

BASE PROJECT BENEFITS AND COSTS

The groundwater recharge facilities and delivery of surface water in-lieu of groundwater pumping will reduce groundwater overdraft and help reduce saline water intrusion. The Study Report describes the following benefits that the project would:

- Provide a hydraulic barrier to help slow progress of saline intrusion
- Provide seasonal waterfowl habitat
- Reduce energy costs of pumping
- Reduce agricultural production losses
- Reduce municipal and industrial water quality impacts
- Reduce potential for subsidence damages
- Enhance flood control operations

The capital costs of the base project are estimated to range from approximately \$15 to \$20 million, plus annual operation and maintenance costs. Two initial demonstration projects are estimated to cost \$2.5 million for construction and initial operation.

The project could be funded either through the 1996 Water Resources Development Act (WRDA) Authority Section 411 or through Section 502 of WRDA 1999, which authorized construction of a \$25 million groundwater recharge project in eastern San Joaquin County. The base project described in the Study is consistent with the WRDA 1999 authorization.

Upon completion of Corps review, the Study Report will be provided for public review and comment. The Final Study Report to Congress is expected by August 2001. Although this is the final Study newsletter, future newsletters for the proposed project are planned as the demonstration projects proceed, so stay tuned.



FOR MORE INFORMATION

For additional information on the Farmington Groundwater Recharge and Wetlands Feasibility Study, please visit the Study web site through a link on the Corps of Engineers web site (www.spk.army.mil/civ/civ.html) or the SEWD web site (www.sewd.net), or contact the Corps of Engineers, SEWD, or one of the other local sponsors (Central San Joaquin Water Conservation District (CSJWCD), North San Joaquin Water Conservation District (NSJWCD), City of Stockton, San Joaquin County, and California Water Service Company).

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FARMINGTON

Groundwater Recharge

and

Wetlands Feasibility Study

Newsletter



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STUDY REPORT NEARS COMPLETION

A Feasibility Study Report was reviewed by the Study Management Team and Executive Coordinating Committee in late 2000, their comments were addressed, and a revised draft was forwarded to the Corps of Engineers for internal review in January 2001. The report describes a base project that addresses the objectives of the Study, namely to decrease salinity intrusion by reducing overdraft and to increase the area of seasonal waterfowl habitat. These objectives would be accomplished by increasing the use of existing surface water to protect groundwater supplies.

STUDY REPORT CONCLUSIONS

Based on the analysis of existing and future conditions (see Newsletter Issue 1), results of pilot testing (see Newsletter Issue 2), and the plan formulation process, the Study report makes the following major conclusions:

- Groundwater recharge of floodwater in eastern San Joaquin County using techniques that percolate water from the surface is feasible. Geologic conditions are variable but favorable in some areas for percolation recharge; this was confirmed by field-testing. Floodwater could be delivered to recharge sites through existing distribution facilities with some modifications.

- Locating recharge sites in the western portion of the study area, generally between Highway 99 and Jack Tone Road, would be the most effective way to address saline intrusion.
- Field flooding is the most cost-effective technique to accomplish groundwater recharge that provides suitable seasonal habitat for migratory waterfowl. Site preparation costs for flooded fields are significantly less than other techniques evaluated in the Study. Fields would be flooded to depths from about six to ten inches during winter months, and could still support continued agricultural production during the non-flood season.
- The incremental development of a base project would provide opportunities to obtain individual site-specific information and customize design and operation. A programmatic environmental impact statement/environmental impact report (EIS/EIR) to describe the cumulative effects of such a base project currently in preparation.

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- Study Report Conclusions
- Study Report Recommendations
- Base Project Description
- Base Project Benefits and Costs



STUDY REPORT RECOMMENDATIONS

The following recommendations are made in the Study Report:

- A groundwater recharge program should be initiated to identify and secure sites for field flooding. The program should be developed incrementally, both on a program scale and at each site. The program should begin with two or three investigative demonstration-scale sites that would each be operated over a period of one to three years. Typical sites should be 40 to 80 acres in size.
- Following demonstration-scale testing, the program should be expanded toward full implementation of the base project. Future project sites should be identified, with preference to sites and combinations of sites that can utilize common conveyance facilities. Site specific investigations and testing should be completed at each potential site prior to its final selection. The implementation plan describes procedures to evaluate potential sites for recharge suitability and testing to confirm site characteristics and performance.
- Groundwater recharge facilities should be operated to maximize seasonal habitat opportunities for migratory waterfowl. Site-specific environmental impacts of project features should be assessed in second-tier environmental documents as sites are identified for addition to the program.
- Existing flood control facilities such as detention basins should be adapted to provide groundwater recharge.

BASE PROJECT DESCRIPTION

The Study Report formulates a plan that includes a base project that makes use of existing or readily available winter-season water supplies with an average annual yield of 35,000 af/yr. Potential flood water from the Stanislaus and Calaveras rivers is not included. The base project would recharge up to 25,000 af/yr in the SEWD/CSJWCD region and 10,000 af/yr in the NSJWCD region (see map on opposite page).

The base project would include the modifications to existing detention basins and conveyance improvements to deliver surface water to recharge areas in the portion of the western portion of the study area between Highway 99 and Jack Tone Road. Some of the improvements would also support delivery of surface water in-lieu of groundwater pumping.

A total of 600 to 1200 acres (equally distributed in the three water districts) will be acquired for field flooding through purchase of title or easements in a phased program to recharge the excess surface water to establish a salinity intrusion barrier while providing seasonal waterfowl habitat. If additional surface water becomes available in the future, the program should be expanded.

Demonstration projects are planned near the SEWD Water Treatment Plant and at a second site yet to be selected in order to refine site selection criteria and large-scale operation and maintenance guidelines.

