

2.0 Project Overview

2.1 The Challenge

The lower Colorado River basin and the San Antonio/Bexar County area both face long-term water shortages during the next 50 years.

- By 2060, agriculture in the lower Colorado River basin could lack about one-third to one-half of projected water needed during drought conditions according to the Region K Water Plan estimates.
- Region K foresees a shortage of firm water supplies for rural communities upstream of Austin and the Highland Lakes (Llano and Goldthwaite have estimated shortages of 830 acre-feet per year and 350 acre-feet per year, respectively).
- The population in Bexar County is expected to nearly double by 2060, although due to aggressive conservation, municipal water demand is expected to increase only 50 percent. Currently available supplies will not be sufficient to meet the projected water needs, even though strategies other than the LCRA-SAWS Water Project may be used to meet anticipated near-term shortages.

2.2 The Solution

The Lower Colorado River Authority (LCRA) and the San Antonio Water System (SAWS) have partnered to conserve and develop water for San Antonio and the lower Colorado River basin in the 21st century.

These two neighboring regions have proposed a water management project to provide ample and reliable water for the long term while protecting the environment of the lower Colorado River basin. LCRA and SAWS are currently studying the feasibility of the project.

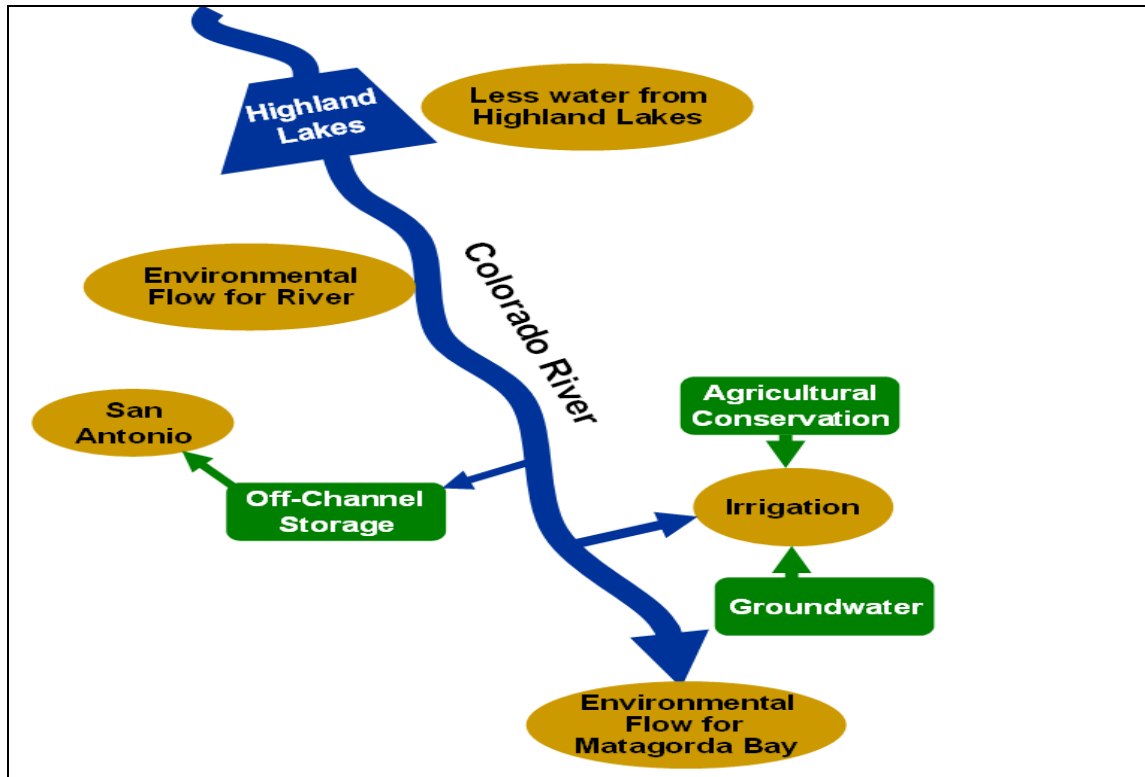
The proposed project would use the following three strategies to conserve and develop water in the Colorado River basin to reduce shortages, maintain the health of Matagorda Bay, and maintain higher average levels in the Highland Lakes than would be the case without the project:

