TCEQ Interoffice Memorandum

To: Chief Clerk

Thru: Caroline Sweeney, Deputy
Office of Legal Services

Robert Martinez, Director
Environmental Law Division

From: Robin Smith, Attorney
Environmental Law Division

Date: April 22, 2014

Subject: Lower Colorado River Authority
Docket No.2014-0438-WR; CN600253637; RN104252267
Consideration of whether to affirm, modify, or set aside an Emergency Order issued by the Executive Director on April 15, 2014 under Tex. Water Code Sections 5.506 and 11.148 partially suspending releases of stored water for instream flows for the Blue Sucker; Lower Colorado River Authority 2010 Water Management Plan, Permit No. 5838, Colorado River, Colorado River Basin, Travis, Burnet, and Llano Counties

On March 21, 2014, the Lower Colorado River Authority (LCRA) filed an application for an emergency order to partially suspend the requirement to maintain a minimum streamflow of 500 cubic feet per second (cfs) to 300 cfs for six consecutive weeks in between March and May from Bastrop to Eagle Lake for the Blue Sucker. LCRA requested that the application be processed under Texas Water Code §§ 5.506, 11.139, or 11.148, as appropriate, and the Governor's Emergency Disaster Proclamation related to drought.

LCRA has the right to divert and use up to 1.5 million acre feet from Lakes Buchanan and Travis, in Travis, Llano, and Burnet Counties, Texas, under Certificates of Adjudication Nos. 14-5478 and 14-5482. These certificates require LCRA to develop the WMP, Permit No. 5838, which provides how LCRA makes water available from these lakes to help meet "firm" water customer needs, downstream interruptible irrigation demands, and environmental flow needs of Matagorda Bay and the Lower Colorado River.

LCRA's WMP includes "target" and "critical" requirements for instream flows based on the amount of water LCRA has in storage on January 1 each year. At the present time, LCRA must meet critical instream flow requirements, including the 500 cfs instream flow requirement for a continuous six week period between March and May. If the stream does not provide adequate streamflow, stored water is released to provide the 500 cfs.

Without partial suspension, this requirement would necessitate a release of stored water of approximately 21,000 acre feet (AF) by the end of May 2014. LCRA's requested relief would partially suspend the instream flow requirement of 500 cfs by reducing the instream flow requirement to 300 cfs, which would prevent approximately 17,000 AF from being released from Lakes Buchanan and Travis.

The Commission may issue an emergency order under Tex. Water Code Sections 5.506 and 11.148 of the Water Code to suspend permit conditions relating to beneficial inflows to affected bays and estuaries and instream uses if the Commission finds that an emergency exists which cannot practically be resolved in another way. Section 35.101 of the Texas Administrative Code sets forth the procedures and the criteria to be used by the Commission or the Executive Director in acting under these statutes.

The Executive Director issued an Emergency Order on April 15, 2014 granting LCRA's requested partial suspension. The Emergency Order is attached as Exhibit A. Staff's technical summary discussing analysis of this petition is attached as Exhibit B. The supporting affidavits for the application are under Exhibit C. Mailed notice of the Executive Director's Emergency Order was sent to all water right holders in the Colorado River Basin on April 17, 2014.

The Commission may affirm, modify, or set aside the Executive Director's Order.

cc: Kellye Rila, TCEQ; Ron Ellis, TCEQ: Kathy Alexander, TCEQ

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

AN EMERGENCY ORDER issued to the Lower Colorado River Authority partially suspending releases of stored water for instream flows for the Blue Sucker under its Water Management Plan, Permit No. 5838, pursuant to Sections 5.506 and 11.148 of the Texas Water Code

On April 15, 2014, the Executive Director of the Texas Commission on Environmental Quality (Commission) considered an application from the Lower Colorado River Authority (LCRA) for an Emergency Order to amend its Water Management Plan (WMP), Permit No. 5838. The application requests to reduce the higher instream flows required for a six-week continuous period to support spawning habitat for the Blue Sucker fish.

The Executive Director has jurisdiction to consider this matter and makes the following Findings of Fact and Conclusions of Law:

FINDINGS OF FACT

1. On March 21, 2014, LCRA filed an application for an emergency order to amend its WMP to reduce the requirement to maintain a minimum streamflow of 500 cubic feet per second (cfs) for six weeks in between March and May from Bastrop to Eagle Lake for the Blue Sucker. LCRA requested that the application be processed under Texas Water Code §§ 5.506, 11.139, or 11.148, as appropriate, and the Governor's Emergency Disaster Proclamation related to drought. Without an amendment, this requirement would necessitate a release of stored water of approximately 21,000 acre feet (AF) by the end of May 2014. LCRA's requested relief would reduce the release requirement from 500 cfs to 300 cfs, which would prevent approximately 17,000 AF from being released from Lakes Buchanan and Travis. LCRA's application is attached hereto as Attachment A and incorporated herein by reference.

LCRA's Water Rights and 2010 Water Management Plan

2. LCRA has the right to divert and use up to 1.5 million acre feet (MAF) from Lakes Buchanan and Travis under Certificates of Adjudication Nos. 14-5478 and 14-5482. By court order, LCRA has developed a Water Management Plan (WMP), currently dated 2010, which is part of LCRA's water rights and has its own number, Permit No. 5838.

3. The Certificates of Adjudication and the 2010 WMP govern LCRA's operation of Lakes Buchanan and Travis and dictate how LCRA makes water available from these lakes to help meet "firm" water customer needs, downstream interruptible irrigation demands, and environmental flow needs of the lower Colorado River and Matagorda Bay. Environmental flow needs include instream flows for the river, and bay and estuary freshwater inflows.

4. Certificates of Adjudication 14-5478 and 14-5482 state that "LCRA shall interrupt or curtail the supply of water . . . pursuant to commitments that are specifically subject to interruption or curtailment, to the extent necessary to allow LCRA to satisfy all demand for water under such certificate pursuant to all firm, uninterruptible water commitments." LCRA's WMP further describes how LCRA will manage and curtail supplies from the lakes during times of drought including through a repeat of the Drought of Record.

5. As established in the 2010 WMP, the combined firm yield of Lakes Buchanan and Travis is 535,812 acre feet per year (AFY). Of this amount, 90,546 AFY is committed to O.H. Ivie Reservoir, making 445,266 AFY of firm water supply available from Lakes Buchanan and Travis for LCRA's firm water customers.

6. LCRA's 2010 WMP defines "Drought of Record" as "the drought that occurred during the critical drought period." "The Critical Drought Period" is defined as "the period of time during which the reservoir was last full and refilled, and the storage content was at its lowest minimum value."

7. The LCRA Board may declare a Drought Worse than the Drought of Record (DWDR) if it finds that the following three conditions are simultaneously met:

    a. Duration of drought is more than 24 months, which is determined by counting the number of consecutive months since both Lakes Buchanan and Travis were last full;

    b. Inflows to the lakes are less than inflows during the Drought of Record; and

    c. Lakes Buchanan and Travis combined storage has less than 600,000 acre feet of water.

8. LCRA's environmental flow obligations in the 2010 WMP are generally tied to the amount of water LCRA has in storage on January 1 each year. Under a declaration of a DWDR, water for instream flows and bay inflows is subject to a pro rata reduction along with other firm users of water. These triggers are:

Combined Storage of Lakes Buchanan and Travis	Date on Which Trigger is Decided	Action Taken
1.7 MAF	On Jan. 1	Environmental releases for bay and estuary inflows reduced to meet intermediate needs for the following year
1.4 MAF	At any time	Request firm customers to implement voluntary drought response measures.
1.4 MAF	On Jan. 1	Environmental releases for instream flows reduced to meet critical needs for ecosystems for following year. Begin gradual curtailment of interruptible supply to four major irrigation operations.
1.1 MAF	On Jan. 1	Environmental releases for bay and estuary inflows reduced to meet critical needs for following year.
900,000 acre feet	At any time	Request firm customers to implement mandatory water restrictions; develop firm customer curtailment plan.
600,000 acre feet	At any time	If criteria indicates a drought worse than the Drought of Record, then cease interruptible supply and begin curtailment of firm supply.

9. Under the 2010 WMP, once a drought has lasted more than 36 months and a DWDR has been declared by the LCRA Board, interruptible stored water would be fully and immediately curtailed, making no stored water available for agricultural irrigation or other interruptible uses until lake levels recover or the inflows into the lakes increase substantially. LCRA will also implement pro rata curtailment of its firm water users once a DWDR is declared and after interruptible stored water uses have been curtailed. Under a DWDR, water for

instream flows and bay inflows is subject to a pro rata reduction along with other firm uses of water.

10. This year, under the 2010 WMP, LCRA has been required to maintain critical instream flows, including maintaining a minimum continuous instream flow of 120 cfs from Bastrop to Eagle Lake at all times, and a minimum flow of 500 cfs for a continuous six weeks from Bastrop to Eagle Lake in between March and May to provide higher flows to support habitat for Blue Sucker spawning. If the river is not supplying this amount from March to May, stored water must be released under the 2010 WMP. In 2012, the amount released from the lakes to meet this instream flow requirement was 22,991 AF, and in 2013, it was 15,678 AF.

Current Conditions

11. As of April 14, 2014, the combined storage of Lakes Buchanan and Travis is 749,196 AF or 37% full.

12. LCRA has reserved 33,400 AF of firm supply to meet its instream flow and bay inflow obligations under the 2010 WMP. This reservation is for the average amount of firm water needed for the environment over a repeat of the Drought of Record and includes 6,060 AF for bay inflows. In any year, the amount can exceed that number.

13. On September 19, 2013, the combined storage of these reservoirs fell to the second lowest point in the history of these lakes—637,123 AF, nearing 30% capacity and just shy of the record low of 621,000 AF. Thus, in September, the lakes rapidly approached the 600,000 AF emergency level at which point the LCRA Board would have declared a DWDR.

14. In 2012 and 2013, LCRA operated under TCEQ-issued emergency orders that have modified the amount of water supplied from Lakes Buchanan and Travis for irrigated agriculture in the lower basin. In 2012, total use from the lakes was about 188,000 AF, of which about 31,385 AF was supplied to help meet environmental flow needs of 28,235 AF for instream flows (22,991 AF of which was for the 500 cfs requirement) and 3,050 AF for bay inflows. In 2013, LCRA used about 228,959 AF, of which about 33,465 AF was supplied to help meet environmental flow needs consisting of 18,779 AF for instream flow (15,678 of which was for the 500 cfs requirement) and 14,686 AF for bay inflows.

15. The inflows to the Highland Lakes are at record lows. The deficit has been as much as 90% more than the inflow deficit for a similar period of inflows experienced during the drought of record for the lower Colorado River Basin, which occurred from 1947 to 1957.

16. Annual inflows into Lakes Buchanan and Travis in four of the last five years are among the ten lowest years of inflow on record. Only one year in the historical Drought of Record for the lower Colorado River Basin was in the list of ten lowest annual inflows.

17. A ranking of the top ten lowest calendar year historical inflows since the reservoirs went into operation in the early 1940's shows that five of those years—2008, 2009, 2011, 2012 and 2013 occur in the current drought, and the top three years for lowest inflows—2011, 2013, and 2008 are all from the current drought. The recent year of 2006 is the fourth lowest.

18. Monthly inflows for June and August of 2013 were each less than five percent of average for the respective month, and total inflows for June, July and August were less than 25,000 acre feet.

