



**Madera County
2014 Drought**

**2013-2014
Madera County Grand Jury
Madera County Ground Water Issues**

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Introduction:

California is in a serious drought that includes Madera County. The federal government has declared 53 of 58 counties in California to be Federal disaster areas. The Governor of California has declared that California is in an official drought. The Madera County Board of Supervisors (BoS) issued a declaration of an emergency water crisis. Madera County is experiencing water shortages that will be far reaching and have ongoing impacts on individuals and businesses.

This report primarily focuses on the status of groundwater in Madera County, and this report is based on extensive study and investigation by the Grand Jury. The current status of groundwater in Madera County and past actions that have produced the current conditions are used to set the stage for recommendations, short and long term; that can be taken to mitigate the existing groundwater shortage. Although Madera County has water shortage issues in common with other Valley counties, the emphasis of this report is on actions that are within the control of Madera County officials.

Facts:

1. The BoS has the ultimate responsibility and authority for setting water policies and regulating the use of water within the county.
2. California is the only state that does not regulate groundwater at the state level. Groundwater regulation is left to local governmental agencies.
3. Agricultural groundwater extraction and use in Madera County is not regulated except for the requirement to obtain a well drilling permit prior to the construction or rehabilitation of a well.⁽⁴⁾
4. Madera County has been in a condition of groundwater overdraft for many years. The current estimate is that the overdraft is at least 150,000 acre feet per year.⁽¹⁾
5. The current estimate of groundwater usage in Madera County is 1,142,000 acre feet. Of this, 96.3% is for agriculture and 3.7% is for urban use.⁽¹⁾ (March 4, 2014)
6. The water table level has, on average, declined 155 feet in the period between 1980 and 2011. The average decline in many areas is 5 feet per year and in drought years the decline can increase from 15 to 20 feet.
7. In the past four years the average water table in southeast Madera Ranchos area and the area northeast of the City of Madera has declined by approximately 30 feet.⁽¹⁾
8. The primary sources for groundwater recharge in Madera County are: annual precipitation; seepage from rivers, creeks, and canals; seepage from mountain snowpack; and seepage from water retention ponds.

9. Permanent tree and fruit crops require between 2.5 and 4 acre feet of water per acre each year.⁽²⁾ Plantings of almond trees have increased 42.6% since 2007.⁽⁵⁾
10. Medium density residential development uses an average of 400 gallons per day per dwelling unit, or 146,000 gallons per unit per year.⁽³⁾
11. Water usage in the City of Madera and City of Chowchilla has decreased in recent years because of the implementation of water metering and landscape water irrigation restrictions.
12. The BoS has enacted an ordinance that has the goal of reducing domestic water usage in the county service districts affecting 1% of water usage in Madera County.
13. Madera County is a "Right to Farm" county consistent with the California Right to Farm Act.
14. Madera County has a Water Advisory Commission of five members, with each member of the BoS appointing one member. The Water Advisory Commission was formed to advise the BoS on water policy issues.
15. At the present time, with the exception of seeking state and federal grants, there is no sustainable source of revenue to address water storage and supply issues.
16. The Madera County Groundwater Management Plan is currently being updated. It will define the current status and provide recommendations for possible remediation efforts.
17. The county has only one qualified professional with any background in water management, the County Engineer. The County Engineer can only devote a fraction of his time to water issues as his responsibilities and duties are extensive.

Sources:

- (1) County Engineer Report to Board of Supervisors 03/04/2014
- (2) Crop water usage tables Cal Poly SLO
- (3) Gunner Ranch West SB 610 Water Assessment Study
- (4) Interview with County Engineer
- (5) Madera County Crop Reports 2007-2012
- (6) Interviews with officials from the Board of Supervisors, Madera Irrigation District, Water Advisory Commission and a local farmer
- (7) Attendance at U.C. Davis presentation of Water Seminar to County personnel
- (8) Attendance at Integrated Regional Water Management Committee
- (9) Attendance at Water Forum presented at the International Agriculture Show
- (10) Monitoring meetings of the Madera County Board of Supervisors and the Water Advisory Commission
- (11) Association of California Water Agencies

Findings:

1. On April 22, 2014, the BoS in response to resolutions passed by the City of Madera, the City of Chowchilla and actions taken by Madera Irrigation District, Gravelly Ford Water District, Root Creek Water District and others, unanimously passed a motion to work with other stakeholders to form a Joint Powers Authority to manage groundwater in the Madera Basin.
2. The BoS has not proposed any revenue source which would enhance the County's ability to solve the groundwater problem. Any tax or fee that would be enacted to generate a revenue stream for ongoing groundwater remediation would be subject to approval by the impacted voters.
3. New tree and fruit plantings in recent years have been mostly in areas without access to surface water, thus increasing the use of groundwater for agricultural irrigation, particularly due to new plantings of almond trees.
4. Any significant action to reduce the short term overdraft of groundwater must reduce the use for agricultural irrigation.
5. The continuing overdraft of groundwater will result in an ongoing drop in the water table and land subsidence. Land subsidence is an irreversible process, resulting in a permanent loss of potential subsurface water storage. Land subsidence has caused damage to local, state and federal infrastructure. The sources of groundwater recharge are insufficient to maintain an adequate supply of water for Madera County. (See Attachment)
6. Although Madera County is a Right to Farm county, the use of land for agriculture is still subject to all the land use polices and ordinances enacted by the BoS. The Right to Farm ordinance in Madera County does not justify lack of action by the BoS to enact regulations on the Agricultural Industry.
7. Over the years, the BoS has requested many studies regarding water usage; however, little change in groundwater usage has resulted.
8. The Water Advisory Commission is ineffective due to the lack of access to professional staff and lack of support by the BoS.
9. The only professional with water expertise on staff is the Madera County Engineer who can only devote a fraction of his time to water issues.
10. Madera County has no accurate method of measuring how much groundwater is used in different areas of the county on an ongoing basis.

Recommendations:

The following recommendations are made with the intent of creating a sustainable balance between groundwater use and availability.

The Grand Jury recommends that:

1. The BoS immediately enact a moratorium on the issuance of well drilling permits for new wells for agricultural use, except for replacement wells of equal capacity.
2. The BoS enact an ordinance requiring the review, prior to issuing a well permit, of the location and design of new wells so as to minimize adverse impacts to existing wells on parcels under different ownership.
3. The BoS develop procedures to monitor and quantify the annual use of groundwater by residential, commercial/industrial and agricultural categories.
4. The BoS prepare a plan for a fee on groundwater extraction based on usage.
5. The BoS enact an ordinance that would require the demonstration of a sustainable water supply for agricultural use before land can be converted to permanent crops with intensive water requirements.
6. The BoS enact a water conservation plan which includes restrictions on agricultural, commercial/industrial and residential uses of water and publish it online.
7. The BoS work with stakeholders to develop additional groundwater recharge, groundwater storage, and surface water delivery systems.
8. The BoS employ in the County Engineering Department, additional professional staff with water expertise to aid in planning and implementation of sustainable water usage.
9. The BoS prepare an annual report quantifying the water usage of the county by residential, commercial/industrial and agriculture users. Make the report available to the public in local newspapers, posting on the county website and mailing to all property owners with property tax statements.
10. The BoS initiate a land subsidence monitoring program in all areas of the county and adopt policies relating to land subsidence that are based on the premise that continuing land subsidence will permanently damage infrastructure, reduce groundwater storage capacity and negatively impact the county economy.

11. The BoS adopt policies so that groundwater decisions are:
- a) based on maintaining a sustainable balance between supply and use;
 - b) acknowledge that groundwater is a limited resource that must be managed for the common good;
 - c) recognizing the needs of domestic users and smaller farms.

Respondents:

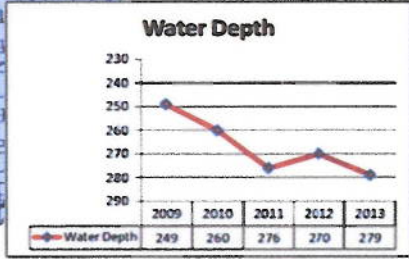
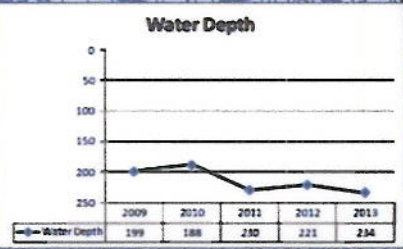
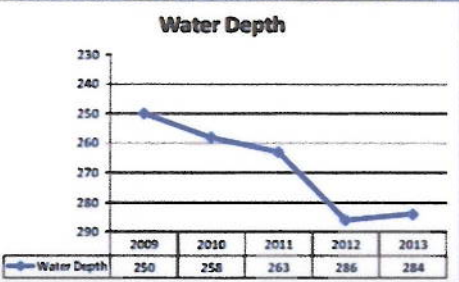
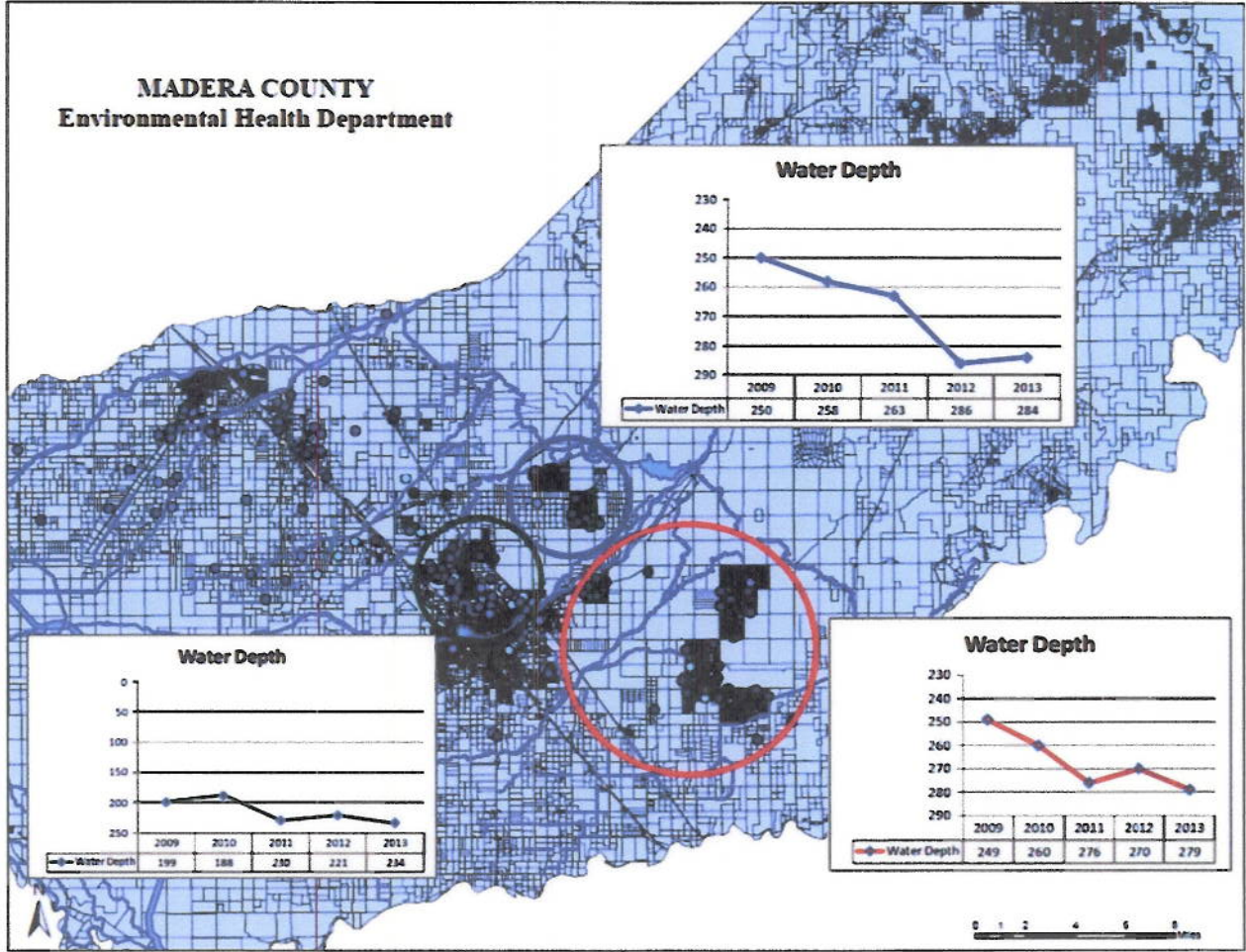
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**MADERA COUNTY
Environmental Health Department**



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