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## **Chapter 030 Groundwater Coordinated Resource Management Plan**

- **Section 010 Purpose**
  - A. The Board of Supervisors (Board) finds that the protection of groundwater, as a resource, for its use within the County is necessary for the protection of the health, welfare, and safety of the residents of the County. The Board further declares that the maintenance of safe yield of groundwater is of critical importance to the economy of the County.
  - B. The continued availability of groundwater should be protected and the extraction of groundwater should not exceed safe yield, degrade groundwater quality, or cause land subsidence.
  - C. The County does not hereby intend to regulate, in any manner, the use of groundwater; unless safe yield is exceeded or there is a threat to public health, welfare, or safety, but intends to adopt monitoring programs that will allow for the effective management of groundwater availability (groundwater level), groundwater quality, and indications of land subsidence.
  - D. It is essential for information gathering and management purposes that the County continues to refine monitoring programs addressing groundwater availability, groundwater quality, and land subsidence.
  - E. In adopting this groundwater and coordinated resource management plan ordinance, the County does not intend to limit other authorized means of managing the groundwater resources within the County, and intends to work cooperatively with interested local agencies to further develop and implement joint groundwater and coordinated groundwater management practices and programs.
  - F. The lack of groundwater management and monitoring may have the following negative impacts on the groundwater resource, including but not limited to:
    1. Lowering of groundwater levels leading to increased energy consumption, the increased cost of deepening existing wells, and the prospect that new wells will need to be deeper and more costly than would otherwise be required.
    2. Damage to public roads, bridges, canals and other structures caused by land subsidence at substantial cost to the public treasury.
    3. Drying up of surface and subsurface flows leading to the potential loss of critical riparian and wetland habitat.
    4. Degradation of groundwater quality.

5. Degradation of the vibrant agriculture economy and rural lifestyle of Glenn County residents.

G. It is the purpose and intent of this chapter to establish an effective policy concerning groundwater and coordinated resource management that will assure the overall health, welfare, safety, economy and environment of County is not adversely affected by excessive groundwater use. The County seeks to foster prudent groundwater practices, and to coordinate them with other water management practices to avoid significant adverse environmental, social, and economic impacts.

H. The Preliminary Plan for Groundwater and Coordinated Water Management (Preliminary Plan) was adopted by the Board in May 2006 which incorporated goals and tasks for water management. With the implementation of the Plan, the County would complete tasks that create a better understanding of managing water as a resource and provide an organization for management of the resource. (Ord. 1237 § 1, 2012; 1115 § 1, 2000.)

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**Section 020 Definitions**

?Aquifer? means a geologic formation that stores, transmits and yields significant quantities of water to wells and springs.

?Available supply? means the quantity of groundwater, which can be withdrawn annually from a groundwater basin without exceeding safe yield of the basin.

?Basin Management Objective (BMO)? means quantitative or narrative objectives that define the acceptable ranges of groundwater level, groundwater quality, and land subsidence (safe yield) that should be allowed to occur within a defined area. Key elements in the development of a BMO are management areas, public input, monitoring, adaptive management, and enforcement.

?Board? means the Board of Supervisors of Glenn County

?Comprehensive Monitoring Program? means the monitoring program detailed in the adopted Preliminary Plan for Groundwater and Coordinated Water Management.

?County? means County of Glenn.

?District? means a district or municipality wholly or in part located within the boundaries of the County, which is a purveyor of waters for agricultural, domestic or municipal use. The Orland Unit Water Users Association and Willow Creek Mutual Water Company are included in this definition.

?Enforcement Agency? means the Board of Supervisors as the Enforcement Agency for general well standards and shall also be the Enforcement Agency under this chapter.

?Exhibit A? means any adopted iteration of the background document describing the BMO process by the Board of Supervisors.

?Exhibit B? means the Preliminary Plan for Groundwater and Coordinated Water Management.

?Exhibit C? means any iteration of Export Water Transfer Guidelines adopted by the Board of Supervisors.

?Export? means the use of County groundwater outside of the boundaries of the County and outside of the boundaries of any district that is partially within the County. Surface water that is sold or exchanged outside of the boundaries of the County and outside of the boundaries of any district that is partially within the County that is replaced by groundwater extraction shall be considered export.