- Reduce overall demand for water for agriculture in Matagorda, Colorado, and Wharton counties through improved efficiency of canals and other irrigation facilities, on-farm conservation practices such as laser leveling, and use of high-yield rice varieties.
- Capture and store unused river flows in one or more holding basins, also called off-channel storage facilities.
- Use a limited amount of groundwater for irrigation needs in Colorado, Wharton, and Matagorda counties when surface water is not available. **No groundwater would be sent to San Antonio.**

Up to 150,000 acre-feet per year of Colorado River water would be transferred to the San Antonio area through the off-channel storage facilities. Groundwater would not be transferred to San Antonio as part of the project.

This collaborative project could provide a model for interbasin projects that are environmentally sustainable and protect both rural and urban economies.

FIGURE 2-1
Project Overview
LCRA-SAWS Water Project



The green boxes represent the sources of water for the project. The gold ovals represent how the water will be used.

During 2007, the project explored different project scenarios including alternative configurations of the capital facilities (intake locations, pipelines, and off channel storage facilities) as well as different yields to San Antonio ranging from 95,000 to 120,000 acre-feet per year. Examining these scenarios is the first step in optimizing the project and balancing the various criteria for moving forward with the project.

2.3 Project Benefits

If constructed, the project would benefit both regions by accomplishing the following goals:

- Minimize water shortages currently predicted for agriculture in the lower Colorado River basin

- Keep freshwater inflows into Matagorda Bay at adequate levels to maintain its health and productivity
- Protect Colorado River instream flow
- Sustain higher water levels in Lake Buchanan and Lake Travis than could be maintained without the project
- Provide water (or funding for water supply evaluation) that can be used by rural communities above the Highland Lakes
- Supply long-term, reliable water to the San Antonio area

2.4 Criteria for Moving Ahead

Throughout the technical studies, LCRA and SAWS will evaluate the project's viability on an on-going basis. Specific legislative criteria (Texas Special District Local Laws Code, § 8503.030) must be met before any water is transferred from the lower Colorado River basin. These include findings that the project:

- Protects and benefits the lower Colorado River watershed and the LCRA service area, including municipal, industrial, agricultural, recreational, and environmental interests.
- Is consistent with regional water plans filed with the Texas Water Development Board (TWDB) on or before January 5, 2001.
- Ensures that beneficial inflows remaining after any water diversions will be adequate to maintain the ecological health and productivity of the Matagorda Bay system.
- Provides for in-stream flows no less protective than those included in the LCRA Water Management Plan for the Lower Colorado River Basin, as approved by the Texas Commission on Environmental Quality (TCEQ).
- Ensures that, before any water is delivered by the project, SAWS will have prepared a drought contingency plan and will have developed and implemented a water conservation plan that will result in the highest practicable levels of water conservation and efficiency achievable within the jurisdiction of SAWS.
- Provides for a broad public and scientific review process designed to ensure that all information that can be practicably developed is considered in establishing beneficial inflow and in-stream flow provisions.
- Benefits stored water levels in LCRA's existing reservoirs.

In addition, the project must be cost-effective for the citizens of San Antonio. If SAWS determines during its review of the implementation plan or its annual project plan review that costs and yield do not meet SAWS' criteria, particularly cost and yield, the project will not move ahead.

SAWS is funding the project based on its agreement with LCRA. During the study period, if a decision is made not to proceed, the study costs incurred up to that point will be shared equally by SAWS and LCRA. The boards of each agency review the status of the feasibility

studies through various means, including the annual PVA, during the decision-making process.

2.5 Stakeholder Involvement

The project's enabling legislation requires broad public and scientific review designed to ensure that sound information is developed and incorporated into the studies. In response, both LCRA and SAWS have implemented active public involvement programs and created a science review panel of experts from across the country to independently review the project's approach and studies.

