

EASTERN TULE GROUNDWATER SUSTAINABILITY AGENCY

LAND SUBSIDENCE MANAGEMENT PLAN

Purpose

The purpose of this document is to set forth policies and concepts the Eastern Tule GSA plans to implement as a result of subsidence impacts along the Friant Kern Canal. This policy document shall be used as a tool and guideline to adopt amendments to the ETGSA's Groundwater Sustainability Plan, the Rules and Regulations, and any other legal documents necessary to implement the ideas and concepts set forth herein.

Land Subsidence Management Area

The Land Subsidence Management Area shall include the following lands identified on the attached Exhibit A.

Management Action Criteria

The ETGSA Management Area has been divided into both east-west and north-south Management Areas centered on the FKC between the Tule River and ETGSA boundary with Delano-Earlimart Irrigation District (See Figure 20 of the Land Subsidence Monitoring Plan). There are four, ½ - mile east-west zones on each side of the FKC (8 total). There are six north-south zones. Thus, there are 48 total Management Zones within the Management Area.

Section 7.2.3.1 of the GSP specifically contemplates that ETGSA will refine the sustainable management criteria and management actions associated with the Management Area.

Management actions will be required within any given Management Zone within the Management Area in accordance with the tiered land subsidence action criteria specified in this section. The action criterion for each Tier is the range of additional land subsidence that occurs after January 2020 in any given Management Zone relative to the land elevation measured in that Zone in January 2020.

Extraction of the groundwater restricted in the Tier's below does not apply to Sustainable Yield as defined in the ETGSA's Rules and Regulations and does not apply to surface water recharged or banked in the underground, including transfers (and resulting surface water credits) of any such water. In addition, the Land Subsidence Management Plan does not currently implement recommended management actions for domestic wells. Furthermore, parcels within a

Management Zone without any groundwater extraction are not subject to any of the below management actions.

Immediate Actions for Plan Irrespective of Level of Subsidence

Land Subsidence Monitoring Program

- Expand existing Land Subsidence Monitoring Program to include additional benchmarks, monitored quarterly, to identify rates of subsidence
- Develop Existing Well Database for the Management Area, with location and information on each well.

Projects

- Infrastructure projects to supply surface water to areas with limited access.
- Construction of Aquifer Storage and Recovery (ASR) wells to allow for storage and recovery of water.
- Purchasing easements for a set aside program (short term or long term).
- In Lieu Program Option (*Water Code* § 10726.2(b)):
 - Parcels receiving, or with the possibility of receiving, surface water could develop programs with relevant surface water entities to receive either surface water, or groundwater from other areas, to be delivered to said lands.
- Land Repurposing Program
 - Develop conservation easements, either between the landowner and GSA or other groups. (*Water Code* § 10726.2(a).)
 - Partner with local groups to further develop Land Fallowing Program and apply for grant funds.

Project Funding

- Transitional Water Penalty Revenue
- Grant Funding

Projects, opportunities, and allocation of funding would be evaluated and recommended by an ETGSA Committee assigned to review and allocate transitional water funds received. At a minimum, penalty revenue collected from within the Management Area will be allocated for the potential projects within the Management Area.

Outreach

- Provide outreach workshops to landowners within the Management Area.

Subbasin

- Continue to monitor and evaluate subbasin contributions to land subsidence.

Extractions Outside the Management Area

- Encourage voluntary pumping of all water outside the Management Area (e.g. some land owners can pump from areas of their property that are adjacent but outside the Management Area to supply irrigation demands within the Management Area).

Tier 1: Land Subsidence Between 0 ft and 1.49 ft

- Propose revisions to ETGSA Recharge and Banking Policies to limit pumping from ASR or groundwater banking/recharge projects to the volume of water recharged minus an established leave behind. Pumping of recharged water outside of irrigation/water districts would be limited to 90 percent of water so recharged (e.g. 10 percent “leave behind”).

Tier 2: Land Subsidence Between 1.50 ft and 2.00 ft

All actions in Tier 1 apply plus the following additional management actions:

- Limit extractions within the Management Area to 60%* of available Tier 1 Penalty Allocation. (*Water Code* § 10726.4(a)(2).) Any wells implementing pumping of any water 600 ft below land surface will require a meter and reporting of the data monthly to the ETGSA staff, and subject to meter specifications as defined in the ETGSA Rules and Regulations.
- The remaining 40% of Tier 1 Penalty Allocation is available to be extracted or transferred outside of the Management Area, provided such use and transfer is otherwise consistent with the ETGSA Rules and Regulations.

Tier 3: Land Subsidence Between 2.00 ft and 2.49 ft

All actions in Tier 1 and Tier 2 apply plus the following additional management actions:

- Limit extractions within the Management Area to 30%* of available Tier 1 Penalty Allocation. (*Water Code* § 10726.4(a)(2).) Any wells implementing pumping of any water 600 ft below land surface will require a meter and reporting

of the data monthly to the ETGSA staff, and subject to meter specifications as defined in the ETGSA Rules and Regulations.

- The remaining 70% of Tier 1 Penalty Allocation is available to be extracted and or transferred outside of the Management Area, provided such use and transfer is otherwise consistent with the ETGSA Rules and Regulations.

