels April 1, 2007 through March 31, 2008
 Period of Record Beginning 1978



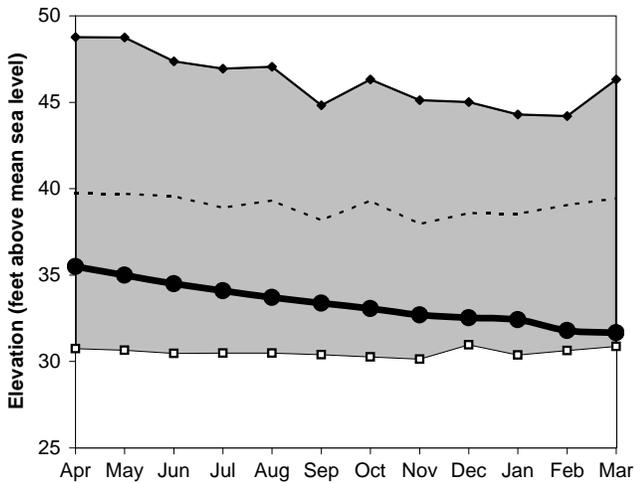
Madison County N010719001



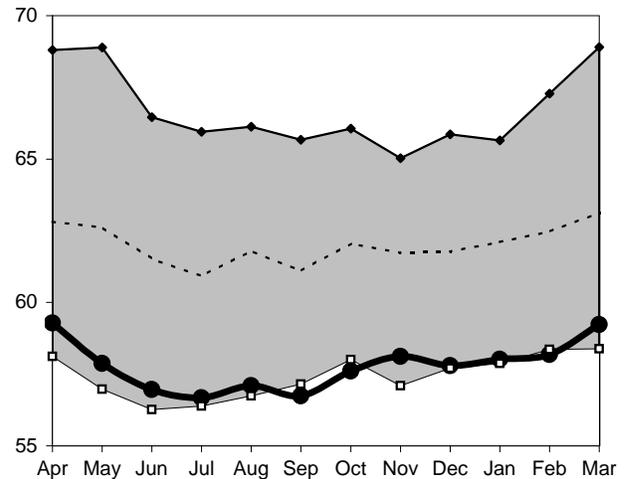
Suwannee County S021335001



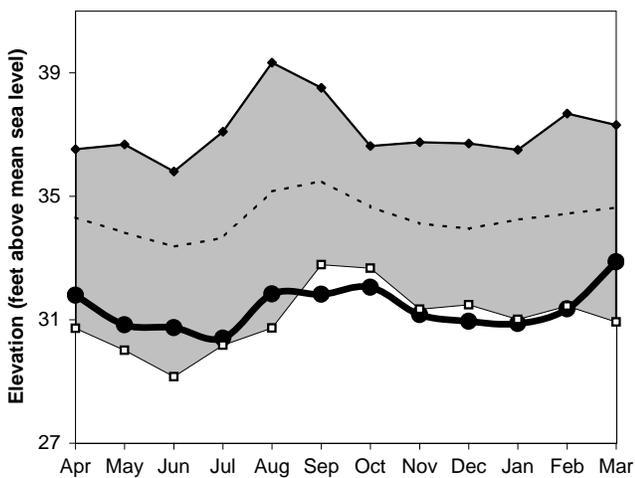
Columbia County S041625001



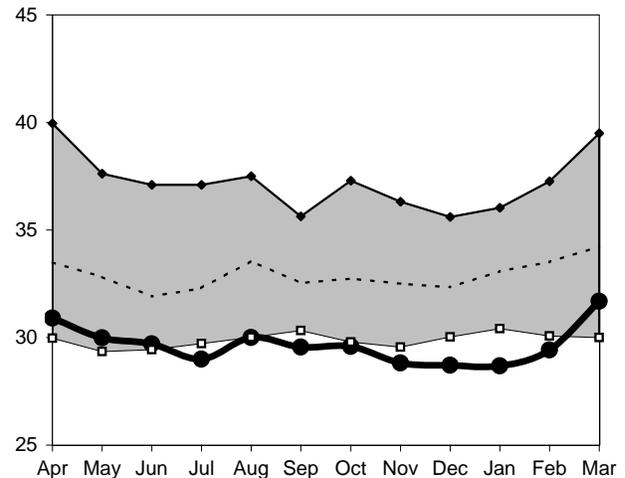
Bradford County S072132001

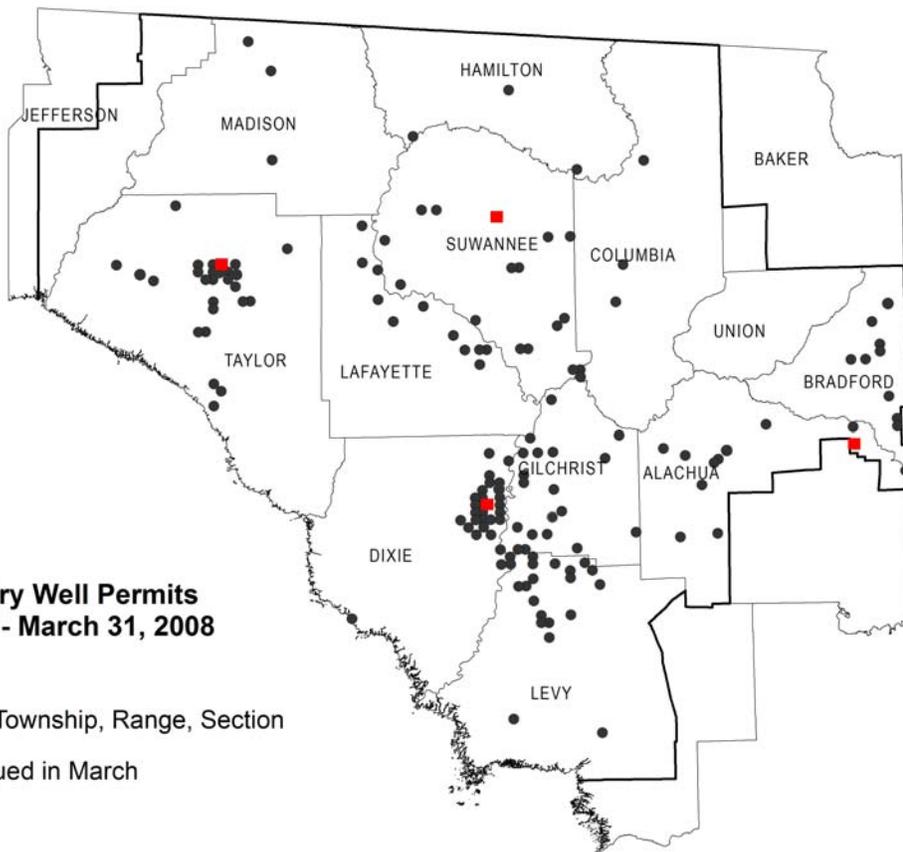


Dixie County S101210001



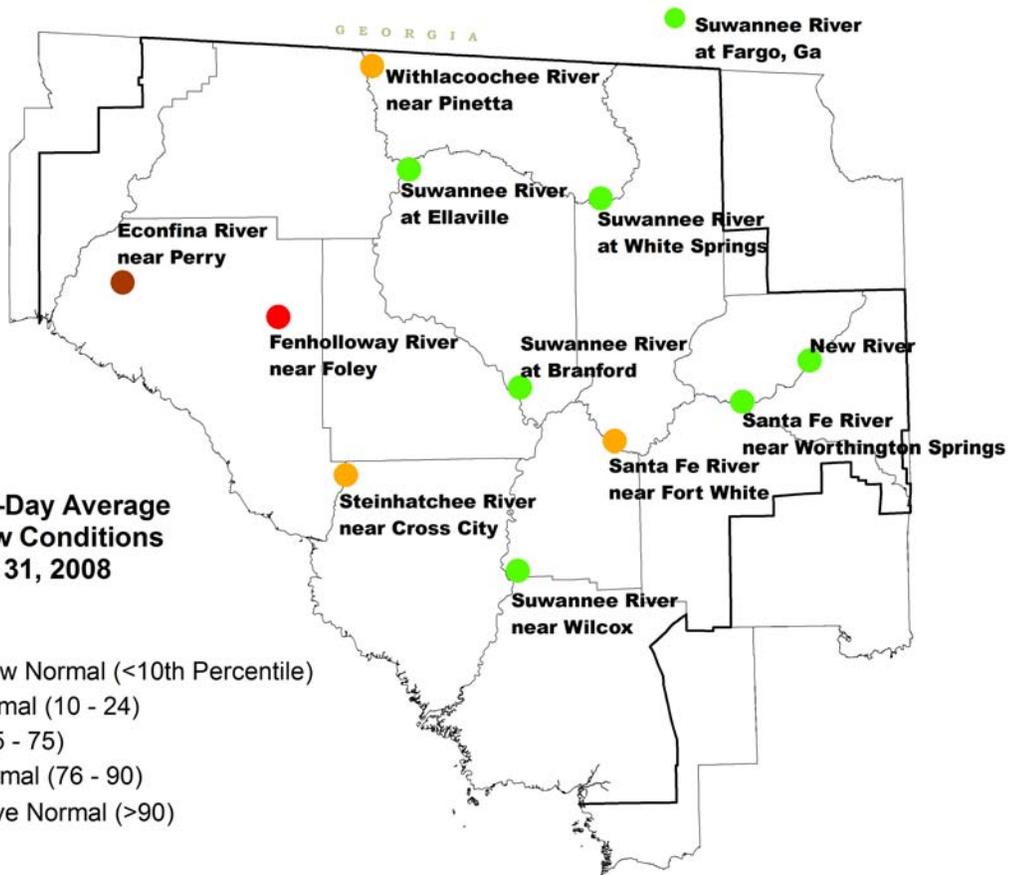
Taylor County S050701001





**Figure 6: Dry Well Permits
April 1, 2007 - March 31, 2008**

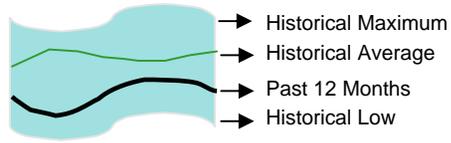
- Permits by Township, Range, Section
- Permits Issued in March



**Figure 7: 7-Day Average
Streamflow Conditions
March 31, 2008**

- Low
- Much Below Normal (<10th Percentile)
- Below Normal (10 - 24)
- Normal (25 - 75)
- Above Normal (76 - 90)
- Much Above Normal (>90)
- High

Figure 8: Daily River Flow Statistics
 April 1, 2007 through March 31, 2008



RIVER FLOW, CUBIC FEET PER SECOND

