

**Basin Management Objective
Butte County
Sub Area – ANGEL SLOUGH
Calendar Year - 2006**

Butte County Water Advisory Committee Member – Catherine Cottle

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Aquifer Systems Identified In Sub Area:

Quaternary Alluvium

The Modesto Formation

The Tehama Formation

Upper Tuscan (Formation Unit C) Aquifer System

Lower Tuscan (Formation Unit B) Aquifer System

Management Objective –

It is the intent of this objective to maintain the groundwater surface elevation during the peak summer irrigation season (July and August) in all aquifer systems at a level that will assure an adequate and affordable irrigation groundwater supply, and to assure a sustainable agricultural supply of good quality water now and into the future. The management objective is also to assure an adequate groundwater supply of adequate quality from the alluvial aquifer system for all domestic users in the sub-area and to assure the water supply can be utilized without injuring groundwater quality or inducing land subsidence.

Location of Basin Management Objective Key Wells:

Groundwater Levels – See attached map of monitoring wells

Groundwater Quality – To be completed in 2007

Land Subsidence – See attached map of monitoring wells

Groundwater Level Monitoring Network(s):

Department of Water Resources

Butte County Department of Water and Resource Conservation

Groundwater Quality Network(s):

To be completed in 2007

Land Subsidence Monitoring Network(s):

Department of Water Resources
Butte County Department of Water and Resource Conservation

Monitoring Frequency:

Groundwater Levels – Department of Water Resources - semiannually (fall and spring). Butte County Department of Water and Resource Conservation – July and August in accordance with Chapter 33 of the Butte County Code.

Groundwater Quality – To be completed in 2007

Land Subsidence – Department of Water Resources – Continuously

Well Numbering System(s):

Groundwater Levels – Department of Water Resources (State Well Numbering System). Butte County Department of Water and Resource Conservation (State Well Numbering System).

Groundwater Quality – To be completed in 2007

Land Subsidence – Department of Water Resources (State Well Numbering System)

Basin Management Objective Key Wells and Compliance Methodology for Groundwater Levels.

Well ID	Aquifer System	Well Type	Stage 1 & 2 Alerts** Elev. (ft)	Stage 3 Alerts** Elev. (ft)
21N01W23J01M	Alluvium	Irrigation	112.04	106.50

* - See Staff Report for description of method.

** - See attached hydrographs.

Basin Management Objective Key Wells and Compliance Methodology for Groundwater Quality.

To Be Completed in 2007

Basin Management Objective Key Wells and Compliance Methodology for Land Subsidence.

Land Subsidence will be monitored at the closest extensometers located in the M&T and Western Canal sub inventory units. Maximum annual inelastic land subsidence shall not exceed 0.01 feet per year.

BMO Alert Stage Definitions:

The Angel Slough Sub Area will use the following guidelines in the management of the groundwater resources. The groundwater level and land subsidence management objectives are intended to trigger predetermined voluntary Ground Water Management Actions, as defined below, to remedy declining ground water levels that are not recovering to compliance levels for the index well. The groundwater quality BMO management actions will be defined in 2007.

Groundwater Levels:

Stage 1: The first year that spring groundwater levels fall below the average spring groundwater level established for the well, yet remain above the lowest recorded spring level for the well.

Stage 2: Stage 2 is reached if spring groundwater levels, for a second consecutive year, remain below the average groundwater level established for the well and still above the lowest record spring level for the well.

Stage 3: Stage 3 is reached if the spring groundwater levels fall below the lowest historic water level on record.

Groundwater Quality:

To be done in 2007

Land Subsidence:

Land Subsidence is continuously monitored by the Department of Water Resources and Butte County Water and Resource Conservation at the closest extensometers in the Western Canal Water District and M&T Ranch sub units.

BMO Compliance Evaluation Procedure:

The groundwater surface elevation at each monitoring well will be compared against the corresponding compliance graph and stage definition criteria to determine if the groundwater surface elevations are above or below specific alert trigger levels. The Butte County Water Commission's Technical Advisory Committee will determine compliance with the BMO following the spring measurement period and then report the results of the evaluation to the Butte County Water Advisory Committee and Water Commission.

Ground Water Management Actions:

Stage 1. Groundwater management actions to be undertaken following a Stage 1 noncompliance shall be informational. The Butte County Water Advisory Committee (WAC) and Water Commission (WC) will be advised of the noncompliance.

Stage 2. Groundwater management actions to be undertaken following a Stage 2 noncompliance shall be investigational. Upon identification of the Stage 2 noncompliance the noncompliance will be reported to the WAC and the WC. Following review and concurrence, the WAC shall direct the TAC to initiate an investigation to determine the cause(s) of the noncompliance and make recommendations as how to correct the noncompliance. The TAC shall report their findings and recommendations back to the WAC and WC within 30 days.

Stage 3. Groundwater management actions to be undertaken following a Stage 3 noncompliance shall be actionable. Upon identification of the Stage 3 noncompliance, the noncompliance will be reported to the WAC and the WC. Following review and concurrence, the WAC shall direct the TAC to initiate an investigation to determine the cause(s) of the noncompliance and make recommendations as how to correct the noncompliance. The TAC shall report back their findings and recommendations back to the WAC and WC within 30 days. The WAC will then work with the locals in the sub area to implement needed water management activities necessary to correct the problem. Such water management activities shall include, but not limited to, voluntary water conservation measures, redistribution of groundwater extraction, reduction of groundwater extraction, or other measure(s) identified and approved by the WAC, WC, and the Butte County Board of Supervisors.

Future Monitoring Recommendations:

Efforts will be made to identify additional domestic wells that could be added to the existing monitoring well network in sub-area to allow development of additional management objectives for the alluvial aquifer system. Initiate data collection for development of groundwater quality management objective in 2007.

Supporting Data:

- See attached hydrographs
- See attached map of monitoring wells
- See attached map of Sub Unit Boundaries

**Spring Groundwater Levels
Angel Slough- 21N01W23J01**