?Extensometer? means an instrument for measuring land subsidence.

"Groundwater? means all water beneath the surface of the earth below the zone of saturation, but does not include water which flows in known and definite subsurface channels.

?Groundwater Management Plan? means a plan prepared pursuant to the California Groundwater Management Act (commencing with Water Code Section 10750 et. seq.).

?Groundwater Mining? means the process, deliberate or inadvertent, of extracting groundwater from a source at a rate so in excess of the replenishment that the groundwater level declines persistently, threatening exhaustion of the supply or at least a decline of pumping levels to uneconomic depths

?Groundwater Modeling? means a tool that can be used to simulate groundwater flow, stream flow, reservoir operations, rainfall runoff processes, land use processes, unsaturated zone flow, and land subsidence.

?Groundwater Substitution Program? means the voluntary substitution of an available surface water supply by a groundwater supply for the purposes of enhancing in-stream flow or export.

?Land Subsidence? means the lowering of the ground surface caused by the inelastic consolidation of clay beds in the aquifer system.

?Preliminary Plan? means the document Preliminary Plan for Groundwater and Coordinated Water Management prepared by Wood Rodgers, Inc. (2003) that defines a role of facilitation and coordination on the part of the County for water resource management adopted by the Board in May, 2006.

?Recharge? means flow to groundwater storage from precipitation, infiltration from streams, irrigation, spreading basins and other sources of water.

?Technical Advisory Committee? (TAC) shall include a ten (10) person committee appointed by the Board. A Board member shall be appointed as an ex-officio member and may act as TAC chairman. The committee shall include representatives of the Glenn County Departments of Planning and Public Works, the UC Cooperative Extension, the Glenn County Environmental Health Office, the Glenn County Department of Agriculture, and the Department of Water Resources (DWR). The committee shall also include four (4) at-large stakeholders selected to represent the North, South, Central and East areas of the County and all to be knowledgeable in groundwater management and hydrology. The TAC will have the responsibility of providing relevant water resource information on BMOs and impacts to groundwater resources in general to the Water Advisory Committee in a timely manner.

?Water Advisory Committee? (WAC) means a 13 (thirteen) person advisory/planning body which shall be appointed, with membership serving at the pleasure of the Board. The role of the WAC shall include the development and implementation of organized planning for the coordination of groundwater resources in the County as presented in the Preliminary Plan, as well as BMO refinement and compliance. At a minimum, members of the WAC shall publicly present findings from planning program goals on a semi-

annual basis (spring and fall) to the Board. The WAC membership shall be as follows:

1. At-Large Private Pumpers (Agricultural/Municipal/Industrial) - 4
2. Resource Conservation District - 1
3. Glenn County Farm Bureau - 1
4. Tehama Colusa Canal Authority Districts ? 2
5. Orland Unit Water Users Association ? 1
6. East County Reclamation and Irrigation Districts ? 2
7. Glenn Colusa Irrigation District ? 1
8. Central River Irrigation Districts ? 1

• **Section 030 Safe Yield**

A. Safe yield for Glenn County will be determined by the Basin Management Objective (BMO) method (see Appendix A of Exhibit A). The BMO predefines acceptable levels of the following:

1. Groundwater levels
2. Groundwater quality
3. Land subsidence.

B. Compliance with the BMO will be determined by evaluation of data collected from the groundwater level, groundwater quality, and land subsidence monitoring networks and other sources as appropriate. It is the intent that the BMO be chosen so as to assure that the overall economy and environment of the County is protected.

(Ord. 1237 § 1, 2012; 1115 § 1, 2000.)

• **Section 040 Basin Management Objective**

A. Determination of the BMO (Exhibit A): The BMO will be established initially, and reestablished periodically by the Board, with the recommendation of the WAC based on the best available scientific information, monitoring data, and existing known hydrogeologic conditions of the aquifer system. It is the intent of the ordinance to utilize the best scientific information available in an effort to assess risk to individuals in hydrologically similar areas.

B. Groundwater management practices based on the established BMO criteria for one hydrologic area of the County shall not result in exceeding the established BMO criteria in adjacent hydrologically similar areas.