19. Inflows in 2011 were the lowest on record, and inflows in 2012 were the sixth lowest on record. Inflows in 2013 were the second lowest on record. Monthly inflows for January and February of 2014 were each lower than in any of the recent drought years of 2011 to 2013 and were the lowest since the 1950's.

20. The inflows into Lakes Buchanan and Travis during the current drought have been lower for time periods ranging from 12 months to 72 months than the lowest inflows for periods of similar duration during the historic Drought of Record. The total inflows for the past 72 months were only about half of the lowest 72 month inflow period in the Drought of Record.

21. On Sept. 19 and 20, 2013, the watershed upstream of Lakes Buchanan and Travis experienced a widespread event with rain totals averaging two to three inches, with some rain gages reporting as much as seven inches. Although the rainfall amounts were significant, the resulting inflows to Lakes Buchanan and Travis were very limited, totaling only about 24,000 AF. The limited amount of inflows is indicative of the severity of the ongoing drought and the extremely dry soil conditions that have yet to be overcome.

22. The inflow conditions experienced in the last several years present an extreme drought situation that was not contemplated when the special conditions related to freshwater inflows and instream flows were incorporated into the 2010 WMP.

23. The 2010 WMP was developed using simulations of a repetition of the hydrologic period from 1940 to 1965. While that period includes the 1950s Drought of Record, the recent severe low inflows of 2011 and 2013 are less than half of the lowest annual inflow in the 1950s and the multi-year inflows are also worse than any multi-year inflows which were simulated during the development of the WMP.

24. The Texas State Climatologist, Dr. John Nielsen-Gammon, has recognized the period from October 2010 to September 2011 as the worst one-year statewide drought on record dating back to 1895. Although 2012 and 2013 have included some periods with near-normal or normal rainfall totals, rainfall has been very sporadic, often with several weeks of dry weather between significant rainfall events such that the soils have not remained saturated enough to allow runoff to occur in any substantial amount. The rain event in September 2013 discussed above is the most recent example of this pattern.

25. High temperatures have also been unprecedented. For Texas, the summer of 2011 was the hottest summer ever recorded in Texas and the hottest summer on record for Austin. Statewide, calendar year 2011 was the second hottest year ever recorded and the hottest year on record for Austin. The summer of 2012 was the tenth hottest summer on record statewide and the 11th hottest summer on record for Austin. Statewide, 2012 tied with 1921 as the hottest year on record. Summer temperatures recorded for Austin in 2013 were the fifth hottest on record.

26. These conditions have created a circumstance where the lakes have been unable to recover in any significant manner, even with an emergency cutoff of nearly all water supply for downstream irrigation in 2012 and 2013.

27. Recent weather forecasts do not include any clear signs of relief. The National Weather Service's 3-month outlook calls for the drought to persist across Central and South Texas through June 2014. There is a 50% or greater chance of El Niño developing in the late summer, but it is not expected to impact Central Texas until late summer or fall. And as has been observed during this drought, even if near-normal to normal rainfall occurs, significant drought relief in the form of inflows into Lakes Buchanan and Travis cannot be expected.

28. The U.S. Drought monitor shows that most of the Texas Hill Country and Central Texas are now within the "severe" to "extreme" drought definition.

29. The Governor of Texas issued an Emergency Disaster Proclamation on July 5, 2011, certifying that exceptional drought conditions posed a threat of imminent disaster in specified counties in Texas. This proclamation has been renewed monthly, most recently on March 14, 2014, and includes nearly every county bordering or that contributes inflow to the Highland Lakes. These areas are in severe drought or worse. The Emergency Disaster Proclamation also states that "As provided in Section 418.016 of the [Texas Government Code], all rules and regulations that may inhibit or prevent prompt response to this threat are suspended for the duration of the state of disaster."

Effect of Emergency Order

30. LCRA's requested relief would partially suspend the instream flow requirement from 500 cfs to 300 cfs, which LCRA states could prevent approximately 17,000 AF from being released from Lakes Buchanan and Travis.

31. As of March 1, 2014, even if releases of interruptible stored water to the Gulf Coast, Lakeside and Pierce Ranch irrigation operations are cut off for all of 2014, there is about a 29 percent chance of triggering a DWDR declaration by the end of 2014. If, in addition, the instream flow requirement for the Blue Sucker is reduced from 500 cfs to 300 cfs, there is about a 21 percent chance of triggering a DWDR by the end of 2014.

LCRA's Firm Customers

32. LCRA provides raw water to over 60 retail and wholesale potable water suppliers that together serve over one million people throughout the lower Colorado River Basin and LCRA's water service area. LCRA's municipal raw water customers include Austin, Cedar Park, Leander, Burnet, Marble Falls, Pflugerville, Lakeway, Bee Cave, Horseshoe Bay, other Highland Lakes municipalities; water supply corporations, special districts (including LCRA's own water utility systems); and investor-owned utilities.

33. In addition, LCRA provides water to several electric utilities-LCRA, Bastrop Energy Partners, Austin Energy, Gen-Tex Corporation, and South Texas Project Nuclear Operating Company-from the firm water supply of Lakes Buchanan and Travis. These utilities provide power into the electrical grid in Texas operated by the Electric Reliability Council of Texas (ERCOT) to meet the electrical needs of customers in Texas. LCRA also provides firm raw water to several industries located downstream, including Oxea Chemical and Underground Services Markham.

34. The 2010 WMP requires that firm customers (mainly cities and industries) be curtailed on a pro rata basis and that LCRA cease all releases for interruptible stored water (regardless of the impact on the crops) when a DWDR is declared.

35. This emergency order request would help meet the clearly identified water needs of the LCRA's firm water customers and thus constitutes a benefit to the public welfare.

36. Over 40 public water systems that rely on the Highland Lakes or that draw from the tributaries that typically contribute significant inflow to the Highland Lakes are in some form of drought restriction and are at risk of water supply shortages. If the lake levels drop more quickly than arrangements for alternative intakes or

supplies can be implemented, the current drought presents an imminent threat and peril to public health, safety, and welfare for LCRA and its customers.

37. If LCRA is required to follow the 2010 WMP and the drought continues, LCRA and its firm customers may need to acquire or develop large quantities of alternative water supplies to meet essential needs of their respective potable water systems. LCRA's firm customers are working on plans to implement curtailment and secure alternative supplies; however many of LCRA's firm customers do not have any readily available alternative sources of water supply that could substitute for their reliance on the Colorado River, and these projects could take years to develop.

38. If LCRA is required to follow the 2010 WMP and the drought continues, LCRA will be required to release approximately 21,000 AF to maintain a flow rate of 500 cfs and the third criteria for DWDR conditions will likely be reached sooner than if a reduced amount of water is released. If a DWDR is declared, LCRA will have to curtail cities' and industries' water use by 20% or more.

39. Curtailments that would occur will result in reduced water supply to power plants, threatening their ability to generate electricity. Because LCRA's firm water customers would be required to cut back substantially if the drought persists under a DWDR declaration, municipal customers are likely to be forced to institute drought response measures that would include restrictions on indoor water use, resulting in threats to public health, safety and welfare.

40. Criteria prompting LCRA to make a DWDR declaration could be met as soon as June 2014. Two of the three criteria, the 24 month criteria and the cumulative inflow deficit criteria, have been met. Releasing this stored water could cause the DWDR to occur sooner and water should be reserved to ensure LCRA can continue to meet critical needs.

41. In May 2012, the lakes refilled to an amount close to 1.1 million AF (to 1.033 million AF on May 22, 2012) and yet without any release to Lakeside, Gulf Coast and Pierce Ranch, the lakes dropped to 637,123 AF on September 19, 2013, the second lowest level on record.

42. Currently, LCRA owns four water systems that take raw water from Lakes Buchanan and Travis. LCRA also has 15 firm water customers that actively take raw water for municipal purposes from Lake Travis that are not a part of LCRA's utility facilities. The lowest pumping elevations of the intakes range from 555 feet mean sea level (msl) to 650 feet msl on Lake Travis. On January 9, 2014, the lake level at Travis was 628.45 msl. On February 15, 2014, the lake level at Lake Travis was 627.75 msl.

43. As lake levels drop, retail water suppliers are unable to pump water from the lakes. This causes wholesale raw water customers to either move intakes to reach the water, or obtain alternative sources. Smaller systems will likely have to haul water from a water utility with a viable source. If the lake levels drop more quickly than arrangements for alternative intakes or supplies can be implemented, LCRA water systems and its customers' water systems will have difficulty in meeting firm customers' water needs.

44. Low lake levels in Lake Travis have a direct impact on the ability of local emergency services personnel to fight structure fires and wildfires that may occur. In 2011, the Pedernales Fire Department, which serves western Travis County and relies primarily upon water from Lake Travis, was able to draft water from Lake Travis at multiple locations on the lake. As of February 17, 2014, the Fire Department had access to only one reliable water source at the lake. With these limitations, the Fire Department has experienced 45-minte turnaround times for trucks to bring water to a fire, and it has had to stop fighting a fire due to lack of water in its trucks or helicopters. These circumstances constitute a current threat to the public health, safety, and welfare of residents served by the Pedernales Fire Department.

Water Conservation and Drought Contingency Plans

45. LCRA's Raw Water Conservation Plan (WCP) and Drought Contingency Plan (DCP) comply with TCEQ rules and are contained in Chapter 4 of the 2010 WMP. LCRA was originally required to develop this part of the WMP as a direct result of the court order adjudicating LCRA's water rights and the Texas Water Commission's 1989 WMP Order, giving initial approval to LCRA of an earlier version of the plan.

46. When LCRA was required under the TCEQ's Chapter 288 rules to develop and implement a DCP, LCRA incorporated all of the same triggers and criteria from the approved WMP into its DCP, and elaborated on the details of how pro rata curtailment of interruptible customers might occur to comply with the additional requirements of the TCEQ's Chapter 288 rules. LCRA's 2010 WMP incorporates the Chapter 288-required DCP in Chapter 4.

47. LCRA adopted additional changes to LCRA's raw water contract rules that include the procedures for implementing a pro rata curtailment of firm water customers. The rules also provide a surcharge to be set by the LCRA Board for unauthorized use of water (taking more water than authorized under a mandated curtailment of firm water supplies) and clarifying the drought contingency requirements related to golf course irrigation and recreational use. The 2010 WMP includes a requirement that LCRA develop a stored water curtailment plan to be approved by the LCRA Board and TCEQ in response to combined storage dropping below 900,000 AF. TCEQ approved LCRA's water curtailment plan for its firm customers in December 2011.

48. LCRA's WCP complies with TCEQ rules. LCRA has required its municipal customers to adopt conservation plans since before there was a state requirement.

49. LCRA provides conservation program planning support for its customers. In 2012, LCRA began a rebate program for certain irrigation technologies and a wholesale customer cost-share program focused on conservation. LCRA has supported significant improvements in water use efficiency in rice irrigation systems, including volumetric pricing and canal rehabilitation.

50. LCRA has adopted water use reduction targets including the following: water use reduction goals for firm water supply customers of 5 percent by asking firm customers to implement their voluntary water use reduction measures when the combined storage of Lakes Buchanan and Travis is less than 1.4 MAF; 20 to 20 percent reduction goals by asking firm customers to implement their own mandatory water use reduction measures when combined storage levels fall below 900,000 AF; and a mandatory pro rata curtailment of firm water supplies for customers of 20 percent or more will be implemented when combined storage levels fall below 600,000 AF and other criteria are met for a drought more severe than the Drought of Record.

