



Farmington

Groundwater Recharge Program

The Farmington Groundwater Recharge Program is a \$33.5 million effort lead by Stockton East Water District in partnership with the Sacramento District of the U.S. Army Corps of Engineers to reduce saline intrusion and begin restoration of the Eastern San Joaquin Groundwater Basin. The Program seeks to rotate water with other land-uses via short- and long-term agreements with landowners. The Program goal is to spread an average of 35,000 acre-feet of water annually on 800 to 1,200 acres of land generally bound by Jack Tone Road on the east, Highway 99 to the west, the Mokelumne River in the north and Temple Creek in the south. For more information, visit www.farmingtonprogram.org.

On The Road With The Farmington Program



Farmington Program hydrogeologist Trevor Joseph discusses groundwater recharge methods with Stockton area attorney Dee Anne Watkins at the program's information booth at the Stockton Ag Expo. The three-day event was attended by more than 15,000 people from throughout San Joaquin County.

District (SEWD) information booth stationed at the Stockton Ag Expo, held Jan. 20-22 at the San Joaquin County Fairgrounds.

“The Ag Expo was a great opportunity to meet with landowners and talk one-on-one about how the Program works, what it does for them and what it can do for the region,” SEWD General Manager Kevin Kauffman said. “We identified at least two candidate properties and generated several leads for other potential sites.”

An effort to meet with landowners and City of Stockton residents on their own turf has netted goodwill, advice and potential recharge sites for the Farmington Groundwater Recharge Program (the Program).

The most recent presentation to landowners for the Farmington Program occurred at the Stockton East Water

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Groundwater Recharge Achieves New Era For Region

Landowners, elected officials and Eastern San Joaquin County water planners celebrated a new era of water development, as the Farmington Groundwater Recharge Program (the Program) celebrated completion of its pilot groundwater recharge facility and announced inclusion of \$1.0 million in the 2004 Federal appropriations bill.

U.S. Representative Richard Pombo announced the funding proposal to the Energy and Water Appropriations Act for Fiscal Year 2004 during a November 3 event held on the levee rim of Stockton East Water District's (SEWD) recently completed 60-acre pilot groundwater recharge facility, a project funded by SEWD with state grant funds.

"The Farmington Groundwater Recharge Program gives us the flexibility to address our water quality and quantity needs for the future. It is one step in addressing the overdraft problems San Joaquin County faces," Pombo said.

The Program is a "dream come true," Stockton native and State Sen. Michael Machado added. "This is the start of moving towards the goal of meeting the water needs for people today and in the years to come."

The appropriations request to the Act – submitted by Pombo and U.S. Representative Dennis Cardoza – would bring to \$2.6 million the amount of additional Federal funding approved for the Program since 2002. The energy and water bill was signed by President George W. Bush in December.

The event served as a ribbon cutting ceremony to mark the completion of the \$2.4 million pilot groundwater recharge facility at SEWD headquarters, which includes a 19-acre pond and three recharge basins totaling 35 acres. Annual recharge capabilities for the project are estimated at 7,000 acre-feet. The 60-acre project is the region's largest water supply project

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Completion celebration – Sen. Michael Machado (center left) and U.S. Representative Richard Pombo cut the ribbon completing the 60-acre groundwater recharge facility at Stockton East Water District headquarters. Others attending the event (from left to right were), U.S. Army Corps of Engineers Acting Sacramento District Engineer Lt. Col. Mark W. Connelly; Assemblymember Barbara Matthews; Linda N. Finley-Miller, Civil Works Program Manager USACE; SEWD Board Member Ray Latimer, SEWD Board Member Andrew Watkins; SEWD Board Vice President Paul Sanguinetti; SEWD Board President Thomas McGurk; San Joaquin County Board Supervisor Jack Sieglock; Gail King Delihant, legislative director for Assemblyman Greg Aghazarian; and SEWD Board Member Loralee McGaughey.

Never Take Water for Granted



Jack Sieglock never thought much about water while growing up around the vineyards of Lodi, Calif.

“Turning the water faucet on and off was something I took for granted as a kid,” the Tokay High School graduate said. “Times have changed.”