(Ord. 1237 § 1, 2012; 1115 § 1, 2000.)

• **Section 050 Monitoring BMO Compliance**

Monitoring programs designed to detect changes to groundwater levels, groundwater quality and land subsidence will be key to proper assignment of, and compliance with, the BMO. The monitoring programs will measure select wells to determine changes in groundwater levels and changes in

groundwater quality, and periodically survey select benchmarks to identify land subsidence. Continuous land subsidence monitoring with extensometers shall also be incorporated into the land subsidence monitoring network.

(Ord. 1115 § 1, 2000.)

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#### **Section 060 Monitoring Network**

A. Establishing the Groundwater Level Monitoring Network: The monitoring network will be established by the WAC and periodically reviewed by the TAC and approved by the Board. The intent of the groundwater level monitoring network is not to measure all wells within the County, but to measure a select group of wells that can adequately identify representative conditions in the aquifer system for determination of compliance with the BMO.

B. The network will include dedicated monitoring wells installed and monitored throughout the County. Where necessary, data gaps will be filled by wells representative of the use in the area and have the necessary supporting documentation.

(Ord. 1237 § 1, 2012; 1115 § 1, 2000.)

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#### **Section 070 Monitoring Frequency**

Establishing Monitoring Frequency for Groundwater Levels:

A. The frequency of groundwater level monitoring will be determined by the WAC and approved by the Board. At a minimum, groundwater levels should be monitored two times during the year: one measurement prior to the irrigation season, and one measurement following the irrigation season (March and October). If necessary one measurement may be taken during peak groundwater use (July). It will be the responsibility of the TAC to report to the WAC on the status of the network annually.

(Ord. 1237 § 1, 2012; 1115 § 1, 2000.)

B. In order to effectively monitor groundwater levels, a fee shall be charged to recover the costs associated with the replacement of continuous groundwater monitoring equipment in the County's dedicated monitoring network. This fee will be collected through the Well Permit Application process. These fees are set by Resolution adopted by the Board of Supervisors and are reflected in Appendix ?A? of Chapter 5.23 of the Glenn County Administrative Manual.

(Ord. 1237 § 1, 2012; 1210 § 3, 2009.)

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#### **Section 080 Water Quality**

A. Establishing the Water Quality Monitoring Network:

The groundwater quality monitoring network will be established by the WAC and approved by the Board. The intent of the groundwater quality monitoring network is to monitor a group of wells that can adequately determine representative groundwater quality conditions in the aquifer system for identification of compliance with the BMO and other water quality concerns. The network will include select domestic and irrigation wells from water districts, private owners, and municipal and industrial

water suppliers willing to cooperate. It will be the responsibility of the TAC to report to the WAC on the status of the network annually.

**B. Establishing Monitoring Frequency for Groundwater Quality:**

The frequency of water quality monitoring will be determined by the WAC and approved by the Board. At a minimum, groundwater quality should be monitored once a year, during peak groundwater uses (July). At a minimum, groundwater quality measurements will monitor temperature, pH, and electrical conductivity. If conditions warrant, additional laboratory water quality analysis may be performed. With the adoption of the Preliminary Plan, a more Comprehensive Monitoring Program shall be implemented over time as funding permits, and pursuant to any subsequently enacted ordinance by the County. (Ord. 1237 § 1, 2012; 1115 § 1, 2000.)

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**Section 090 Land Subsidence**

**A. Establishing the Subsidence Monitoring Network:** The land subsidence monitoring network will be established by the WAC and approved by the Board. The intent of the land subsidence monitoring is to detect land subsidence for determination of compliance with the BMO. The network will include benchmarks throughout the County. In heavy groundwater use areas, some existing wells may be converted to extensometers for continuous land subsidence monitoring. (Ord. 1115 § 1, 2000.)

**B. Establishing Monitoring Frequency for Land Subsidence:** The frequency of land subsidence monitoring will be determined by the WAC and approved by the Board. Subsidence surveys should be conducted following aquifer recovery and prior to groundwater extraction for irrigation in the spring (March). It is anticipated that the benchmarks will be surveyed using precision vertical GPS methods. Extensometer monitoring will be conducted on a continuous basis. It will be the responsibility of the TAC to report to the WAC on the status of the network annually. (Ord. 1237 § 1, 2012; 1115 § 1, 2000.)