51. In August, 2011, LCRA called on its firm water customers to voluntarily implement mandatory water use restrictions under their DCPs to reduce water use by 10 to 20 percent.

52. LCRA has fully implemented its DCP. It requires all of its customers that currently divert and purchase water from LCRA to have a DCP. Currently, all customers have an approved DCP. Most of these firm customers have stayed in some form of mandatory water restrictions, significantly limiting landscape irrigation. LCRA's industrial customers have worked to reduce non-essential water uses. Also, LCRA has had several meetings with firm customers in preparation for pro rata curtailment.

53. The LCRA Board approved a no more than once per week watering restriction that took effect in March 2014 and applies if combined storage is below 1.1 MAF and interruptible stored water to the Gulf Coast and Lakeside irrigation divisions and Pierce Ranch has been cut off. LCRA has not requested TCEQ approval of this action and this order does not address such action.

Alternatives

54. LCRA has evaluated many alternatives to address the emergency conditions that the drought presents. Alternatives explored include: Utilizing water from LCRA's other lakes, aggressive conservation, securing the Garwood right for purposes other than agriculture, interbasin transfers, and trucking in water from other sources.

55. None of the alternatives LCRA has identified would avert the projected water supply shortage because most of the supplies identified would produce insufficient or uncertain quantities of supply, would create other operational issues for customers, may involve a lengthy permitting process (if not implemented on an emergency basis), or would take years to develop. None of the alternatives identified are feasible or practicable alternatives to the emergency authorization.

56. Amending downstream run of the river rights to allow diversion for new uses and at new locations would provide some supply, but the use of these rights alone is not – by itself – a feasible and practicable alternative to the emergency relief related to the 2010 WMP. All of the rights would require amendments to add diversion points, additional places of use, and possible storage. Also, the downstream run-of-river water rights are highly variable in terms of availability and quantity, and do not provide by themselves a sufficient quantity of water to eliminate the need for the emergency relief from the 2010 WMP.

57. In 2012, LCRA supplied about 4,000 AF to firm customers downstream of Austin under temporary permits that would otherwise have been released from Lakes Buchanan and Travis. In 2013, LCRA supplied about 1,000 AF to such customers under such temporary permits. While this was beneficial, temporary permits are not sufficient replacement for water lost if releases are required.

58. A twenty percent reduction in water use by firm customers will require difficult measures. However, none of these measures will occur quickly enough to help lake levels. Some LCRA customers, such as Austin, have achieved water savings through reductions in water use. Most industrial customers would have to implement the full twenty percent reduction more immediately and this likely means a decrease in production.

59. There is no feasible practicable alternative for Austin on short order to replace its water supply should it be depleted to the point of drastic shortages. Although Austin has made very earnest efforts to identify alternative water supplies, a replacement water supply for 1 million people cannot be identified and developed in a few years. Austin has identified only very small amounts of water that may be able to be purchased for exorbitantly expensive prices. The small amounts do not sufficiently address the public health, safety, and welfare risks and the exorbitant prices do not make these practicable alternatives.

60. Amendment of the WMP to reduce these streamflow requirements is not a feasible or practicable alternative because the WMP would have to be amended using regular procedures for amending a water right, which would require basin-wide 30 day notice and an opportunity for a hearing.

Water Quality and High Interest Species/Protecting Environmental Flow Needs

61. Section 35.101(m) of 30 Tex. Admin. Code provides that when issuing an emergency order, all existing instream flows shall be passed, up to the amount necessary to maintain water quality standards for the affected stream. Section 35.101(m) states that additional flows necessary to protect an endangered species under federal law or "other species that are considered to be of high interest" may be required.

62. LCRA monitoring has shown that water quality standards are maintained in the river segments between Bastrop and Eagle Lake if the flow levels have been near or lower than 300 cfs with few exceptions.

63. The Blue Sucker is a state-listed threatened species in Texas which is uniquely adapted to life in swift current. When spawning, adults utilize high velocity flow areas over hard substrate such as bedrock outcrop, boulders, and cobble riffles. These habitat types are abundant between Bastrop and Eagle Lake.

64. An instream flow study in 1992 established critical and target instream flow criteria for several locations in the lower Colorado River. The study also recommended the requirement for the 500 cfs for a continuous six week period in March, April and May to provide spawning habitat for the Blue Sucker. The 2010 WMP used these critical instream flow criteria.

65. LCRA's WMP includes "target" and "critical" requirements for instream flows based on the amount of water LCRA has in storage on January 1 each year. At the present time, LCRA must meet critical instream flow requirements, including the 500 cfs instream flow requirement for a continuous six week period between March and May.

66. Based on instream flow studies evaluating the habitat of the Blue Sucker, LCRA states that at 500 cfs, the flow provides for 93 to 100% of the maximum available spawning habitat for the Blue Sucker, while at 300cfs, at least 86% of the habitat will be supported. Without any dedicated releases so far in 2014, streamflows in February and March of 2014 are already providing significant spawning habitat.

67. Recent studies affirmed the critical flow requirements in the 2010 WMP for the period from February 1 through March 18, flow at the Bastrop gage has averaged 335 cfs with a minimum daily flow of 297 cfs. When releases for Garwood Irrigation begin, there will be higher flows through the end of May. LCRA asserts that the 300 cfs will provide flows that protect the Blue Sucker and the requested relief is expected to have very little impact on Blue Sucker spawning habitat.

68. The release of additional stored water from the lakes to maintain 500 cfs would only provide a small incremental benefit to the Blue Sucker spawning habitat. Because of the lingering extreme drought conditions, the possible impact to public health, safety, and welfare overrides the need to maintain the balance between protecting environmental flow needs and other public interests and relevant factors.

Relief Requested

69. LCRA requests an emergency order amending the 2010 WMP to reduce the required continuous streamflow for a six consecutive week period from March to May for the Blue Sucker from Bastrop to Eagle Lake. The reduction would be from 500 cfs continuous flow to 300 cfs. LCRA requests a duration of 120 days for the emergency order.

70. LCRA states that this emergency order will not reduce the overall firm commitment of water for instream flows included in LCRA's 2010 WMP. The requirement to release a minimum continuous flow of 120 cfs from Bastrop to Eagle Lake at all times would remain.

Notice

71. Notice of the date of the Executive Director's consideration of this order was provided to Texas Parks of Wildlife and the Public Interest Counsel of the TCEQ. Texas Parks and Wildlife was provided more than 72 hours notice for submitting comments, which it did on March 28, 2014. These comments were considered by the Executive Director.

72. Notice that the Executive Director may issue this emergency order and the Commission's hearing to affirm, modify or set aside the order is scheduled for April 30, 2014, will be provided by publication by April 15, 2014, in a newspaper or newspapers of general circulation in the affected area, and provided by notice mailed by April 18, 2014, to affected persons. The affected area to receive notice by newspaper publication are the counties in the Colorado River Basin from the Highland Lakes downstream to the Gulf of Mexico. Affected persons who will receive notice of this emergency order are those water right holders in the Colorado River Basin from the Highland Lakes downstream to the Gulf of Mexico.

Specific Statute and Rule Requirements

73. The Commission may issue an emergency order under Tex. Water Code §§ 5.506 and 11.148 to suspend permit conditions relating to beneficial inflows to affected bays and estuaries and instream uses if the Commission finds that an emergency exists and cannot practically be resolved in other ways. Section 35.101 of 30 Tex.

Admin. Code (TAC) sets forth the procedures and criteria to be used by the Commission or the Executive Director in acting under Tex. Water Code §§ 5.506 and 11.148.

74. Under 30 TAC Section 35.101(a), the Commission or the Executive Director must find that: (1) Emergency conditions exist that present an imminent threat to public health, safety, and welfare, and that: (A) override the necessity to comply with general procedures and criteria for changing the conditions in a water right; or (B) override the need to maintain the balance between protecting environmental flow needs and other public interests and relevant factors; and, (2) There are no feasible, practicable alternatives to the emergency authorization.

75. Under 30 TAC Section 35.101(b), an emergency is a condition where water supplies available to the applicant have been reduced or impaired to such an extent that an imminent peril to the public health, safety, or welfare exists. An emergency may include, but not be limited to:

a. The reduction of public water supplies to critical levels as a result of a severe and sustained drought;

b. The failure of a dam for a public water supply reservoir;

c. The significant contamination of a public water supply; or

d. The failure or destruction of public water supply pipelines or other distribution systems.

76. Under 30 TAC Section 35.101(k), in determining whether feasible, practicable alternatives exist to the suspension of water right conditions, the Commission or Executive Director shall examine:

a. The amount and purposes of use for water currently being used by the applicant;

b. All evidence relating to the availability of alternative, supplemental water supplies to the applicant; and

c. The applicant's efforts to curtail water use not essential for the protection of the public health, safety, and welfare.

77. An applicant for an emergency order must file the specific information described under Tex. Water Code Section 35.101(c).

78. Staff reviewed LCRA's application, supporting materials and affidavits and determined that the application included all of the information and documents required by Tex. Water Code Section 35.101(c).

CONCLUSIONS OF LAW

1. Findings of Fact Nos. 1 through 78 show that the requirements of Tex. Water Code §§ 5.506 and 11.148, and applicable subsections of 30 TAC § 35.101 have been met.

2. The Executive Director has the authority to issue this emergency order. A Commission hearing to affirm, modify, or set aside this order will be held on April 30, 2014.

NOW, THEREFORE, BE IT ORDERED BY THE EXECUTIVE DIRECTOR OF THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY THAT:

1. The requirement in LCRA's WMP, Permit No. 5838, to maintain a continuous streamflow of 500 cfs for six consecutive weeks in between March and May from Bastrop to Eagle Lake for Blue Sucker habitat for spawning is partially suspended by reducing the streamflow requirement to 300 cfs.

2. The emergency order becomes effective upon issuance.

3. The emergency order will be in effect for 120 days. It may be renewed once for 60 days.

4. This emergency order was issued without a hearing. A hearing to affirm, modify, or set aside this order will be held before the Commission on April 30, 2014 at 9:30 a.m. at the following location:

Texas Commission on Environmental Quality
12100 Park 35 Circle
Building E, Room 201S
Austin Texas 78753

5. The Chief Clerk of the Commission shall forward a copy of this emergency order to all affected persons.

6. If any provision, sentence, clause, or phrase of this emergency order is for any reason held to be invalid, the invalidity of any portion shall not affect the validity of the remaining portions of this order.

Issue Date: April 15, 2014

TEXAS COMMISSION ON
ENVIRONMENTAL QUALITY

for Richard A. Hyde, P.E.
Executive Director

ATTACHMENT A

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

P.O. Box 13087 MC-160, Austin, Texas 78711-3087
Telephone (512) 239-4691, FAX (512) 239-4770

APPLICATION FOR EMERGENCY MODIFICATION OF PERMIT CONDITIONS AND EMERGENCY AUTHORITY TO MAKE AVAILABLE WATER SET ASIDE FOR ENVIRONMENTAL FLOWS

Notice: This form will not be processed until all delinquent fees and/or penalties owed to the TCEQ or the Office of the Attorney General on behalf of the TCEQ are paid in accordance with the Delinquent Fee and Penalty Protocol.

