

ATTACHMENT 1 – BACKGROUND INFORMATION ON DROUGHT PROCLAMATION

Drought Executive Action: Drinking Water Well Principles and Strategies

As part of the [April 21 Drought Executive Proclamation Item 11](#) signed by Governor Gavin Newsom, the California Department of Water Resources (DWR), in coordination with the State Water Resources Control Board (SWRCB), is advancing the development of principles and strategies related to groundwater management and drinking water well impacts. The State of Emergency Proclamation was signed by the Governor after two dry years to prioritize the protection of public health, safety and the environment, and to prepare for and mitigate the effects of drought conditions. Executive Action 11 specifically identifies:

“To ensure the potential impacts of drought on communities are anticipated and proactively addressed, the Department of Water Resources, in coordination with the Water Board, shall develop groundwater management principles and strategies to monitor, analyze, and minimize impacts to drinking water wells.”

The schedule for the drinking water well principles is included below and the website can be found here:

<https://water.ca.gov/Programs/Groundwater-Management/Drinking-Water-Principles>.

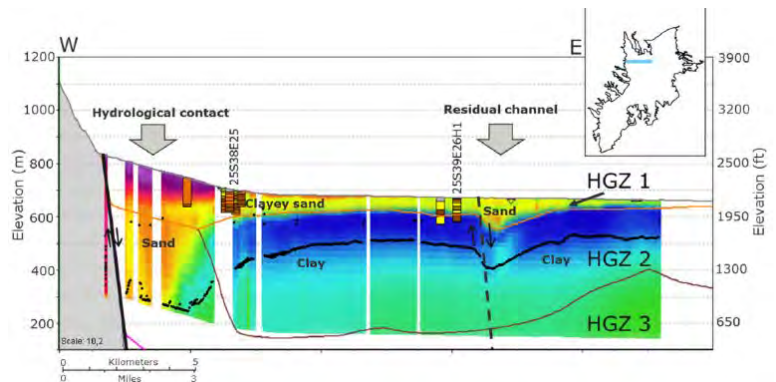
- **June 29/30:** Three identical public listening sessions were hosted to gather early input on the development of drinking water well principles and strategies to address community needs, as part of the April 21 Drought Executive Proclamation Item 11.
- **July 22:** A draft concept public workshop took place to share the input received during the listening sessions and the early concepts for the principles and strategies.
- **July 27:** Drinking Water Well Principles and Strategies Draft Concepts Briefing with Tribal Advisory Group Representatives and open discussion.
- **August:** The Draft Principles and Strategies will be released, and the State will host a 30-day public comment period and public webinar to review the draft principles and strategies and accept formal public comments.
- **September:** Target for Final Principles and Strategies will be released.
- **Fall 2021 & 2022:** As identified, the State will develop and provide follow-on guidance from different programs, as well as complementary funding to support the development of solutions related to drinking water well impacts.

ATTACHMENT 2 – BACKGROUND INFORMATION ON AEM PROJECT

Project overview

Airborne electromagnetic (AEM) surveys will be conducted throughout California using funds available through Proposition 68. AEM is a geophysical method where data are collected from instruments towed beneath a helicopter. Data can be interpreted for continuous images of large-scale aquifer structure (the distribution of fine- and coarse-grained layers) to depths up to 1,000 feet below ground surface. AEM data provide a standardized, statewide dataset with foundational information that supports the sustainable groundwater management.

AEM data can aid **local, state, and Tribal groundwater managers** in understanding groundwater flow features, including identifying possible recharge areas. The method can support the identification of sea water intrusion or brackish groundwater conditions. AEM data cannot be collected over urban areas, which limits its use in some basins.



Project Implementation

Proposition 68 allocated \$12M to conduct AEM surveys and AEM data will be collected in all high- and medium-priority basins, where data collection is feasible, in a coarse grid (grid spacing of 2 by 8 miles shown in blue on figure). DWR will define flight lines and will orient them to ensure data are collected over important areas (e.g. known data gaps, adjacent to critical infrastructure, where recharge projects are considered).