The stakeholder relations and public outreach efforts inform interested parties about project developments and technical studies, solicit feedback on those developments, and incorporate feedback into the studies and work processes. Additionally, advisory groups on specific studies provide feedback and technical suggestions in those areas.

In 2007 the project team built on established processes focusing on individual and electronic communications. Using various media, the team mounted a coordinated effort to announce to landowners, stakeholders, the public, and elected officials the selection of preferred sites for an off-channel storage facility and pipeline.

Individual contacts were made with landowners initially contacted in 2006 as well as with elected officials. Letters also were sent to landowners and elected officials at local, state and federal levels. In addition, the announcement was publicized through the project website and newsletter as well as the news media.

Advisory group meetings were renamed "project update" meetings to reflect the project's widening audience.

The project web site was improved to make navigation more efficient and information easier to find. One example of improvement was the use of icons to distinguish study areas. A project newsletter was distributed on a regular basis, enhanced with icons and photos, and cited by stakeholders as the preferred method of getting information about the project.

Notable activities in 2007 include the following:

- 29% increase in stakeholders in the project's database to 1,218 from 942
- 12 project update newsletters distributed in e-mail and postal formats
- 4 advertorials about the project placed in Matagorda, Wharton, and Colorado county newspapers as well as on the project web site
- 1 project update meeting held on October 30 in El Campo
- 1 Matagorda Bay sub-advisory meeting held on November 15 in Austin
- Multiple meetings with regulatory agencies and stakeholders to discuss the approach, details and findings of bay health evaluation team
- Several meetings with groundwater conservation districts

- 2 and ½ day annual workshop with the science review panel as well as periodic conference calls
- The project team also updated the project brochure, fact sheet, and presentations, and developed and distributed news releases.

Looking ahead, the team aims to accomplish the following objectives:

- Continue improvements to the project newsletter and web site such as improved graphics
- Hold project update meetings, particularly on specific studies, where and when appropriate
- Report conclusions of technical studies as they become available

2.6 Study Areas

The project team, advisory groups, and the science review panel spent more than a year developing a comprehensive study period plan for the project, which was approved by both the LCRA and SAWS boards. The studies, currently in their fifth year, are designed to ensure that legislative criteria, technical issues and permitting requirements, as well as other concerns, are addressed as part of the following key issues.

Water Conserved or Developed (Yield)

- River water (surface water) availability
- Groundwater for agriculture
- Agricultural conservation in irrigation divisions

Environmental Issues

- Colorado River and off-stream storage water quality
- Colorado River flow relationships to habitat
- Potential effect on waterfowl in Colorado, Wharton and Matagorda counties resulting from the project (a new study begun in 2007)
- Matagorda Bay health evaluation
- Net environmental benefit analysis