These days, the Bismarck, N.D.-native understands that water is a precious, finite resource – especially in Eastern San Joaquin County, a region whose groundwater basin needs up to 200,000 acre feet per year of water for groundwater recharge to meet local demands and stop saline intrusion from the west.

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New Era for Region, Continued from Page 2

since completion of the New Melones Reservoir water conveyance system in 1993.

Others presenting at the event were U.S. Army Corps of Engineers (Corps) Acting Sacramento District Engineer Lt. Col. Mark W. Connelly, Assemblyperson Barbara Matthews, Sen. Michael Machado, Northeastern San Joaquin County Groundwater Banking Authority Chairman Jack Sieglock, and SEWD Board President Tom McGurk. Others attending from the Corps were Mark Charlton, division chief of programs and project management, and Linda N. Finley-Miller, branch chief of programs and project management.

Connelly thanked SEWD for its partnership with the Corps, and said this project is leading the way to improve the environment while serving the interests of local citizens.

“In the past, the Corps of Engineers focused most of its resources on design and construction of flood control projects. The Program is an example of where we are partnering with communities and water districts in completing their environmental infrastructure improvement projects,” Connelly said.

Matthews congratulated Pombo and Cardoza for their involvement and support, and expressed her continued support of the Program.

“The Farmington Program is important for San Joaquin County, and is addressing a much broader water issue in the State of California,” Matthews said.

Two certificates of recognition – one signed by Assemblyman Greg Aghazarian and the second co-signed by Assemblyman Alan Nakanishi and State Sen. Charles Poochigian – for the Program were presented to McGurk by Aghazarian field representative Gail King Delihant and Nakanishi field representative Michael Babowal. 🌊



U.S. Army Corps of Engineer Acting Sacramento District Engineer Lt. Col. Mark W. Connelly meets with SEWD Board Member Paul Polk following ribbon cutting for the Farmington Groundwater Recharge Program Pilot Project. District Board Member Ray Latimer, right, looks on.

Sieglock speaks from nearly 25 years of experience as a resident and as District 4 Supervisor for San Joaquin County. His other local involvement includes representing the Board of Supervisors on the San Joaquin Council of Governments, Economic Development Association, Community Economic Development Action Committee, and the Local Agency Formation Commission.

In addition, he serves on the American River Authority, San Joaquin Area Flood Control Agency, Groundwater Banking Authority, the Advisory Water Commission, Hospital Joint Conference Committee, Medical Executive Committee, San Joaquin Valley Air Pollution Control District, and the San Joaquin Regional Rail Commission.

Sieglock said years of agricultural and municipal pumping from the Eastern San Joaquin (Groundwater) Basin has affected San Joaquin's current quality of life and threatens its future. He notes that several Stockton area wells have been closed due to saline intrusion and is concerned for the region's agriculture industry if the intrusion becomes widespread.

"San Joaquin County cannot – it must not – take water for granted. Our aquifer is in critical overdraft

and it is up to everyone to contribute towards protecting this valuable resource," Sieglock said.

Sieglock noted several positive steps are now in progress:

- *The Farmington Groundwater Recharge Program has begun pilot testing and has several candidate sites ready for evaluation. More participants are needed.*
- *The proposed Mokelumne River Regional Water Storage and Conjunctive Use Project (MORE), would capture and store surplus river water during wet years, via on-stream or offstream water storage.*
- *The Peters Pipeline, a six-mile, \$7.4 million pipeline, has received funding for transfer of Stanislaus River water to 2,600 acres of farmland for in-lieu groundwater recharge.*
- *The Freeport Diversion Project has begun in Sacramento County. The project is slated to deliver Sacramento River water to Stockton area.* 🌊



Jack Sieglock congratulated Stockton East Water District and the U.S. Army Corps of Engineers during a November ribbon cutting to celebrate completion of the Farmington Groundwater Recharge Program Pilot Project.

On The Road, Continued from Page 1

Information presented at the Ag Expo included a program brochure, newsletter, charts and an aerial map of the region showing the location of current candidate sites for groundwater recharge in relation to the location of the depression where overdraft is most severe.