Survey Timeline & Schedule

AEM surveys are scheduled to begin July 2021 and continue over the next three years. Surveys will be conducted during specific months to avoid fire and rainy seasons, resulting in five survey groups. AEM data are not available for public use until at least six months after survey completion.

Each survey group will include basins within the Central Valley and surrounding basins. Within the Central Valley, surveys will start in the south and continue north. In the surrounding basins, surveys will be prioritized by the amount of digitized existing data (lithology and geophysical logs) and the amount of disadvantaged communities. The schedule will also consider weather, regulations, and Tribes.



CALIFORNIA DEPARTMENT OF WATER RESOURCES SUSTAINABLE GROUNDWATER MANAGEMENT OFFICE

901 P Street, Room 313-B | Sacramento, CA 95814 | P.O. Box 942836 | Sacramento, CA 94236-0001

ATTACHMENT 2 – BACKGROUND INFORMATION ON AEM PROJECT



Project Outreach

Outreach is a critical component of this effort given the visibility of the low flying helicopter. Many outreach tools (videos, fact sheets, Q&A, maps, etc) are available on the [AEM webpage](#).

Tribal outreach

Outreach to Tribes, coordinated with DWR's Tribal Policy Advisor, includes an introductory presentation at a SGMA Tribal Advisory Group meeting. The presentation will be followed by a letter to survey area Tribal leadership describing the project, highlighting a link to a DWR's [public webinar video](#) and offering to hold one-on-one meetings with interested Tribes. Ongoing communications with Tribes about the survey schedule will be conducted through quarterly email updates. A map showing the location of the AEM surveys and Tribal Trust Land Tracts is shown on the right and can be viewed on the AEM Survey Schedule: <https://gis.water.ca.gov/app/AEM-schedule>

Pre-Survey Public & GSA outreach

Prior to each survey, meetings will be held with the local survey area GSAs to request maps showing important areas, groundwater level collection, and support on outreach and logistics. Outreach to the public in survey areas will include a press releases provided to local newspapers and notification letters mailed to residents and owners of parcels beneath the flight path.

Summer Surveys

AEM data will be collected this summer in the Salinas Valley (from the town of Salinas) down to Paso Robles and Cuyama (survey area shown in figure). A small amount of data will also be collected in the Atascadero subbasin and the Adelaida area west of the Paso Robles subbasin. The surveys are tentatively scheduled to begin on July 29th and continue over a two- to three-week period.



CALIFORNIA DEPARTMENT OF WATER RESOURCES SUSTAINABLE GROUNDWATER MANAGEMENT OFFICE

901 P Street, Room 313-B | Sacramento, CA 95814 | P.O. Box 942836 | Sacramento, CA 94236-0001

ATTACHMENT 3 - BACKGROUND INFORMATION ON AEM PROJECT

Statewide Airborne Electromagnetic (AEM) Surveys Frequently Asked Questions

The California Department of Water Resources (DWR) is conducting airborne electromagnetic (AEM) surveys throughout California's high- and medium-priority groundwater basins, where data collection is feasible. The AEM surveys will provide information about large-scale aquifer structure that supports local groundwater management and the implementation of the Sustainable Groundwater Management Act (SGMA) and the development of Groundwater Sustainability Plans.

What is AEM?

AEM is a geophysical method that measures the electromagnetic properties of subsurface materials from helicopter towed equipment. The helicopter is flown by experienced pilots who follow all Federal Aviation Administration (FAA) regulations. The helicopter flies at 200 feet above ground, carrying the equipment approximately 100 feet above ground, and collects data along a defined flight path.



Why are AEM data being collected?

AEM data are being collected to detect and improve the understanding of aquifer structures, or layers, in a groundwater basin and show where there are thick layers consisting mostly of gravels and sands or silts and clays. This information supports the development and refinement of groundwater and hydrogeologic conceptual models and can be used to identify potential locations for groundwater recharge projects.