1. **Data on Applicant and Project:** Social Security or Federal ID No. CN 600253637

   A. Name: Lower Colorado River Authority (LCRA); Attn: David Wheelock, P.E., Manager, Water Supply and Conservation

   B. Mailing Address: P.O. Box 220, L200, Austin, TX 78767

   C. Telephone Number: 512-730-6822 Fax Number: 512-473-3529 E-mail Address: david.wheelock@lcra.org

   D. Applicant owes fees or penalties? ☐ Yes ☑ No

   If yes, provide the amount and the nature of the fee or penalty as well as any identifying number:

   N/A

   E. Describe Use of Water Temporary emergency authorization to allow LCRA to deviate from the 2010 Water Management Plan as it relates to the modification of the instream flow requirement related to the Blue Sucker contained in LCRA's Water Management Plan (WMP) for lakes Buchanan and Travis, as described more fully in LCRA's Attachments provided with this application.

   F. Description of Project (TDH Project No. if applicable) N/A

   G. Highway Designation No. N/A Counties Llano, Burnet, Travis, Bastrop, Fayette, Colorado, Wharton, and Matagorda

2. **Type of Diversion (check one):**

   ☑ From Stream ☑ From Reservoir

3. **Rate of Diversion:**

   A. Maximum _____ gpm
   (capacity of pump)

4. **Amount and Source of Water:**

   See Attachments provided with this application.

   _____ acre-feet of water within a period of _____ (specify term period not to exceed a three year term). The water is to be obtained from _____, tributary of _____, tributary of _____, tributary of _____, _____ Basin.

5. **Location of Diversion Point:** Provide Latitude and Longitude in decimal degrees to at least six decimal places, and indicate the method used to calculate the diversion point location.

   At Latitude _____°N, Longitude _____°W, ((at) or (near) the stream crossing of), (at a reservoir in the vicinity of) _____(R-O-W) (Highway), located in Zip Code _____, located _____ miles in a _____ direction from _____ (County Seat), _____ County, and _____ miles in a _____direction from _____, a nearby town shown on County road map. Note: Distance in straight line miles.

   Enclose a USGS 7.5 minute topographic map with the diversion point and/or the return water discharge points labeled. Owner's written consent is required for water used from any private reservoir, or private access to diversion point.

6. **Access to Diversion Point (check one):**

   ____ Public right-of-way
   ____ Private property
   (A letter of permission from landowner is attached)
   ____ Other (Explain)

7. **Fees Enclosed:**

	10 ac-ft or less	greater than 10 ac-ft
Filing	$ 100.00	$ 250.00
Recording.....	$ 1.25	$ 1.25
Use ($1.00 per ac-ft or fraction thereof)	$ _____	$ 500.00
(Note: 1 ac-ft = 325,851 gals. Total	$ _____	$ 751.25
1 ac-ft = 7758.35 bbls.)		

Upon completion of any project for which a temporary water permit is granted, the Permittee is required by law to report the amount of water used. This document must be properly signed and duly notarized before it can be accepted or considered by the Texas Commission on Environmental Quality.

CERTIFICATION (30 Tex. Admin. Code §35.24(e)(5))

"I, Phil Wilson, General Manager the Lower Colorado River Authority, certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Phil Wilson, General Manager
Lower Colorado River Authority

Date: 3/21/2014

Subscribed and sworn to as being true and correct before me on this the 21st day of March, 2014.

TABETHA JASKE
Notary Public, State of Texas
My Commission Expires
January 11, 2018

Notary Public of the State of Texas

ATTACHMENT A

LCRA APPLICATION FOR EMERGENCY REDUCTION OF INSTREAM FLOW REQUIREMENTS UNDER ITS WATER MANAGEMENT PLAN FOR LAKES BUCHANAN AND TRAVIS (PERMIT 5838)

TABLE OF CONTENTS

I. SUMMARY OF REQUEST

The extraordinary drought gripping central Texas, which has already caused LCRA to seek emergency relief to cut off nearly all water releases for agricultural irrigation three years in a row, and which has caused record-low inflows to lakes Buchanan and Travis, presents an ever more pressing emergency water supply condition. With the threat of mandatory curtailment of water use by firm customers (mainly municipalities and industries) served from these lakes ever closer to a reality, the Lower Colorado River Authority (LCRA) now brings to TCEQ a request to reduce, but not eliminate, the instream flow requirement related to the Blue Sucker included in LCRA's Water Management Plan (WMP), LCRA's reservoir operations plan for lakes Buchanan and Travis. By seeking this one adjustment, it is important to stress that LCRA is not seeking as part of this request to reduce the overall firm commitment of water for instream flows included in LCRA's 2010 WMP. That commitment, which provides for multiyear caps, would remain in effect and be subject to curtailment like other firm commitments, should LCRA declare a Drought Worse than Drought of Record.

Although LCRA has previously obtained emergency relief from its current 2010 WMP that has resulted in the cutoff of interruptible stored water from lakes Buchanan and Travis to most downstream irrigation customers for 2012, 2013, and 2014 (through May 26 at a minimum), LCRA has not previously obtained relief from any of the environmental flow conditions in the WMP.[1] Water supply conditions, however, are worse than in March 2012 or March 2013, with combined storage as of March 19 of 757,000 acre-feet or 38 percent full. If storage drops below 600,000 acre-feet, the LCRA Board will declare a Drought Worse than Drought of Record. Such a declaration is based on indicator criteria (described in Section IV, below) including drought duration, drought intensity, and combined storage levels that suggest the basin may be experiencing a drought worse than the 1950s. At such time, LCRA will require firm customers to cut back their water use by 20 percent and further curtail its commitment to environmental flows by 20 percent. LCRA currently projects this could happen as early as June 2014. As the Commission has previously recognized, these conditions pose an imminent threat to human health and safety. Accordingly, the Board has now concluded that the unanticipated drought conditions require more extraordinary actions and that it must now seek permission to reduce the potential amount of releases this Spring from lakes Buchanan and Travis for specific instream flow purposes related to the state threatened Blue Sucker so that this water may instead be preserved to ensure LCRA can continue to meet critical needs should this extraordinary drought persist.

As discussed in more detail below, without emergency relief on or before April 15, 2014, LCRA could be required to release about 21,000 acre-feet of previously stored water by the end of May 2014. LCRA requests that this application be processed under Texas Water Code §5.506, 11.139, or 11.148, as the Commission deems appropriate.

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[1] LCRA did file an emergency relief application related to its bay and estuary inflow obligation under the WMP in September 2013 but withdrew the application in November 2013.

II. COPY OF PERMIT AND RESERVOIR OPERATING PROCEDURES (30 Tex. Admin. Code §§ 35.101(c)(1), 35.101(c)(7))

LCRA's 2010 WMP is available on LCRA's website at: http://www.lcra.org/water/water-supply/water-management-plan-for-lower-colorado-river-basin/Documents/lcra_wmp_june2010.pdf. The relevant excerpts related to LCRA's obligations to provide water for environmental flows are included in Attachment B.

III. CONTACT INFORMATION (30 Tex. Admin. Code § 35.24(c)(1))

This application is being submitted by:

Phil Wilson, General Manager
Lower Colorado River Authority
P.O. Box 220, H107
Austin, Texas 78767
Tel: 512/578-4033

Questions regarding this application should be directed to the following person(s):

David C. Wheelock, P.E., Manager, Water Supply & Conservation
Lower Colorado River Authority
P.O. Box 220, L200
Austin, Texas 78767
Tel: 512/730-6822; Fax: 512/473-4026

Lyn Clancy, Managing Associate General Counsel/ Senior Water Policy Advisor
Lower Colorado River Authority
P.O. Box 220, H429
Austin, Texas 78767
Tel: 512/578-3378; Fax: 512/473-4010

IV. DESCRIPTION OF LCRA's WATER MANAGEMENT PLAN & INSTREAM FLOW REQUIREMENTS AND AREA AFFECTED BY REQUESTED ORDER (30 Tex. Admin. Code §§35.24(c)(2), 35.24(c)(4))

LCRA provides raw water to over 60 retail and wholesale potable water suppliers that together serve over one million people throughout the lower Colorado River basin and LCRA's water service area. LCRA's municipal raw water customers include, but are not limited to, Austin, Cedar Park, Leander, Burnet, Marble Falls, Pflugerville, Lakeway, Bee Cave, Horseshoe Bay, other Highland Lakes municipalities; water supply corporations, special districts (including LCRA's own water utility systems); and investor-owned utilities. In addition, LCRA provides water to several electric utilities—LCRA, Bastrop Energy Partners, Austin Energy, Gen-Tex Corporation, and South Texas Project Nuclear Operating Company—from the firm water supply of lakes Buchanan and Travis. These utilities provide power into the electrical grid in Texas operated by the Electric Reliability Council of Texas (ERCOT) to meet the electrical needs of customers in Texas. LCRA also provides firm raw water to several industries located downstream, including Oxea Chemical and Underground Services Markham. *See* Affidavit of

David Wheelock (Attachment C).

To meet its water supply obligations, LCRA relies on several water rights, including the water rights for lakes Buchanan and Travis under Certificates of Adjudication 14-5478 and 14-5482, which are further subject to the conditions and criteria set forth in the 2010 WMP. The original Water Management Plan was required by court order[2] and is incorporated into LCRA's Certificates of Adjudication 14-5478 and 14-5482.[3] The Certificates of Adjudication and the TCEQ-approved WMP govern LCRA's operation of lakes Buchanan and Travis and dictate how LCRA makes water available from these lakes to help meet firm water[4] customer needs, downstream interruptible irrigation demands, and environmental flow needs of the lower Colorado River and Matagorda Bay. The WMP further describes how LCRA will manage and curtail supplies from the lakes during times of drought including through a repeat of the Drought of Record.[5] The WMP also sets forth criteria for declaring a Drought Worse than the Drought of Record (DWDR).[6]

To manage the supply, the 2010 WMP imposes several trigger points keyed to the total combined storage capacity of lakes Buchanan and Travis that are intended to ensure there is sufficient firm water supply to meet firm demands through a repeat of the Drought of Record.[7] LCRA's environmental flow obligations contained in the WMP reflect a balance between the competing needs of water within the basin. Similar to how LCRA provides water for interruptible agricultural uses, LCRA's commitment to provide water for environmental needs under the WMP is generally tied to the amount of water LCRA has in storage on Jan. 1 each year. Thus, LCRA's environmental flow obligations are curtailed to some extent in drier years and are higher in years when storage is higher. For purposes of this application, the most relevant trigger points are set out in Table 1.

The 2010 WMP also includes conditions under which the LCRA Board of Directors will declare a Drought Worse than the Drought of Record (DWDR). To declare a DWDR, the Board must find that the following three conditions are simultaneously met:

1. Duration of drought is more than 24 months, which is determined by counting the number of consecutive months since both lakes Buchanan and Travis were last full;[8]

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2 *In re The Exceptions of the Lower Colorado River Authority and the City of Austin to the Adjudication of Water Rights in the Lower Colorado River Segment of the Colorado River Basin*, No. 115, 414-A-1 (264th Dist. Ct., Bell County, Tex. April 20, 1988), Lake Buchanan Conclusion of Law 4 and Lake Travis Conclusion of Law 6.

3 *See* Attachment D, Certificate of Adjudication 14-5478 at p.4 (2.B.(7)); and Certificate of Adjudication 14-5482 at p.4 (2.B.(7)).

4 Firm water refers to the amount of water that LCRA has determined would be available on a consistent or firm basis through a Drought of Record water availability analysis after honoring all senior water rights.

5 Drought of Record refers to the worst hydrologic drought that has occurred since detailed records have been kept for the lower Colorado River basin. The WMP identifies the Drought of Record for the Highland Lakes as the period from 1947 to 1957. *See* Attachment B – 2010 WMP at 4-20.