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**Section 100 Changes in Monitoring**

**A. Changes in Monitoring Frequency:** If evaluation of the groundwater level, groundwater quality, or subsidence data indicates a need for fewer or greater monitoring frequency, the TAC may propose a change in the monitoring schedule to the WAC. The Board will consider changes when supported by credible evidence.

**B. Changes in monitoring network:** If evaluation of the groundwater level, groundwater quality, or subsidence data indicates a need for a fewer or a greater number of monitoring wells or benchmarks, the TAC can propose a change in the monitoring networks to the WAC. The Board will consider changes when supported by credible evidence. (Ord. 1237 § 1, 2012; 1115 § 1, 2000.)

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**Section 110 Review of Technical Data**

A. The TAC will establish standard methods for review and analysis of the collected data. The TAC may meet bimonthly during the irrigation season (April through September) and quarterly during the off season (October through March) or as necessary.

B. During the irrigation season, the TAC meetings will focus on data review and analysis with respect to compliance with the current BMO. During the non-irrigation season, the TAC meetings will focus on a review of BMO compliance for the previous irrigation season and development of new BMO criteria for the following year.

C. The TAC will establish methods for data collection, storage and dissemination. Methods for collecting groundwater level, groundwater quality, and land subsidence data will follow quality assurance and quality control guidelines established by the TAC and approved by the WAC and Board.

D. The WAC will disseminate the monitoring data through public presentations and through a County (Department of Agriculture) maintained groundwater and coordinated water management webpage. (Ord. 1237 § 1, 2012; 1115 § 1, 2000.)

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**Section 120 This Section Reserved**

(Ord. 1237 § 1, 2012; 1115 § 1, 2000.)

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**Section 130 Action by Water Advisory Committee: Revised**

A. In the event that the TAC identifies an area of noncompliance with a BMO, unrelated to export, the TAC shall report to the WAC and the Board on the regional extent and magnitude of the noncompliance. This information shall also be released to the public. This report shall be made in a timely manner established by the board based upon the severity of the situation. The TAC shall then collect all available pertinent data and investigate possible causes for the BMO noncompliance, and recommend actions to resolve the BMO noncompliance to the WAC and the Board. These recommendations shall also be made in a timely manner established by the board based upon the severity of the situation. It shall be the intent of the TAC to first make recommendations that focus on resolving the BMO noncompliance through negotiations with all parties in the affected area.

B. If TAC recommendations do not result in timely and positive actions to reestablish BMO compliance; the WAC shall then recommend an adaptive management plan to the Board to constrain the identified causes in the affected area. This action will only be taken on the recommendation of the TAC after a thorough technical review of the issue. The Board shall also have the authority to intervene into isolated areas impacted by overdraft that occur anywhere in the County if the affected landowners in that area are unable to resolve their own issues.

(Ord. 1237 § 1, 2012; 1115 § 1, 2000.)

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**Section 140 Action by Board of Supervisors**

The Board shall act as the Enforcement Agency for this ordinance. Any recommendation of the TAC or the WAC may be appealed to the Board. (Glenn County Code sections 01.001-015.) "Enforcing officer" means the County public officer or County board, commission or department designated by state law or the board of supervisors to enforce any provisions of state law, this code or other County enactment. "Enforcing officer" includes any officer, employee or agent of the County to whom enforcement powers have been lawfully delegated by a designated enforcement officer or by the board of supervisors. (Ord. 1237 § 1, 2012; 1126 § 2, 2000; Ord. 1115 § 1, 2000.)

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### **Section 150 Programs by Water or Irrigation Districts**

Districts that operate their own groundwater management programs pursuant to AB 3030 or Central Valley Project Improvement Act (CVPIA) (Section 3405(a) and Public Law 102-575 or similar) contractual obligations shall make annual reports to the WAC if such programs are based upon safe yield. If a District proposes a groundwater substitution transfer outside of the County and District boundaries, the District shall comply with any Glenn County Export Water Transfer Guidelines (Exhibit C) and all state and federal regulation and laws.

(Ord. 1237 § 1, 2012; 1115 § 1, 2000.)

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#### **Links**

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