

# V. CONCLUSIONS AND RECOMMENDATIONS

## Conclusions

In the six years since the Regional Assessment of Water Quality in the Colorado River Basin Report was published, the Texas CRP Colorado River basin partners have made great strides in understanding, assessing and communicating the conditions of the Colorado River and its tributaries. Since 1996, in the Colorado River basin:

- ◆ The Colorado River basin partners have improved monitoring by increasing spatial and parameter coverage. All partners have expanded their role as water quality monitors and stewards in their respective watersheds, including in-kind contributors such as the cities of San Angelo and Austin.
- ◆ Studies such as the Bacteria Study on the Tres Palacios River and the AEM Studies in Runnels County have provided information about smaller watersheds, information that communities and local agencies can use to improve water quality and lessen the impact of impending urban sprawl and development.
- ◆ Improvements in technology have facilitated the generation of detailed maps and easily accessible water quality data in electronic format, resulting in more informed decision-making and easier public access to water quality information. Awareness has increased through steering committee meetings, public forums, Web pages, water quality presentations and other outreach efforts.

## Water Quality Conditions

The upper portion of the basin continues to be plagued with drought and high dissolved solids (salinity), stemming from natural and man-made causes. E.V. Spence Reservoir and the Colorado River below E.V. Spence do not support their designated uses because of high levels of dissolved solids.

The middle portion of the basin, from Lake Buchanan to Columbus, has few water quality concerns. Most water bodies in the middle basin support their designated uses. However, small tributaries in Austin, including Onion Creek, do not support their contact recreation use because of elevated bacteria levels. Also, trend analysis indicates the Highland Lakes have experienced increasing amounts of nutrients including nitrates, phosphates and chlorophyll a. The increase is a naturally occurring phenomenon, possibly expedited by urbanization and increase of impervious cover.

The coastal basins, including Caney Creek, Tres Palacios and Colorado rivers, continue to feed freshwater into the Matagorda Bay system providing nutrients to the coastal ecosystem. However, the water quality conditions in the the Tres Palacios River and Caney Creek watersheds do not support their designated use of contact recreation. Matagorda Bay also does not support its oyster harvesting use. Data indicate the coastal complex has high bacteria levels at certain collection sites. Sources of bacteria are likely the result of improper onsite sewage treatment facilities, concentrated animal feeding operations or indigenous wildlife.

## Recommendations

### Water Quality Protection

The Colorado River basin partners will implement projects based on newly acquired data and steering committee input. Projects already under way will continue and new projects to protect water quality in the basin will be sought out. The partners will seek opportunities to work with state, federal and local agencies to ensure the best use of public funds.

Specifically, the Colorado River partners identified the following water quality protection efforts as priorities for the next biennium:

### *Basinwide*

- ◆ Continue to monitor to determine if water bodies meet state standards and to determine trends in water quality.
- ◆ Evaluate new CAFO permit requests to evaluate their potential impact on nearby water bodies.
- ◆ Establish nutrient criteria for the Colorado River basin and perform localized studies to determine where site-specific criteria may apply.

### *Upper Basin*

- ◆ Support and promote brush removal efforts through public education, monitoring and pursuing partnerships with interested parties.
- ◆ Continue to investigate aerial electromagnetic technology as a tool to identify saltwater contamination from abandoned oil wells. Scrutinize data collected in the Sterling County survey to focus on localized problems.
- ◆ Continue work with TCEQ (formerly TNRCC) NPS program and Texas Railroad Commission to target oil field contamination to include produced water seeps and improperly plugged oil wells.

- ◆ Investigate the sources of oil field salinity within the lakebed of O.C. Fisher Reservoir.
- ◆ Design and propose CRP special study to evaluate the extent of bacteriological contamination in groundwater in the Grape Creek community in Tom Green County.
- ◆ Implement the Spence Reservoir TMDL. Complete the Segment 1426 TMDL for TDS. Continue chloride, sulfate and TDS monitoring in TMDL project segments.
- ◆ Continue monitoring nutrient levels in the Concho River. Water wells at or near any agricultural facilities should be prioritized for inclusion in any future groundwater investigations.
- ◆ Seek cleanup and remediation of the Snyder magnesium plant site.

### *Middle and Lower Basin*

- ◆ Design a special study to determine the extent of nutrient loading for the Highland Lakes. Use computer models to focus on sedimentation and causes of eutrophication.
- ◆ Continue to work with City of Austin and other in-kind contributors to ensure quality data obtained.
- ◆ Pursue a Clean Water Act 319(h) grant to implement an enforcement and education campaign to improve water quality in the Tres Palacios River watershed.
- ◆ Assess NPS pollutant loading in predominantly urban areas.
- ◆ Continue to collect biological data to accurately assess the aquatic environment in perennial streams.
- ◆ Determine the water quality impacts from sand and gravel operations.
- ◆ Improve public awareness on water quality issues and how their actions affect water quality.

## **Programmatic Recommendations**

Successes in the past six years have been many. The CRP Colorado River Basin partners successfully expanded their quality assured monitoring program, performed numerous subwatershed studies, assessed water quality data to determine status and trends, improved communication of water quality information and continued the role of the Steering Committee. But there are still many programmatic issues that can be improved upon.

### ***Monitoring Networks***

Over the past six years, the partners have been successful in expanding the basin's monitoring networks to determine if water quality meets the state standards. However, in the future the partners should improve their ability to respond to basin-specific problems and concerns. The success of the CRP in the Colorado River basin will be based upon its ability to respond to local and regional concerns and grass-roots solutions to those concerns.

### ***Steering Committee Development***

If the success of the Steering Committee/subcommittees and the public meetings can be measured by attendance, the Steering Committee meetings were a mixed success and the public meetings were not successful. To enhance success in these efforts, the partners recommend the following:

- ◆ Continue to hold regional Steering Committee subcommittee meetings,
- ◆ Improve communication between the partners and the Steering Committee because often times there is a lack of continuity between meetings,
- ◆ Evaluate the success of the quarterly CRP Steering Committee newsletter,
- ◆ Develop a comprehensive plan to improve the overall effectiveness of the Steering Committee.

### ***Project Implementation***

One of the shortcomings of the CRP is that it does not allow for implementation of projects. LCRA and other partners should pursue implementation of projects identified by CRP studies or Steering Committee members. UCRA has done an outstanding job of using CWA Section 319(h) funding to address nonpoint-source pollution issues in San Angelo and Brady. Implementation of water quality improvement projects

is the logical next step in resolving those problems identified through monitoring or from Steering Committee input.

### ***Funding***

The Colorado River basin partners have been faced with funding reductions during this summary period while being asked to increase monitoring and meet more stringent quality assurance requirements. The partners have been asked to do more with less. The partners contribute far more quality assured data to the state than they get in reimbursements.

The passage of HB 2912 further jeopardizes funding, as it requires the combination of wastewater inspection fees and CRP monies into one pot. Discussions should ensue at the Steering Committee, stakeholder, and legislative level to increase the amount of funding available for the program statewide.

The efforts to improve water quality and the recommendations to improve the CRP require an increase in funding. Additional funding and other funding opportunities must be pursued to ensure the continued success of the CRP in the Colorado River basin.