"When you are able to show the landowners the aerial photographs of their property, and the successful results from other recharge efforts, trust is gained, and a real exchange of information occurs," said MWH Americas Inc. project engineer Trevor Joseph, a U.S. Army Corps of Engineers consultant for the Program that attended the Ag Expo.

Including the Ag Expo, the Program has been

presented to several area business, agricultural and government organizations in the region since last fall. Kauffman said the presentations have been invaluable opportunities to share information with individuals that are experts in their field and to identify potential recharge sites.

"The Program is a community-wide effort where word-of-mouth and exposure to key members of the community make the difference. Without this effort the program wouldn't have advanced as far as it has today," Kauffman said.

To request a presentation to your group, contact Kauffman at 209-949-0333 or send an email to info@farmingtonprogram.org. 🌊

Farmington Web Site Now Live

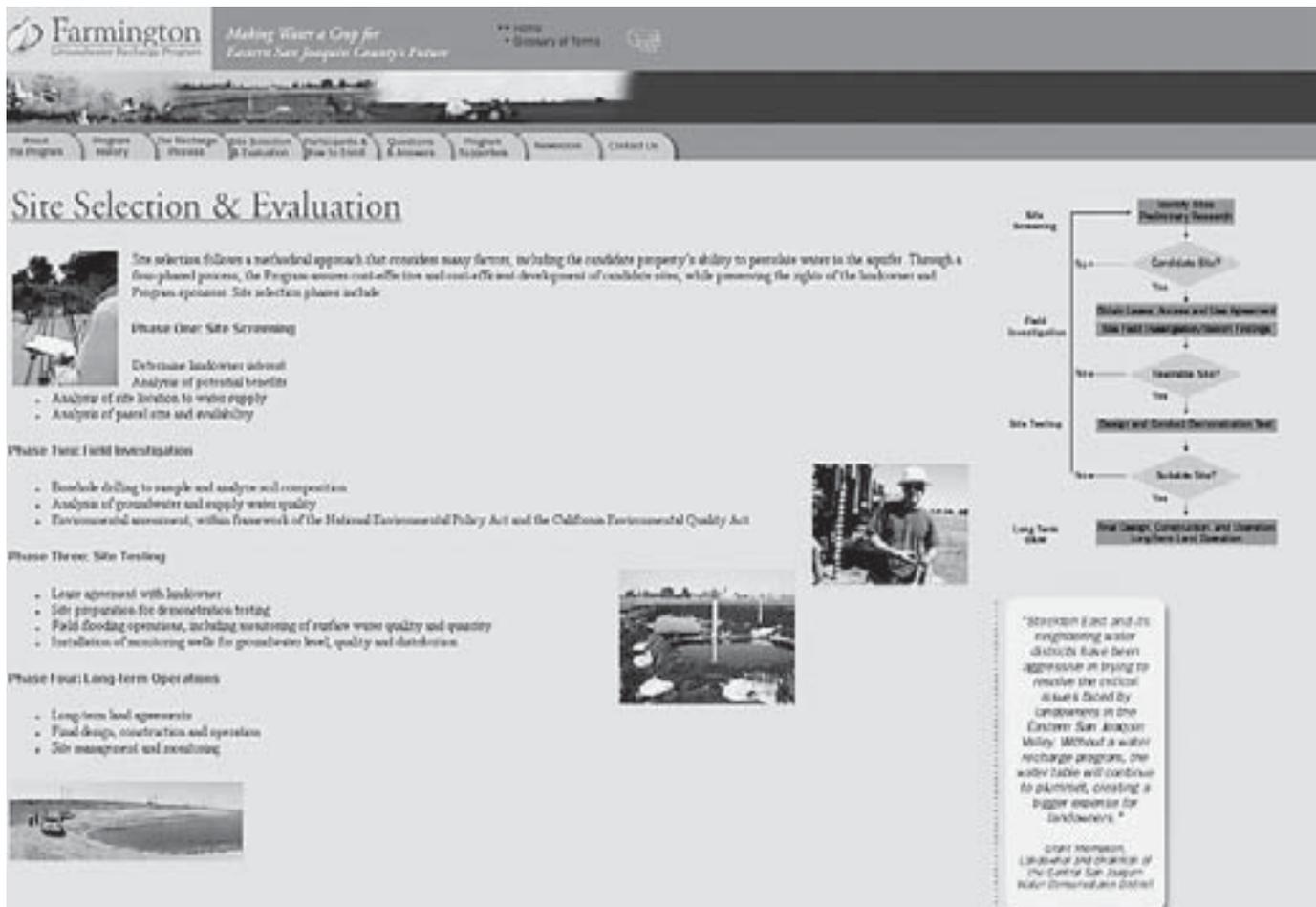
Ever wonder what the difference is between flooded-field and spreading basin recharge? Or what others say about Eastern San Joaquin County's locally-lead effort to restore the region's groundwater supply?