Engineering

- Facility siting and design

Social and Economic Benefits and Costs

- Socioeconomic analyses

Other Studies

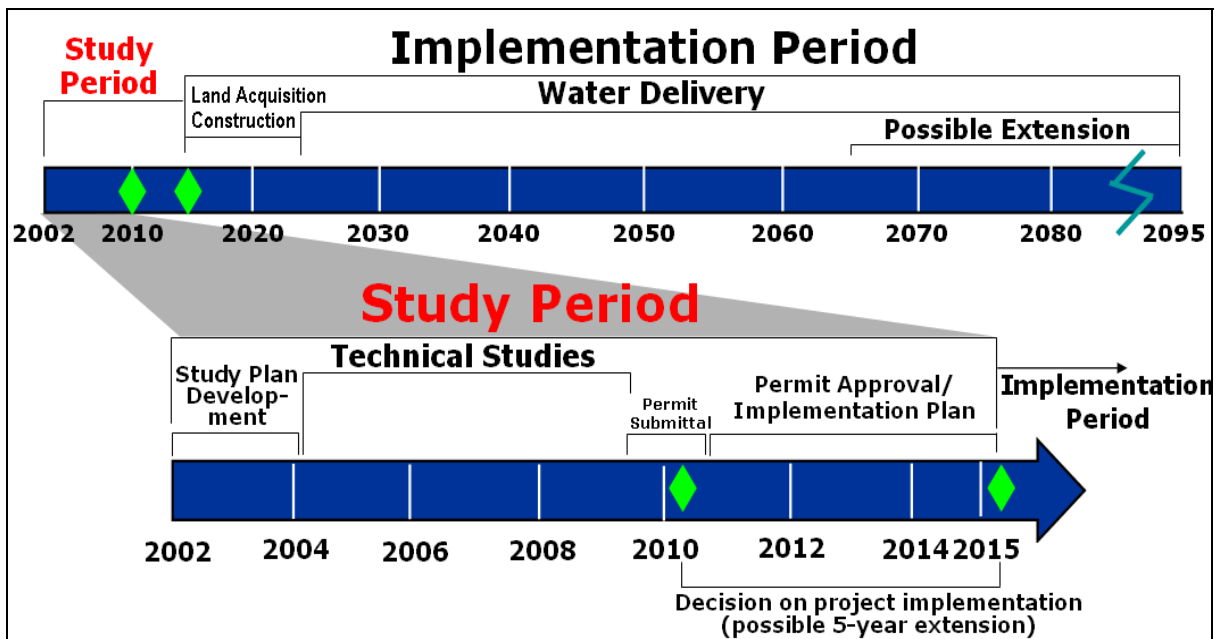
Recognizing that in the course of exploring the technical data and potential implications of the project new studies might become necessary, the study plan included a provision for adaptive management, or change in response to new information. During 2007, new studies were added to assess potential effects on water quality resulting from the project that might affect operations at the South Texas Project, a nuclear plant in Matagorda County. Also added was a study to address the potential effects of the project on wildlife and waterfowl. Based on information gathered during 2007 from the stakeholder involvement process and the science review panel, the following changes to the study plan are planned for 2008:

- **Potential Implications of Climate Change on the LCRA-SAWS Water Project.** This effort will translate scenarios of possible global climate change for key climate variables (temperature, precipitation, evaporation, sea level rise, and climate variability) at the regional level to explore potential implications for the project.
- **Uncertainty Analysis.** This effort will compile information from individual study teams regarding assumptions and data variability into a single document and use a uniform systematic approach for examining the potential for compounding uncertainties as well as unanticipated interdependencies among the individual studies.

2.7 Timeline

Project studies described in the study plan, and those added during the course of the study period, are well underway and most are nearing completion. Figure 2-2 provides an overview of the schedule for the project. The top line indicates the overall duration of the project, according to the agreement between LCRA and SAWS. The bottom line shows more detail regarding the project's study period, initially scheduled to be completed by 2010. The green diamonds indicate a possible extension of the study period in both the overall and detailed schedule overview.

FIGURE 2-2
 Timeline
 LCRA-SAWS Water Project



- 1997 State-mandated regional water planning process initiated that gave rise to the idea for the project.
- 2001 Regions K and L regional water plans and the state water plan proposed the LCRA-SAWS Water Project as a strategy to address water needs in both regions.
- 2001 Legislation adopted to allow the project if certain criteria are met.
- 2002 “Definitive Agreement” between LCRA and SAWS executed, followed by public involvement and independent scientific review, which helped define the study period plan.
- 2004 Technical studies begun to address environmental, cost, yield, and socioeconomic aspects of the project to meet feasibility, permitting, and legislative needs.
- 2006 Second round of regional and state water planning confirm the project as a strategy to meet projected water needs in Region K and Region L.
- 2008 Studies scheduled to be substantially completed.
- 2009 Permitting processes to begin with expected submittal of applications at the local, state and federal levels.
- 2010 –
- 2015 Studies, preliminary engineering, and implementation plan currently scheduled to be finished. Implementation period begins if project moves forward. Design and construction begins if LCRA finds that the project protects the environment and benefits the basin; SAWS finds the water volume, timing, and cost are acceptable and decides to move forward with the project; and necessary permits are in place.

2020 Earliest date that water could be delivered to the San Antonio area. (Ten year notice required from SAWS to LCRA for water delivery once Implementation Plan approved.)

2060+ Implementation period ends; SAWS can elect to extend for an additional 30 years.