6 *Id.* at 4-34.

7 *Id.* at 4-5.

8 *Id.* at 4-34. For purposes of the WMP, the duration of a drought is the time period since both Lakes Buchanan and Travis were at their maximum allowable water conservation storage levels.

2. Inflows to the lakes are less than inflows during the Drought of Record;[9] and
3. Lakes Buchanan and Travis combined storage has less than 600,000 acre-feet of water.[10]

Table 1. Triggers in 2010 WMP[11]

Combined Storage of lakes Buchanan and Travis	Date on Which Trigger is Decided	Action Taken
1.7 MAF	On Jan. 1	Environmental releases for bay and estuary inflows reduced to meet intermediate needs for the following year.
1.4 MAF	At any time	Request firm customers to implement voluntary drought response measures.
1.4 MAF	On Jan. 1	Environmental releases for instream flows reduced to meet critical needs for ecosystems for following year. Begin gradual curtailment of interruptible supply to four major irrigation operations.
1.1 MAF	On Jan. 1	Environmental releases for bay and estuary inflows reduced to meet critical needs for the following year.
900,000 acre-feet	At any time	Request firm customers to implement mandatory water restrictions; develop firm customer curtailment plan.
600,000 acre-feet	At any time	If criteria indicates a drought worse than the Drought of Record, then cease interruptible supply and begin curtailment of firm supply.

Under the 2010 WMP, once a drought has lasted more than 36 months and a DWDR has been declared, interruptible stored water would be fully and immediately curtailed -- making no stored water available for agricultural irrigation or other interruptible uses until lake levels recover or the inflows into the lakes increase substantially.[12] Moreover, LCRA will implement pro rata curtailment of its firm water users once a DWDR is declared and after interruptible stored water (agriculture) uses have been cut off.[13] Under a DWDR declaration, water for instream flows and bay inflows is subject to a pro rata reduction along with other firm users of water.[14]

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[9] The cumulative inflow deficit since the beginning of the drought must exceed the envelope curve for cumulative inflow deficits by at least 5 percent for six consecutive months. *Id.* at 4-34.

[10] *Id.* at 4-34.

[11] Emergency relief from the WMP in 2012, 2013, and 2014 amended criteria for cutoff of interruptible stored water to farmers in the Gulf Coast, Lakeside, and Pierce Ranch irrigation operations.

[12] *Id.* at 4-34.

[13] *Id.*

[14] *Id.* at P-10.

LCRA has reserved 33,400 acre-feet of firm supply to meet its instream flow and bay inflow obligations under the WMP. This year, LCRA has been obligated under the WMP to maintain critical instream flows (i.e. flow in the Colorado River) and to help meet the critical bay inflow needs of Matagorda Bay. *See* Affidavit of Ryan Rowney (Attachment E). These obligations include a requirement to maintain a minimum continuous instream flow of 120 cubic feet per second (cfs) from Bastrop to Eagle Lake[15] at all times and a minimum flow of 500 cfs for a continuous six-week period in between March and May to provide higher flows to support habitat for Blue Sucker spawning. If flows in the river downstream and/or releases LCRA is making to meet other downstream demands are insufficient to meet these instream flow requirements, the 2010 WMP calls for the release of stored[16] water. In 2012 and 2013, the 500 cfs requirement resulted in releases from lakes Buchanan and Travis averaging about 20,000 acre-feet each year over just a six-week period on top of releases LCRA was making for other downstream needs. *See* Affidavit of Ryan Rowney (Attachment E).

In 2012 and 2013, LCRA operated under emergency orders that modified the total amount of water supplied from lakes Buchanan and Travis for irrigated agriculture in the lower basin. Total use of water from lakes Buchanan and Travis in 2012 was about 188,000 acre-feet, of which about 31,385 acre-feet was supplied to help meet environmental flow needs consisting of 28,235 acre-feet for instream flows (of which 22,991 acre-feet was for the 500 cfs requirement) and 3,050 acre-feet for bay inflows. Total use of water from lakes Buchanan and Travis in 2013 was about 173,148 acre-feet, of which about 33,465 acre-feet was supplied to help meet environmental flows needs consisting of 18,779 acre-feet for instream flows (of which 15,678 acre-feet was for the 500 cfs requirement) and 14,686 acre-feet for bay inflows. *See* Affidavit of Ryan Rowney (Attachment E).

V. THE EMERGENCY CONDITIONS JUSTIFY ISSUANCE OF ORDER (30 Tex. Admin. Code §§35.24(c)(3)-(4), 35.101(a), (c)(2), (k), (o) & 295.91(1))

A. Inflows into lakes Buchanan and Travis are at record lows.

By almost every measure, the inflows to the Highland Lakes are at record lows. At times, the deficit has been as much as 90% more than the inflow deficit for a similar period of inflows experienced during the historic Drought of Record for the lower Colorado River basin, which occurred from 1947 to 1957. *See* Affidavit of Ron Anderson (Attachment F, Tab 2).

Annual inflows into lakes Buchanan and Travis in five of the last six years are among the ten lowest years of inflow on record. *See* Table 3. By contrast, only one year during the historic 1950s Drought of Record makes the list of ten lowest annual inflows. Inflows in 2011 were the lowest on record; inflows in 2012 were the fifth lowest on record; and inflows in 2013 were the second lowest on record. Monthly inflows for January and February of 2014 were each lower

[15] Eagle Lake is just downstream of the USGS gauge at Columbus.

[16] LCRA's obligation to provide critical instream flows is met using storable inflows into lakes Buchanan and Travis as well as previously stored water. LCRA's obligation for the higher target flows, and for bay and estuary inflows is limited to storable inflows—the actual daily inflows to the reservoirs minus the daily pass throughs to meet downstream senior water rights. *See* Attachment B – 2010 WMP at P-12, 4-12, 4-14.

than in any of the recent drought years of 2011 to 2013 and were the lowest since the 1950s. *See* Affidavit of Ryan Rowney (Attachment E).

Inflows into lakes Buchanan and Travis in the current drought include the lowest inflows over a various time period ranging from 12 months to 72 months, lower than for any similar time periods in the historic record, including the 1950s. In fact, the past 72 months of inflows are about half of the lowest inflows in any 72-month period in the historic Drought of Record. *See* Table 4; Affidavit of Ryan Rowney (Attachment E).

Table 3. Lowest Annual Inflows into the Highland Lakes (acre-feet)

Year	Amount
2011	127,802
2013	215,138
2008	284,462
2006	285,229
1963	392,589
2012	393,163
1983	433,312
1999	448,162
2009	499,732
1950	501,926
Average (1942-2013)	1.23 million

Table 4. Comparison of inflows in current drought to Drought of Record

	Lowest inflows for time period in ongoing drought		**Lowest inflows for time period in 1950s Drought of Record**	
Time Period	Period ending	Inflows (acre-feet)	Period ending	Inflows (acre-feet)
12 months	Sept. 2011	120,160	Apr. 1951	408,784
24 months	Mar. 2013	503,989	Mar. 1952	1,006,681
36 months	Sept. 2013	695,099	Aug. 1952	1,636,088
48 months	Feb. 2014	1,351,593	Aug. 1952	3,035,846
60 months	Aug. 2013	2,147,157	Aug. 1952	4,128,806
72 months	Feb. 2014	2,443,346	Apr. 1955	5,193,016

When inflows are adjusted to account for the fact that O.H. Ivie Reservoir was not in place in the

1950s, the comparison of the current drought to the Drought of Record still shows the recent inflows are dramatically lower than the 1950s Drought of Record, with inflows since 2008 at about half of the inflows for the first six years of the Drought of Record. *See* Affidavit of Ron Anderson (Attachment F, Tab 3).

Rain events in 2013 did not provide significant inflows to lakes Buchanan and Travis. An event on Sept. 19 and 20, 2013 included rain totals averaging two to three inches in the watershed upstream of lakes Buchanan and Travis, with some rain gages reporting as much as seven inches. *See* Affidavit of Bob Rose (Attachment G). Although the rainfall amounts were significant, the resulting inflows to lakes Buchanan and Travis were very limited, totaling only about 25,000 acre-feet. The limited amount of inflows are indicative of the severity of the ongoing drought and the extremely dry soil conditions that have yet to be overcome. By comparison, an event in March 2007 with about 40 percent less rainfall produced almost 100,000 acre-feet of inflows to lakes Buchanan and Travis. *See* Affidavit of Ryan Rowney (Attachment E). Rain events in October 2014, including the flood of October 30-31 fell in the watersheds downstream of lakes Buchanan and Travis. Those events contributed significant flows in the lower Colorado river past Bay City and into Matagorda Bay, but did little to help the water supply condition (October and November 2013 gauged flows past Bay City totaled about 355,000 acre-feet while gauged inflows to lakes Buchanan and Travis were only 69,000 acre-feet). *See* Affidavit of Ryan Rowney (Attachment E).

The inflow conditions experienced in the last several years present an extreme drought situation that was not contemplated when the special conditions related to freshwater inflows were incorporated into the 2010 WMP.[17] Although the 2010 WMP already contains provisions for the staged reduction in instream flows, these extraordinary conditions represent new and changed conditions that support further and different relief consistent with this request for emergency relief. (*See* 30 Tex. Admin. Code § 35.101(o).) The 2010 WMP was developed using simulations of a repetition of the hydrologic period from 1940 to 1965.[18] While that period includes the 1950s Drought of Record, the recent severe low inflows of 2011 and 2013 are less than half of the lowest annual inflow in the 1950s and the multi-year inflows are also worse than any that were simulated during the development of the WMP. *See* Tables 3 and 4.

B. The forecast does not offer much hope for improvement.

Extraordinary drought conditions have gripped much of Texas, including the lower Colorado River basin for over three years, dating back to October 2010. The Texas State Climatologist, Dr. John Nielsen-Gammon, has recognized the period from October 2010 to September 2011 as the worst one-year statewide drought on record dating back to 1895. *See* Affidavit of Bob Rose (Attachment G). Although 2012 and 2013 included some periods with near-normal or normal rainfall totals, rainfall has been very sporadic, often with several weeks of dry weather between significant rainfall events such that the soils have not remained saturated enough to allow runoff

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[17] *See* Attachment H, TEX. COMM'N ENVTL. QUAL., Docket No. 2014-0124-WR, Order affirming in part and modifying in part the Executive Director's emergency order authorizing the Lower Colorado River Authority to amend its Water Management Plan, Permit No. 5838, pursuant to section 11.139 of the Texas Water Code (Feb. 27, 2014) (herein "February 2014 Emergency Order") Finding of Fact 30.

[18] *See* Attachment B – 2010 WMP at 4-37.

to occur in any substantial amount. The rain event in September 2013 discussed above is the most recent example of this pattern. *See* Affidavit of Bob Rose (Attachment G); Affidavit of Ryan Rowney (Attachment E).

High temperatures have also been unprecedented. For Texas, the summer of 2011 was the hottest summer ever recorded in Texas and the hottest summer on record for Austin. Statewide, calendar year 2011 was the third hottest year ever recorded and the hottest year on record for Austin. The summer of 2012 was the 10th hottest summer on record statewide and the 11th hottest summer on record for Austin. Statewide, 2012 tied with 1921 as the hottest year on record. Summer temperatures for Austin in 2013 were the 5th hottest on record. *See* Affidavit of Bob Rose (Attachment G).