The answer to these and other questions are available at the Farmington Groundwater Recharge Program Web site - www.farmingtonprogram.org.

"We designed the Web site with the Corps of Engineers to be interactive and ever changing," said Kevin Kauffman general manager with the Stockton East Water District. "By visiting the Web site, we hope landowners and Stockton area residents will recognize the value and importance of groundwater recharge and act to preserve this critical resource."

Key functions of the Web site include:

- Present and historic information about the program
- Description of groundwater recharge practices and how properties are evaluated for participation
- On-line forms to enroll in the program, or request a newsletter by email
- Comments from program supporters, copies of the latest news and information related to the program, and program contact information 



Farmington
Groundwater Recharge Program
Making Water a Gap for
Eastern San Joaquin County's Future

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About the Program | Program History | The Recharge Process | Site Selection & Evaluation | Participants & How to Enroll | Questions & Answers | Program Information | Newsroom | Contact Us

Site Selection & Evaluation

The selection follows a methodical approach that considers many factors, including the candidate property's ability to percolate water to the aquifer. Through a four-phased process, the Program ensures cost-effective and cost-efficient development of candidate sites, while preserving the rights of the landowner and Program sponsor. Site selection phases include:

Phase One: Site Screening

Debrief landowner about
Analysis of potential benefits

- Analysis of site location to water supply
- Analysis of parcel size and availability

Phase Two: Field Investigations

- Borehole drilling to sample and analyze soil composition
- Analysis of groundwater and supply water quality
- Environmental assessment, within framework of the Federal Environmental Policy Act and the California Environmental Quality Act

Phase Three: Site Testing

- Lease agreement with landowner
- Site preparation for demonstration testing
- Field flooding operations, including monitoring of surface water quality and quantity
- Installation of monitoring wells for groundwater level, quality and distribution

Phase Four: Long-term Operations

- Long-term lease agreements
- Final design, construction and operation
- Site management and monitoring

Flowchart:

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    graph TD
      A[Site Screening] --> B{Identify Sites  
Eligibility Necessary?}
      B -- No --> A
      B -- Yes --> C[Field Investigation]
      C --> D{Water Leases, Access and Site Agreement  
Site Test (Infiltration/Recharge) Feasible?}
      D -- No --> A
      D -- Yes --> E[Site Testing]
      E --> F{Design and Conduct Demonstration Test}
      F --> G{Subside Test?}
      G -- No --> A
      G -- Yes --> H[Long Term Site]
      H --> I[Final Design, Construction, and Operation  
Long-Term Land Operation]
  
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Quote:

"Stockton East and its engineering water districts have been aggressive in trying to resolve the critical issues faced by landowners in the Eastern San Joaquin Valley. Without a water recharge program, the water table will continue to plummet, creating a bigger expense for landowners."

Attribution:

Grant Morrison, Landowner and Chairman of the Central San Joaquin Water Conservation District

Several Sites Identified for Groundwater Recharge

Evaluation of nearly a dozen groundwater recharge candidate sites began in late winter and will gear up in the spring after landowners ranging from growers to developers submitted candidate property evaluation forms through the mail and Internet.