Tier 4: Land Subsidence Between 2.50 ft and 2.99 ft

All actions in Tiers 1 through Tier 3 apply plus the following additional management actions:

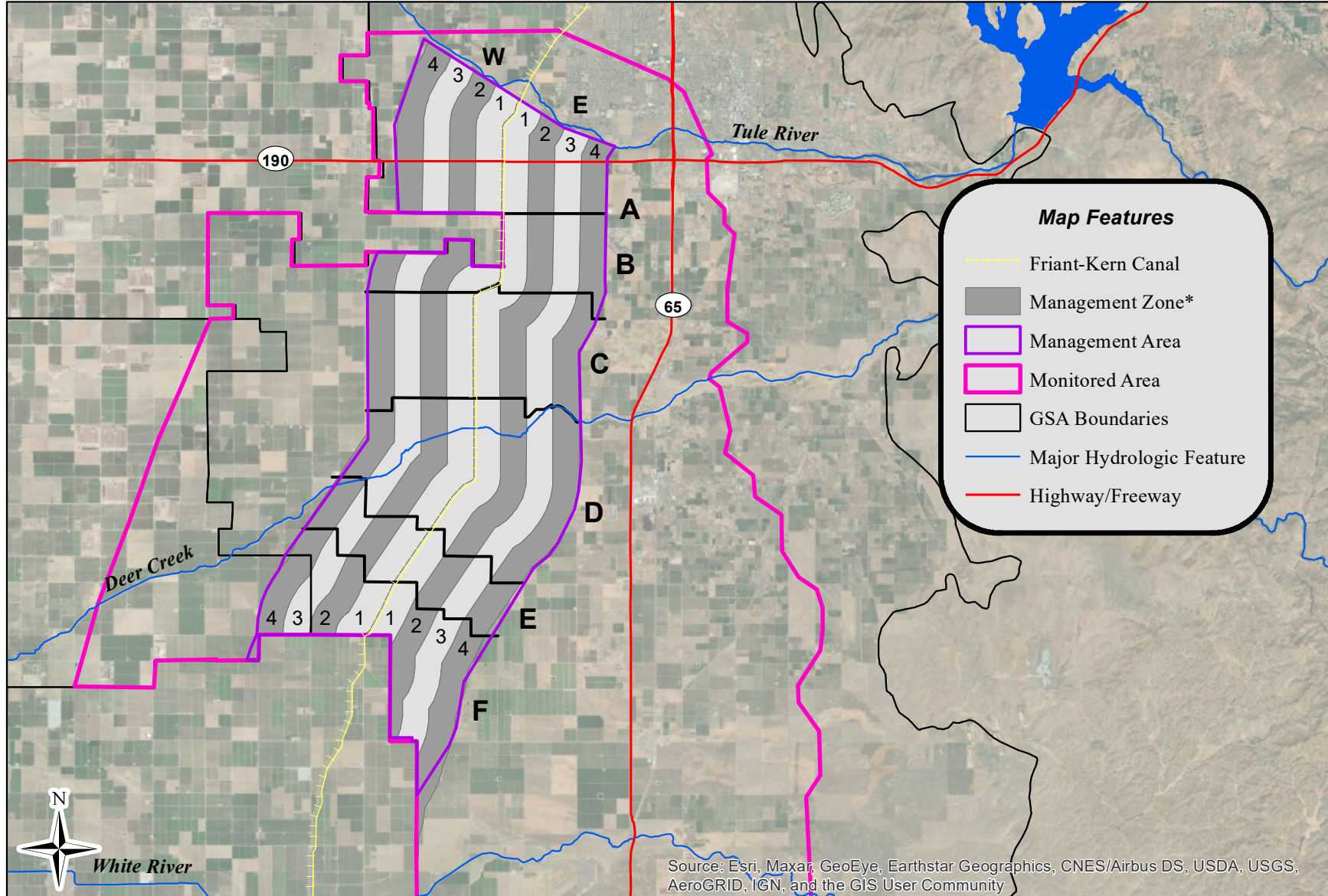
- No extraction of Tier 1 Penalty Allocation within the Management Area. (*Water Code* § 10726.4(a)(4).) Extraction of Tier 1 can occur in the Management Area if analyses and data are provided to demonstrate that it will not result in additional land subsidence.

Initial land elevations for each of the 48 Management Zones and the basis for those measurements are provided in Table 2. Changes in land elevation within each Management Zone will be evaluated and interpolated on an annual basis based on measurements recorded at established benchmarks and, if available, analysis of InSAR data. Change in land surface elevation throughout the Management Area will be documented in the LSMP annual report (see Section 8 of the Land Subsidence Monitoring Plan) and submitted to the Land Subsidence Monitoring Committee (see Section 7 of the Land Subsidence Monitoring Plan) for review and comment. If the cumulative land subsidence average within a Management Zone exceeds the criterion of its current Tier, the Land Subsidence Monitoring Committee will recommend to the ETGSA Board that the next higher Tier go into effect in the Management Area, effective October 1 of that year.

As land subsidence has been observed throughout the entire Management Zones since 2020 (see Figures 3 and 7 of the Land Subsidence Monitoring Plan), Tier 1 management actions initially apply to all Management Zones.

**As additional data becomes available and as projects, monitoring, and management actions are implemented, the groundwater flow model used to estimate the percentage reduction of Tier 1 extractions within the Management Area may be adjusted to reflect new data.*

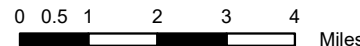
Eastern Tule GSA



Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Thomas Harder & Co.

Groundwater Consulting



NAD 83 State Plane Zone 4

Land Subsidence Management Area with Management Zones

Exhibit A

*Management Zones are conceptual until finalization of the Land Subsidence Management Plan.