How does the AEM method map aquifer structures?

The AEM method measures the distribution of electromagnetic properties in the subsurface to a depth of approximately 1,000 feet below ground surface. The measured response can be displayed as a three-dimensional diagram and interpreted for the distribution of fine- and coarse-grained materials in the subsurface, which provides information about aquifer structures.

Is the AEM method safe?

The AEM method is not harmful to humans, animals, or plants. The method has already been used to safely conduct [pilot studies in California](#) and is used by local and government agencies both nationally and internationally (for example, Nebraska, Wisconsin, the Mississippi Alluvial Plain, Denmark, Australia).

Will the surveys be noisy?

The geophysical equipment does not generate any noise. The low flying helicopter will generate noise but will not cause a loud disturbance. The noise level generated from the low-flying helicopter will be less than the noise generated from operating a leaf blower or lawn mower.

When will the surveys be conducted?

The AEM surveys will start in summer 2021 and will be conducted in different areas throughout the State over several years. The [AEM survey schedule](#) will be regularly updated on the AEM webpage.



ATTACHMENT 3 - BACKGROUND INFORMATION ON AEM PROJECT

Statewide Airborne Electromagnetic (AEM) Surveys Frequently Asked Questions

Where will surveys be conducted?

The surveys will be conducted in all of California's high- and medium-priority groundwater basins as defined in DWR's [Bulletin 118 Basin Prioritization](#), where AEM data collection is feasible. AEM data will not be collected in basins that are mostly urban.



Will the helicopter fly over my house?

Flight paths will be designed to collect data over open spaces and avoid urban areas and structures containing people or confined livestock. The helicopter will make efforts to fly around people and large equipment.

How long will the helicopter fly in my area?

AEM surveys will be conducted in each survey area over a few days to a couple of weeks, depending on the size of the survey area. The AEM data will be collected in lines that are several miles apart so it is

likely that you will only see the helicopter once during a survey in your area.

Who is conducting the surveys?

DWR has contracted with Ramboll and GEI Consultants to conduct the AEM surveys. Ramboll has extensive experience collecting AEM data worldwide and GEI Consultants have expertise in California hydrogeology and regulations. Ramboll and GEI Consultants will be using vendor services from SkyTEM Canada and Sinton Helicopters to fly and collect the AEM data.

Who is funding the surveys?

The AEM surveys are funded through voter-approved Proposition 68 and the General Fund. No additional funding is required from locals or Groundwater Sustainably Agencies.

Will the AEM data be available to the public?

All AEM data and supporting data will be made available to the public through the [California Natural Resources Agency Open Data Portal](#). Data are not expected to be available until nine months after each survey is complete.

Where can I get more information?

More information can be found at <https://water.ca.gov/Programs/SGMA/AEM>.

Questions can be emailed to AEM@water.ca.gov.



ATTACHMENT 4 – BACKGROUND INFORMATION GROUNDWATER TRADING UPDATE

California Water Commission: Groundwater Trading Work

Groundwater Sustainability Agencies (GSAs) may develop groundwater trading programs within their basin to exercise flexibility between allocation holders to shift water where it is needed most. The California Water Commission has been asked by the Secretaries of the Natural Resources Agency, California Environmental Protection Agency, and California Department of Food and Agriculture to assist with framing state considerations around how to shape well-managed groundwater trading programs while safe guarding groundwater-dependent ecosystems, medium and small farms, and disadvantaged communities. The Commission's work will help State agencies to advance Action 3.6 from the Governor's Water Portfolio (see below for more information).

Water Portfolio Item 3.6

Create flexibility for GSAs to trade water within basins by enabling and incentivizing transactional approaches, including groundwater markets, with rules that safeguard natural resources, small- and medium-size farms, and water supply and quality for disadvantaged communities.

(Implementing agencies are DWR, California Department of Fish and Wildlife, and SWRCB).