

Lake Recreation Economic Impact Study Frequently Asked Questions

Why was the study done? The Lake Recreation Economic Impact Study was done in response to comments received during the 2002 Water Management Plan revision process. During this process, Lake Travis interests requested LCRA to consider changing its annual reservoir operations so that water is withdrawn equally throughout the year from both Lake Travis and Lake Buchanan to meet downstream demands. The goal of the “equal draw-down” proposal was to lessen lake recreation economic impacts to Lake Travis thought to occur as lake levels declined and to share these impacts more with Lake Buchanan.

Who performed the study? LCRA agreed to initiate a study funded in part under the U.S. Army Corps of Engineers Flood Damage Evaluation Project. Total cost of the two-year study was approximately \$200,000. LCRA also established an advisory committee made up of members from the respective lake advisory panels. The study was performed by the engineering firm Halff Associates, Inc., and an independent peer review and analysis of the study was done by R. J. Brandes Company. The engineering firms were selected by USACE. USACE also reviewed the study before it was finalized.

To what extent may LCRA change its reservoir operations to benefit lake recreation economic interests? Under its water rights and state-approved Water Management Plan, LCRA is required to operate the Highland Lakes in a manner that optimizes the conservation of available water supplies. In addition the flood operations for Lake Travis are done pursuant to regulations of the U.S. Army Corps of Engineers. There is also an agreement with FEMA for the operation of lakes Buchanan, LBJ and Marble Falls for consistency with FEMA floodplain maps and to reduce flood risk and damages. Therefore, a threshold issue as to whether LCRA could consider changes to its reservoir operations to address lake recreation economic impacts was whether such changes would impact LCRA’s water supply and flood control responsibilities.

Who pays for the operation and maintenance of the Highland Lakes? The maintenance and operation costs for the Highland Lakes are funded through revenues from rates charged to LCRA’s water supply and electric power customers. By law, LCRA is a non-profit agency and its rates are required to be based upon cost of service. LCRA receives no tax revenues. Lake property owners and local businesses do not pay any fees or taxes for the maintenance and operation of the lakes and any recreational, aesthetic, property value, or other economic benefit provided by the lakes to these property owners or local business owners are incidental to the primary purpose and design of the lakes for water supply and flood control. Nevertheless, LCRA seeks to equitably address recreational interests on all the lakes to the extent it does not affect LCRA’s water supply and flood control responsibilities.

How are the lakes currently operated? To meet its water conservation and supply mandate, LCRA generally releases water first from Lake Travis to meet downstream demands to take advantage of Lake Travis' larger, typically wetter watershed and greater likelihood that its conservation pool will be refilled. Then water is drawn from Lake Buchanan so that at the end of the year there has been an approximately equal percentage of water taken from each reservoir. This practice not only seeks to maximize the potential for Lake Travis to catch, and not spill, water needed by our water supply customers, but also provides less-costly hydro-generation for our electric customers from all 13 units in the Highland Lakes system as power demands increase later in the summer. By having as a goal the approximately equal percentage drawdown from both reservoirs at the end of the year, it also seeks to equitably address both lake recreation interests.

It should be noted that water is not necessarily taken first each year from Lake Travis. In drier years, water can be taken from Lake Buchanan earlier in the year with less likelihood of spills from Lake Travis when inflow to Lake Travis and Buchanan does not occur in the usual proportion or when lake levels are relatively low at the beginning of the irrigation season. In some circumstances, a greater percentage of water is taken from Lake Buchanan or exclusively from Buchanan, depending on the relative lake levels and time of year. However, the overall goal remains of taking approximately the same percentage of storage from each reservoir at the end of the year

What were the results of the study? To evaluate whether changes to LCRA's reservoir operations would be consistent with LCRA's water supply and flood management responsibilities, the outside engineering consultants were asked to perform lake system yield impact analyses of the "equal drawdown" proposal as well as current operations and several other lake operation scenarios.

Study results indicated that the "equal drawdown" proposal would slightly decrease system yield but not significantly impact flood control. The study also indicated that the "equal drawdown" plan would disproportionately impact Lake Buchanan recreation interests by having Lake Buchanan levels below elevations where economic impacts are first thought to occur significantly longer on average than for Lake Travis. These trigger elevations were identified based on an earlier USACE lake recreation impact study, LCRA's marina ordinance, the elevations of boat ramps, marinas and other recreational access points, and input from the advisory committee members and marina owners.

The study consultant did identify a lake operating scenario that could slightly increase system firm yield over current operations or the Water Management Plan scenario for calculating firm yield and could draw water from both reservoirs on a more frequent basis. Under this plan, called the Lake Lowering Plan (LPP), all releases would be made from Lake Buchanan between Memorial Day and July 4th if both lakes Travis and Buchanan were full or near full at the beginning of the summer. Water would continue

to be drawn from Buchanan throughout the remainder of the year if Buchanan remained at full or near full conditions. "Equal drawdown" of the reservoirs would be used later in the year if Travis was relatively lower than Buchanan and both lakes were still above their lake recreation impacts elevations. When Lake Buchanan had fallen below its impact elevation and Travis had not, water would be drawn from Travis. Once both lakes had fallen below their impact elevations, water would be withdrawn from Buchanan. This would take advantage of storing water in the more efficient Lake Travis by offsetting the less efficient Lake Buchanan when evaporative losses would be higher. However, when both lakes were at very low drought elevations, then water would be taken from the lake with the higher percent storage remaining. A remaining concern about LPP was the disproportionate number of days Lake Buchanan remained below its lake impact threshold elevation of 1012 msl as compared to the number of days Lake Travis was below its threshold elevation of 660 msl. In addition, system yield and lake recreation impacts changed under LPP as full demands against the system increased over time.

Therefore, the overall study conclusion was that the current operating procedures were a relatively balanced plan when comparing recreational interests for lakes Travis and Buchanan and consistency with LCRA's water management and flood control responsibilities. However, further investigation of the LPP, perhaps in combination with other scenarios, could prove worthwhile.

What's next? The study results were presented to the LCRA Board of Directors at its April 16, 2006 meeting. Public comment was also presented by the various lake recreation interests. At the meeting, staff recommended that no change be made at that time to the current operating procedures. However, information in the study could be used in the future to determine whether system yield could be enhanced at lower lake levels. This evaluation would be done during the next round of Water Management Plan revisions with input from a stakeholder advisory committee. The Board unanimously approved staff's recommendation.

Where can I obtain a copy of the study? A copy of the study may be found on the web site for the Lower Colorado River Flood Damage Evaluation Project at www.fdep.com.