These conditions have created a circumstance where the lakes have been unable to recover in any significant manner, even with an emergency cutoff of nearly all water supply for downstream irrigation in 2012 and 2013. Recent weather forecasts do not include any clear signs of relief. *See* Affidavit of Bob Rose (Attachment G). The National Weather Service's 3-month outlook calls for the drought to persist across the Hill Country through June 2014. Longer-term indicators suggest a fifty percent or greater chance of El Niño developing in late summer. However, should El Niño develop, it is not expected to have a significant impact on Central Texas weather until late summer or fall. Furthermore, El Niño is far from certain as was experienced in fall 2012. And, as observed during this drought, even if near-normal to normal rainfall occurs, significant drought relief in the form of inflows into lakes Buchanan and Travis cannot be expected. *See* Affidavit of Bob Rose (Attachment G); Affidavit of Ryan Rowney (Attachment E). As noted above, by many measures, the recent low inflows are already as bad as or worse than the 1950s.

C. Combined storage in lakes Buchanan and Travis is approaching record low levels and LCRA may declare a Drought Worse than Drought of Record as early as June 2014.

Criteria prompting LCRA to make a Drought Worse than Drought of Record declaration[19] could be met in as soon as June. *See* Affidavit of Ron Anderson (Attachment F). Two of the three criteria for such a declaration have already been met. The drought has lasted more than 24 months. *See* Affidavit of Ryan Rowney (Attachment E). The cumulative inflow deficit criterion has been met. *See* Affidavit of Ron Anderson (Attachment F). Only the combined storage criterion, with a 600,000 acre-foot trigger, remains to be met. The combined storage as of March 19 was about 757,000 acre-feet. *See* Affidavit of Ryan Rowney (Attachment E). Combined storage could reach the 600,000 acre-foot level as early as June, triggering a declaration of Drought Worse than Drought of Record by the LCRA Board of Directors.

D. Depending on conditions in the lower river, the 2010 WMP could require LCRA to release significant quantities of stored water for the Blue Sucker

As noted above, the requirement of 2010 WMP that stored water be released to maintain

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[19] Attachment B – 2010 WMP at 4-32.

minimum flows of 500 cubic feet per second (cfs) from Bastrop to Eagle Lake for a continuous six-week period between March and May resulted in the release of about 20,000 acre-feet of water from lakes Buchanan and Travis in a six week period in both 2012 and 2013. The released water was in addition to water that LCRA was already releasing from storage or passing though the Highland Lakes to meet downstream customers' demands, such as those at the Garwood Irrigation Division.

The proposed emergency relief would reduce the release requirement from 500 cfs to 300 cfs. This could save about 17,000 acre-feet from being released from lakes Buchanan and Travis while not having a substantial effect on the Blue Sucker habitat or water quality as discussed further below. *See* Affidavit of Ryan Rowney (Attachment E).

E. The emergency conditions present an imminent threat to the public health and safety.

The current conditions and outlook are similar or worse to those in place when the Commission issued emergency orders related to LCRA's Water Management Plan, including the order issued on February 27, 2014. The facts once again support the conclusion that there is an imminent threat to firm customers served by LCRA.[20] This has occurred notwithstanding the actions of LCRA and its customers over the past two years in implementing drought contingency plans to reduce demands. In addition, LCRA has preserved supply in lakes Buchanan and Travis by obtaining emergency relief from its Water Management Plan and by obtaining authorizations for the temporary use of its downstream water rights to meet firm customer demands. Those actions have delayed the timeframe for reaching a DWDR declaration.

This request, which is expected to have little to no adverse effect on the Blue Sucker, would help meet the clearly identified water needs of the LCRA's firm water customers and thus constitutes an undeniable benefit to the public welfare. Despite LCRA's efforts to reduce large demands on the lakes through these measures, the drought has persisted and lake levels have continued to fall. As discussed above, there is a chance that LCRA will declare a DWDR as soon as June, thus prompting a call on firm customers to implement significant curtailments in their water use. In fact, a substantial release this spring for the Blue Sucker contributes to the chance of triggering DWDR in June. In that case, LCRA and its customers may need to acquire or develop large quantities of alternative water supplies to meet essential needs of their respective potable water systems. However, it takes many years to develop significant new water supplies. As the

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[20] *See* Attachment H, February 2014 Emergency Order, Findings of Fact # 18-25, 28; 30, 31, 33-36, 45, 60, 61. *See* also TEX. COMM'N ENVTL. QUAL., Docket No. 2011-2096-WR, Order Affirming an Emergency Order Granted by the Executive Director to the Lower Colorado River Authority (Dec. 12, 2011) (herein "2011 Emergency Order") Findings of Fact # 22, 25, 26; TEX. COMM'N ENVTL. QUAL., Docket No. 2013-0225-WR, Order Affirming, with Modification, an Emergency Order Granted by the Executive Director to the Lower Colorado River Authority (Feb. 19, 2013) (herein "2013 Emergency Order") FOFs # 22, 27, 31; TEX. COMM'N ENVTL. QUAL., Docket No. 2013-0225-WR, Order Affirming, with Modification, an Emergency Order Granted by the Executive Director to the Lower Colorado River Authority (June 10, 2013) (herein "2013 Emergency Order Extension") FOFs # 16, 17; TEX. COMM'N ENVTL. QUAL., Docket No. 2013-0225-WR, Order granting an emergency authorization to the Lower Colorado River Authority to amend its Water Management Plan, Permit No. 5838, pursuant to section 11.139 of the Texas Water Code (July 26, 2013) (herein "2013 Second Emergency Order") FOFs # 21-25, 28.

Commission has recognized in its emergency orders, the sheer length of time that it takes to develop or conserve significant quantities of water supply mean that a water supply emergency arises well before a reservoir goes dry.[21] For the most part, although LCRA's firm customers are working on plans to implement curtailment and secure alternative supplies, most have not secured any readily available alternative sources of water supply that could substitute for their reliance on the Colorado River. *See* Affidavit of Ryan Rowney (Attachment E); Affidavit of David Wheelock (Attachment C).

Moreover, as the lake levels drop, it becomes more difficult and expensive for the retail water suppliers to pump water from lakes Buchanan and Travis. Currently, LCRA owns four systems that take water from lakes Buchanan and Travis. LCRA has 15 customers that actively take water for municipal purposes from Lake Travis that are not a part of LCRA's utility facilities. The lowest pumping elevations of the intakes range from 555 feet mean sea level (msl) to 650 feet msl on Lake Travis. If the levels in Lake Travis or Lake Buchanan drop below the current lowest pumping elevations, LCRA and its wholesale raw water customers must take action to either lower their pumping elevation or find alternative supplies. For smaller systems such as Paradise Point, Smithwick Mills, or Ridge Harbor, the alternative is likely hauling water from a water utility with a viable source. For larger systems, temporary measures must be implemented to extend the intake capabilities to reach lower water levels. LCRA's raw water customers that have their own intake facilities would likely require similar measures. Firm customers have indicated that they are spending or planning to spend funds to allow their intakes to operate at lower elevations, or making plans to haul water. *See* Affidavit of Ryan Rowney (Attachment E). Overall, well over 40 public water systems that rely on the Highland Lakes or that draw from the tributaries that typically contribute significant inflow to the Highland Lakes are already in some form of drought restriction and are at risk of water supply shortages.[22] If the lake levels drop more quickly than arrangements for alternative intakes or supplies can be implemented, the current drought presents an imminent threat to public health and safety for the LCRA water systems and for its customers' water systems. Any emergency relief that helps LCRA retain supply in lakes Buchanan and Travis mitigates some of the impacts described above. Finally, much of the lower Colorado River watershed is included in the Governor's drought proclamation, which recognizes that "exceptional drought conditions pose(d) a threat of imminent disaster."[23]

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[21] *See* Attachment H, February 2014 Emergency Order, Findings of Fact # 34, 60, 61.
See also 2011 Emergency Order, Findings of Fact # 30, 31; 2013 Emergency Order, FOFs 32, 33; 2013 Emergency Order Extension, FOFs 15, 16; 2013 Second Emergency Order, FOF 28.

[22] *See* Tex. Comm'n Envtl. Qual., *List of Texas PWSs Limiting Water Use to Avoid Shortages* at: http://www.tceq.texas.gov/drinkingwater/trot/droughtw.html (last updated on March 13, 2014) (last visited March 18, 2014).

[23] Attachment I, *available at*: http://www.tceq.texas.gov/assets/public/response/drought/proclamation.pdf (last visited March 18, 2014). Counties included in the Governor's declaration that contribute flows into the Highland Lakes or the lower Colorado River watershed include: Blanco, Brown, Burnet, Coleman, Colorado, Concho, Edwards, Gillespie, Kendall, Kerr, Kimble, Lampasas, Llano, Mason, McCulloch, Menard, Mills, Real, San Saba, Schleicher, Sutton, and Travis.

F. The emergency condition overrides the necessity to comply with the established procedures.

As documented above, the emergency condition presents an imminent threat to public health and safety. Because LCRA's WMP is required by, and incorporated into, LCRA's Certificates of Adjudication 14-5478 and 14-5482, the WMP may only be amended in the same manner and following the same procedures as one would amend any state-issued water right, which procedures for this type of amendment would require basin-wide 30-day public notice and significant staff review. Releases for the Blue Sucker in 2014 would start, at the latest, in mid-April. The decision-making window regarding those releases is not compatible with the WMP amendment process.[24] Thus, an emergency authorization is the only means by which LCRA can obtain timely approval of the requested relief and preserve water in storage.

VI. WATER QUALITY AND BLUE SUCKER SPAWNING HABITAT ARE NOT SUBSTANTIALLY AFFECTED BY THE REQUESTED RELIEF (30 Tex. Admin. Code §§ 35.101(a)(1)(B), (m))

A. With the requested relief, water quality will be maintained.

The Colorado River between Bastrop and Eagle Lake includes three stream segments. The state has previously identified water quality standards for these segments. LCRA monitoring when flow levels have been near or below 300 cfs demonstrates that the water quality standards are consistently met with few exceptions. *See* Affidavit of Bryan Cook (Attachment J). . Although the emergency conditions override the need to maintain a balance between protecting environmental flow needs and other public interests,[25] as demonstrated in this and the following subsections, environmental flow needs would nonetheless continue to be protected under the requested relief.

B. With the requested relief, the Blue Sucker will be protected, and impacts to its spawning habitat will be minimal.

The Blue Sucker (Cycleptus elongatus) is a state-listed threatened species in Texas which is uniquely adapted to life in swift current. Blue Suckers are known to undertake long spawning migrations, often covering hundreds of miles. When spawning, adults utilize high velocity flow areas over hard substrate such as bedrock outcrop, boulders, and cobble riffles. These habitat types are abundant between Bastrop and Eagle Lake. *See* Affidavit of Bryan Cook (Attachment J).

TCEQ rules provide when considering an application for emergency relief, flows necessary to protect a species of high interest may be required.[26] The proposed emergency relief will provide flows that protect the Blue Sucker and the relief is expected to have very little impact on Blue Sucker spawning habitat. At 500 cfs, the flow provides for 93 to 100 percent of the maximum available spawning habitat; while at the proposed 300 cfs, at least 86 percent of the habitat would

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[24] *See* 2011 Emergency Order, Finding of Fact 32.
[25] 30 Tex. Admin. Code § 35.101(a)(1)(B).
[26] 30 Tex. Admin. Code § 35.101(m).

still be supported. *See* Affidavit of Bryan Cook (Attachment J).