If all properties were eventually admitted to the Program, they would represent nearly half of a goal toward 1,200 acres of land enrolled in seasonal groundwater recharge activities. Stockton East Water District (SEWD) and the U.S. Army Corps of Engineers plan to conduct initial site screening of candidate properties with landowners in January.

“This is a great start to the program,” SEWD President Tom McGurk said. “But much work remains before we can be confident in the restoration and protection of our aquifer.”

Interested participants expressed interest by filling out a survey included in the Fall 2003 Farmington Groundwater Recharge Program newsletter and on the program Web site. Most participants listed row and field crops as current land use, with acreage ranging from 20 to 150 acres. Non-agricultural land included existing flood control basins and planned urban developments.

Most landowners said in the survey that they preferred that SEWD construct and maintain recharge facilities, while some said they were interested in coordinating such activities.

Participation in the Program is voluntary via short- and long-term agreements with landowners who are compensated for the use of their land.

Evaluation of the San Joaquin Area Flood Control Agency’s (SJAFCA) Detention Basin No. 1 as a potential year-round recharge facility was completed in early December. A small-scale, six-week percolation test was conducted on a parcel tilled for the evaluation. The test showed a rate of about 0.3 feet per day – a level deemed minimal for inclusion in the Program. A second test on an untilled section of the basin showed a 0.05/ft day percolation rate.



Farmington Program hydrogeologists Chris Petersen, left, and Trevor Joseph check sedimentary deposits near Little Johns Creek during a March evaluation of a candidate property.

The secondary test showed that the basin would need year-round, costly maintenance to be an effective recharge basin. Due to this and other factors, the basin has been removed from consideration as a direct recharge facility in the Program, SEWD General Manager Kevin Kauffman said.

It will be recommended that when this site is developed into a recreation facility that the irrigation source come from surface water. Evaluation of SJAFCA’s Detention Basin No. 2 by the City of Stockton and Woodbridge Irrigation District, however, have shown promising results as a direct groundwater recharge site, Kauffman said.

“Our work at Detention Basin No. 1 was a cost-effective investment for the program as it allowed us to analyze and fine-tune our site screening process,” Kauffman said. “But despite not being the right fit for the Farmington Program, we feel it can become a viable recreation facility compatible with the goals and objectives of the Farmington program.”

For more information, or to enroll your property for consideration in the Program, visit www.farmingtonprogram.org. 

Farmington Pilot Project Receives Awards

The Farmington Groundwater Recharge Program (the Program) has added a pair of awards to its resume for completion of the 60-acre Farmington Groundwater Storage Pilot Project.

In late winter, the Program was named Water/Environment Project of the Year, 2003, by the American Society of Civil Engineers (ASCE), Sacramento Section, and given the San Joaquin Council of Governments' Judges Award.

Stockton East Water District (SEWD) Board President Tom McGurk received the ASCE award on behalf of the program at a Feb. 20 banquet in Sacramento. Board Vice President Paul Sanguinetti received the Council of Governments award during a Feb. 27 banquet in Stockton.

The awards recognize completion of a 60-acre recharge facility at SEWD headquarters and the program on which it is based - the Farmington Groundwater Recharge Program. The \$2.4 million

facility includes a 19-acre pond and three recharge basins, totaling 35 acres. Annual recharge capabilities at the site are estimated at 7,000 acre-feet.

The pilot project recharge facility was designed by the Sacramento office of Kennedy/Jenks Consultants, a full-service, multidiscipline engineering and environmental sciences consulting firm, serving private and public sector clients throughout the Western United States.

The concept and technology for the Program was developed by the SEWD, the U.S. Army Corps of Engineers and the Sacramento office of MWH Americas Inc., a worldwide consulting firm that specializes in water resources and environmental engineering, power generation, facilities development, laboratory services, construction, multi-sector program management, asset management, financial services, IT consulting, government relations and applied science.



SEWD Board President Tom McGurk (center) received the Water/Environment Project of the Year for the Farmington Program. Also attending were Assistant General Manager Jeanette Thomas and District Senior Engineer Tim Hampton.



SEWD Board Vice President Paul Sanguinetti and District Board Member Ray Latimer celebrate winning the SJCOG's Judges Award.

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