Furthermore, without any dedicated releases so far in 2014, streamflows in February and March of 2014 are already providing significant spawning habitat. The Blue Sucker can begin spawning as early as February. *See* Affidavit of Bryan Cook (Attachment J). For the period from February 1 through March 18, flow at the Bastrop gage has averaged 335 cfs with a minimum daily flow of 281 cfs; while flow at the Columbus gage has averaged 458 cfs with a minimum daily flow of 297 cfs. *See* Affidavit of Ryan Rowney (Attachment E). With the onset of releases for the Garwood Irrigation Division forthcoming, similar or higher flows are expected through the end of May. The flow conditions that have been in place this year and conditions with the proposed reduction in the obligation from 500 cfs to 300 cfs are supportive of significant Blue Sucker spawning habitat. *See* Affidavit of Bryan Cook (Affidavit J). The release of additional stored water from lakes Buchanan and Travis to maintain 500 cfs, if anything, would only provide a small incremental benefit to the Blue Sucker spawning habitat. In this exceptional drought with no clear end in sight, that additional water should remain in storage to help meet the critical needs of LCRA's firm water customers should this drought persist.

VII. THERE ARE NO FEASIBLE AND PRACTICABLE ALTERNATIVES TO THE REQUESTED RELIEF (30 Tex. Admin. Code §§35.24(c)(4), 35.101(c)(3)-(4), 295.91(3))

There are no immediate feasible or practicable alternatives to the emergency authorization sought herein. Water released from the lakes cannot be recaptured. LCRA is currently evaluating a number of short and long-term alternatives to address the emergency conditions, but they will take time to implement. *See* Affidavit of David Wheelock (Attachment C). As noted above, LCRA has already taken many steps to preserve its water supply in this drought, including: 1) the implementation of its drought contingency plan resulting in firm customers implementing mandatory watering restrictions; 2) emergency relief from the 2010 WMP in 2012, 2013, and 2014, resulting in the cutoff of interruptible stored water to most irrigation customers; and 3) obtaining temporary authorization to use its downstream water rights at additional diversion points where its firm customers currently divert water. While those actions have preserved significant amounts of water supply, there is no readily available option that would immediately offset the irreversible impact of releasing additional stored water to maintain a 500 cfs flow condition in the lower Colorado River, as currently required by the WMP.

VIII. REQUESTED RELIEF, TRIGGERS, AND DATES (30 Tex. Admin. Code §§ 35.24(c)(2), 35.24(c)(5)-(6), 35.101(c)(5), 35.101(c)(8), 295.91(2))

LCRA requests that it be allowed to reduce the instream flow requirement in effect for a continuous six-week period from March to May associated with the Blue Sucker under the 2010 WMP[27] from 500 cfs to 300 cfs with such relief to be effective for a period through May 31,

[27] LCRA acknowledges that its WMP already provides for some reductions in the amount of water provided for environmental flow needs, see 30 Tex. Admin. Code § 35.101(n) & (o); however, it is evident that the emergency conditions presented by this unprecedented drought were not fully appreciated when these special requirements were incorporated into the WMP. Specifically, the inflow conditions in 2011 and in 2013 represent conditions that are worse than conditions in the Drought of Record.

2014, or the end of the six week period, whichever is earlier. As noted above, significant spawning habitat has already been supported in 2014 and will continue to be supported at a 300 cfs flow level. Reducing the releases for the Blue Sucker results in an overall reduction in the chance of triggering DWDR this year. *See* Affidavit of Ron Anderson (Attachment F). Moreover, LCRA estimates that it would to preserve up to about 17,000 acre-feet in the lakes for later use during this extreme drought. *See* Affidavit of Ryan Rowney (Attachment E).

Based on the low inflows and resulting low storage levels in lakes Buchanan and Travis, significant amounts of water are necessary to alleviate the emergency conditions. Just to get within five percent of the inflows in the Drought of Record would require 252,000 acre-feet of water. *See* Affidavit of Ron Anderson (Attachment F, Tab 2). True recovery from the drought would require much more. (With combined storage currently at about 757,000 acre-feet, it would take over one million acre-feet to refill lakes Buchanan and Travis.) If storage drops below 600,000 acre-feet, firm customers will be forced into mandatory curtailment with cuts of 20 percent or more. The water which would be preserved as a result of the emergency relief sought by this application could avoid reaching that trigger level, and more importantly will be preserved to meet critical needs should the drought persist.

IX. WATER CONSERVATION PLAN AND DROUGHT CONTINGENCY PLAN IMPLEMENTATION (30 Tex. Admin. Code §§ 35.101(c)(6), 295.91(3))

The 2009 LCRA Raw Water Conservation Plan and relevant appendices include elements for LCRA as a wholesale water provider.[28] The LCRA Drought Contingency Plan included within chapter 4 of the 2010 WMP applies to all LCRA raw water customers.[29] The LCRA 2009 Water Utilities Conservation and Drought Contingency Plan applies to LCRA's retail surface water systems.

LCRA has been diligently implementing its Water Conservation and Drought Contingency Plans in an ongoing effort to reduce unnecessary water use. *See* Affidavit of Nora Mullarkey Miller (Attachment K). In 2011 when combined storage in lakes Buchanan and Travis fell below 900,000 acre-feet, LCRA called on its firm water customers implement the mandatory restrictions in their drought contingency plans to reduce water use by 10 to 20 percent. As lake conditions continued to deteriorate, LCRA's firm customers stepped up their efforts to extend the water supply. Since that time, most of LCRA's municipal customers have stayed in or moved into some form of mandatory water restrictions, significantly limiting landscape irrigation. LCRA industrial customers, who consist of power plants and a few large industries along the Gulf Coast, have also worked to reduce non-essential water uses. *See* Affidavit of Nora Mullarkey Miller (Attachment K, Tab 2).

In response to the ongoing drought conditions, the LCRA Board amended the firm customer drought contingency plan to require that, if combined storage on March 1, 2014 was below 1.1 million acre-feet and interruptible stored water to the Gulf Coast, Lakeside and Pierce Ranch

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[28] LCRA's Raw Water Conservation Plan is on file with TCEQ and available at: http://www.lcra.org/water/save-water/Documents/2009_LCRA_Water_Conservation.pdf.

[29] See Attachment B – 2010 WMP, Chapter 4.

irrigation operations was cut off, LCRA's firm customers would be required to implement a landscape irrigation watering schedule of no more than once per week.[30] The criteria for this restriction to take effect have been met and the restriction will be in effect until storage increases to above 1.1 million acre-feet or the supply of interruptible stored water to the Gulf Coast, Lakeside and Pierce Ranch irrigation operations resumes. LCRA has also adopted measures that would take effect in the event that combined storage falls below 600,000 acre-feet and is also preparing for possible further declines in storage. *See* Affidavit of Nora Mullarkey Miller (Attachment K).

X. CONSISTENCY WITH THE REGIONAL WATER PLAN

The Region K Water Plans identifies lakes Buchanan and Travis as the source of supply for numerous water users in the lower Colorado River basin. The existing Water Management Plan for lakes Buchanan and Travis calls for a release from those reservoirs for environmental purposes in the lower Colorado River, thus removing such water from the supply available to meet firm customers' demands. Preserving this water to meet the needs of LCRA's firm water customers is consistent with meeting an identified demand in the regional plan.

XI. APPLICATION FEES (30 Tex. Admin. Code §§35.24(c)(8), 35.30)

Enclosed please find a check in the amount of $751.25 to cover filing and recording fees.

[30] *See* Attachment L, LCRA Board Resolution, November 2013.

LIST OF EXHIBITS

Attachment A –Supplemental Information Supporting LCRA's Application for Emergency Relief
Attachment B – Excerpts from 2010 Water Management Plan
Attachment C –Affidavit of David Wheelock
Attachment D – Certificates of Adjudication 14-5478, as amended, and 14-5482, as amended
Attachment E – Affidavit of Ryan Rowney
Attachment F –Affidavit of Ron Anderson
Attachment G – Affidavit of Bob Rose
Attachment H – TEX. COMM'N ENVTL. QUAL., Docket No. 2014-0124-WR, Order affirming in part and modifying in part the Executive Director's emergency order authorizing the Lower Colorado River Authority to amend its Water Management Plan, Permit No. 5838, pursuant to section 11.139 of the Texas Water Code (Feb. 27, 2014)
Attachment I – Governor's Drought Proclamation (dated March 14, 2014)
Attachment J – Affidavit of Bryan Cook
Attachment K – Affidavit of Nora Mullarkey Miller
Attachment L – Resolution of the LCRA Board of Directors, November 2013
Attachment M – Certification of LCRA Board Agenda Item 17: Authorization for LCRA Staff to Seek Emergency Relief (dated March 19, 2014)
Attachment N – LCRA Policies Re: Signature Authority

ATTACHMENT B

TCEQ Interoffice Memorandum

To: Commissioners **Date:** April 14, 2014

Thru: Bridget Bohac, Chief Clerk
Richard A. Hyde, P.E., Executive Director
L'Oreal W. Stepney, P.E., Deputy Director, Office of Water
Kellye Rila, Director, Water Availability Division

From: Kathy Alexander, Ph.D., Technical Specialist, Water Availability Division

Background

On March 21, 2014, LCRA filed an application for an emergency order to amend its WMP to reduce the requirement to maintain a minimum streamflow of 500 cubic feet per second (cfs) for six weeks in between March and May from Bastrop to Eagle Lake for the Blue Sucker. LCRA requested that the application be processed under Texas Water Code §§ 5.506, 11.139, or 11.148, as appropriate, and the Governor's Emergency Disaster Proclamation related to drought. Without an amendment, this requirement would necessitate a release of stored water of approximately 21,000 acre-feet (AF) by the end of May 2014. LCRA's requested relief would reduce the release requirement from 500 cfs to 300 cfs, which would prevent approximately 17,000 AF from being released from Lakes Buchanan and Travis. LCRA states that this emergency order will not reduce the overall firm commitment of water for instream flows included in LCRA's 2010 WMP. The requirement to release a minimum continuous flow of 120 cfs from Bastrop to Eagle Lake at all times would remain. LCRA requests a duration of 120 days.

The Commission or ED may issue an emergency order under Tex. Water Code §§ 5.506 and 11.148 to suspend conditions relating to beneficial inflows to affected bays and estuaries and instream uses if the Commission finds that an emergency exists and cannot be practically resolved in other ways Section 35.101 of 30 Tex. Admin. Code (TAC) sets forth the procedures and criteria to be used by the Commission or the Executive Director in acting under Tex. Water Code §§ 5.506 and 11.148. Under 30 TAC Section 35.101 (a), the Commission or the Executive Director must find that: (1) emergency conditions exist that present an imminent threat to public health, safety, and welfare, and that: (A) override the necessity to comply with general procedures and criteria for changing the conditions in a water right; or (B) override the need to maintain the balance between protecting environmental flow need and other public interests and relevant factors,; and, (2) there are no feasible, practicable alternatives to the emergency authorization

LCRA's Water Rights and 2010 WMP

LCRA has the right to divert and use up to 1.5 million acre-feet (MAF) from Lakes Buchanan and Travis under Certificates of Adjudication Nos. 14-5478 and 14-5482. By court order, LCRA has developed a Water Management Plan (WMP), currently dated 2010, which is part of LCRA's water rights and has its own number, Permit No. 5838. The Certificates of Adjudication and the 2010 WMP govern LCRA's operation of Lakes Buchanan and Travis and dictate how LCRA makes water available from these lakes to help meet "firm" water customer needs, downstream interruptible irrigation demands, and environmental flow needs of the lower Colorado River and Matagorda Bay. Environmental flow needs include instream flows for the river, and bay and estuary freshwater inflows.

Certificates of Adjudication 14-5478 and 14-5482 state that "LCRA shall interrupt or curtail the supply of water . . . pursuant to commitments that are specifically subject to interruption or curtailment, to the extent necessary to allow LCRA to satisfy all demand for water under such certificate pursuant to all firm, uninterruptible water commitments." LCRA's WMP further describes how LCRA will manage and curtail supplies from the lakes during times of drought including through a repeat of the Drought of Record.

LCRA's 2010 WMP defines "Drought of Record" as "the drought that occurred during the critical drought period." "The Critical Drought Period" is defined as "the period of time during which the reservoir was last full and refilled, and the storage content was at its lowest minimum value." The LCRA Board may declare a Drought Worse than the Drought of Record (DWDR) if it finds that the following three conditions are simultaneously met:

a. Duration of drought is more than 24 months, which is determined by counting the number of consecutive months since both Lakes Buchanan and Travis were last full;
b. Inflows to the lakes are less than inflows during the Drought of Record; and
c. Lakes Buchanan and Travis combined storage has less than 600,000 AF of water.

LCRA's environmental flow obligations in the 2010WMP are generally tied to the amount of water LCRA has in storage on January 1 each year. Under a declaration of a DWDR, water for instream flows and bay inflows is subject to a pro rata reduction along with other firm users of water. These triggers are:

Combined Storage of Lakes Buchanan and Travis	Date on Which Trigger is Decided	Action Taken
1.7 MAF	On Jan. 1	Environmental releases for bay and estuary inflows reduced to meet intermediate needs for the following year
1.4 MAF	At any time	Request firm customers to implement voluntary drought response measures.
1.4 MAF	On Jan. 1	Environmental releases for instream flows reduced to meet critical needs for ecosystems for following year. Begin gradual curtailment of interruptible supply to four major irrigation operations.
1.1 MAF	On Jan. 1	Environmental releases for bay and estuary inflows reduced to meet critical needs for following year.
900,000 AF	At any time	Request firm customers to implement mandatory water restrictions; develop firm customer curtailment plan.
600,000 AF	At any time	If LCRA's criteria indicate a drought worse than the Drought of Record, then cease interruptible supply and begin curtailment of firm supply.

Under the 2010 WMP, once a drought has lasted more than 36 months and a DWDR has been declared by the LCRA Board, interruptible stored water would be fully and immediately curtailed – making no stored water available for agricultural irrigation or other interruptible uses until lake levels recover or the inflows into the lakes increase substantially. LCRA will also implement pro rata curtailment of its firm water users once a DWDR is declared and after interruptible stored water uses have been curtailed. Under a DWDR, water for instream flows and bay inflows is subject to a pro rata reduction along with other firm uses of water.

Under the 2010 WMP, the combined firm yield of Lakes Buchanan and Travis is 535,812 AFY. Of this amount, 90,546 AFY is committed to O.H. Ivie Reservoir, making 442,350 AFY of firm water supply available from Lakes Buchanan and Travis for LCRA to help

meet the firm water needs of its customers. LCRA has reserved 33,400 AF of firm supply to meet its instream flow and bay inflow obligations under the WMP (See LCRA's March 21, 2014 Application, Attachment B). This reservation is for the average amount of firm water needed for the environment over a repeat of the Drought of Record and includes 6,060 AF for bay inflows. In any year, the amount can exceed that number.

During 2014, LCRA is required to maintain critical instream flows under its 2010 WMP, based on the combined storage on January 1, 2014. This includes maintaining a minimum continuous flow of 120 cfs from Bastrop to Eagle Lake at all times, and a minimum flow of 500 cfs for a continuous six week period between March and May from Bastrop to Eagle Lake to provide higher flows to support habitat for Blue Sucker spawning. If the river is not supplying this amount from March to May, LCRA must release stored water under the 2010 WMP. In 2012, LCRA released 22, 991 AF, and in 2013 LCRA released 15,678 AF to meet the 500 cfs instream flow requirement (See LCRA's March 21, 2014 Application, Attachment E, pp. 8-9).

Current Conditions in the Colorado Basin

As of April 14, 2014, the combined storage of Lakes Buchanan and Travis is 749,196 AF or 37% of capacity. On September 19, 2013, the combined storage of these reservoirs fell to the second lowest point in the history of these lakes, 637,123 AF, or 31.7% capacity (See LCRA's March 21, 2014 Application, Attachment E, pg. 7). Thus, in September, the lakes were rapidly approaching the 600,000 AF emergency level at which the LCRA Board would have declared a DWDR.

In 2012 and 2013, LCRA operated under TCEQ-issued emergency orders that modified the amount of water supplied from Lakes Buchanan and Travis for irrigated agriculture in the lower basin. In 2012, the total use of water from the lakes was 188,000 AF. Firm water use was approximately 148,000 AF, 31,285 AF was supplied to help meet environmental flow needs of 28,235 AF for instream flows (22,991 AF of which was for the 500 cfs requirement), 3,050 AF was supplied for bay inflows, and 9,000 AF was released to supply farmers in the Garwood irrigation division. In 2013, total use of water from the lakes was 228, 959. Firm water use was around 173,148 AF, 33,465 AF was supplied to help meet environmental flow needs consisting of 18,779 AF for instream flow (15,678 of which was for the 500 cfs requirement), 14,686 AF for bay inflows, and 22,346 AF was released to supply farmers in the Garwood irrigation division (See LCRA's March 21, 2014 Application, Attachment E, pp. 2, 8-9).

LCRA's application and supporting affidavits state that inflows to Lakes Buchanan and Travis are at record lows:

- The cumulative inflow deficit has been as much as 90% more than the inflow deficit for a similar period of inflows experienced during the drought of record for the lower Colorado River Basin, which occurred from 1947 to 1957 (See LCRA's March 21, 2014 Application, Attachment F, pg. 2);

- Annual inflows into Lakes Buchanan and Travis in four of the last five years are among the ten lowest years of inflow on record. Only one year in the historical

- Drought of Record for the lower Colorado River Basin was in the list of ten lowest annual inflows (See LCRA's March 21, 2014 Application, Attachment A, pg. 6);

- Five of the top ten lowest calendar year historical inflows since the reservoirs went into operation in the early 1940's—2008, 2009, 2011, 2012 and 2013 occur in the current drought, and the top three years for lowest inflows—2011, 2013, and 2008 are all from the current drought (See LCRA's March 21, 2014 Application, Attachment E, pg. 5);

- Monthly inflows for June and August of 2013 were each less than five percent of average for the respective month, and total inflows for June, July and August were less than 24,000 AF (See LCRA's March 21, 2014 Application, Attachment E, pg. 6);

- Monthly inflows for January and February of 2014 were each lower than in any of the recent drought years of 2011 to 2013 and were the lowest since the 1950's. (See LCRA's March 21, 2014 Application, Attachment A, pp. 6-7);

- The total inflows for the past 72 months were only about half of the lowest 72 month inflow period in the Drought of record (See LCRA's March 21, 2014 Application, Attachment E); and

- Inflows into Lakes Travis and Buchanan during the current drought have been the lower for time periods ranging from 12 months to 72 months than the lowest inflows during similar periods within the historical Drought of Record. A comparison of inflows in the current drought to inflows during the historical Drought of Record is shown below; (See LCRA's March 21, 2014 Application, Attachment E, Table 5)

	Lowest Inflows in Current Drought		Lowest Inflows in Historical Drought of Record	
Time Period (months)	Period Ending	Inflows (AF)	Period Ending	Inflows (AF)
12	September 2011	120,160	April 1951	408,784
24	March 2013	503,989	March 1952	100,6681
36	September 2013	695,099	August 1952	1,636,088
48	February 2014	1,351,593	August 1952	3,035,846
60	August 2013	2,147,157	August 1952	4,128,806
72	February 2014	2,443,346	April 1955	5,193,016

On Sept. 19 and 20, 2013, the watershed upstream of lakes Buchanan and Travis experienced a widespread event with rain totals averaging two to three inches, with some rain gages reporting as much as seven inches. Although the rainfall amounts were significant, the resulting inflows to lakes Buchanan and Travis were very limited, totaling only about 24,000 AF. The limited inflows are indicative of the severity of the

ongoing drought and extremely dry soil conditions (See LCRA's March 21, 2014 Application, Attachment E, pp. 7-8).

The Texas State Climatologist, Dr. John Nielsen-Gammon, has recognized the period from October 2010 to September 2011 as the worst one-year statewide drought on record dating back to 1895 (See LCRA's March 21, 2014 Application, Attachment G, pg. 2). Although 2012 and 2013 have included some periods with near-normal or normal rainfall totals, rainfall has been very sporadic, often with several weeks of dry weather between significant rainfall events such that the soils have not remained saturated enough to allow runoff to occur in any substantial amount. The rain event in September 2013 is the most recent example of this pattern. High temperatures have also been unprecedented. For Texas, the summer of 2011 was the hottest summer ever recorded in Texas and the hottest summer on record for Austin (See LCRA's March 21, 2014 Application, Attachment G, pg. 3). Statewide, calendar year 2011 was the second hottest year ever recorded and the hottest year on record for Austin (See LCRA's March 21, 2014 Application, Attachment G, pg. 3). The summer of 2012 was the tenth hottest summer on record statewide and the 11th hottest summer on record for Austin. Statewide, 2012 tied with 1921 as the warmest year on record. Summer temperatures recorded for Austin in 2013 were the fifth warmest on record (See LCRA's March 21, 2014 Application, Attachment G, pg. 3).

LCRA's application and supporting affidavits indicate that these conditions created a circumstance where the lakes have been unable to recover in any significant manner, even with an emergency cutoff of nearly all water supply for downstream irrigation in 2012 and 2013. Recent weather forecasts do not include any clear signs of relief. The National Weather Service's 3-month outlook calls for the drought to persist across Central and South Texas through June 2014 (See LCRA's March 21, 2014 Application, Attachment G, pg. 3). There is a 50% or greater chance of El Niño developing in the late summer, but it is not expected to impact Central Texas until late summer or fall (See LCRA's March 21, 2014 Application, Attachment G, pp. 4 & 6). Even if near-normal to normal rainfall occurs, significant drought relief in the form of inflows into Lakes Buchanan and Travis is not expected (See LCRA's March 21, 2014 Application, Attachment A, pg. 9). The U.S. Drought monitor shows that most of the Texas Hill Country and Central Texas are now within the "severe" to "extreme" drought definition.

Criteria prompting LCRA to make a DWDR declaration could be met as soon as June 2014 (See LCRA's March 21, 2014 Application, Attachment F, pg. 3). Two of the three criteria, the 24 month criteria and the cumulative inflow deficit criteria, have been met (See LCRA's March 21, 2014 Application, Attachment E, Tab 3 and Attachment F, pg. 2). In May 2012 the lakes refilled to 1.033 million AF and even with no releases to Lakeside, Gulf Coast and Pierce Ranch, the lakes dropped to the second lowest level on record, 637,123 AF on September 19, 2013 (See LCRA's March 21, 2014 Application, Attachment E, pg. 7).

The inflow conditions experienced in the last several years are an extreme drought situation that was not contemplated when the special conditions related to freshwater inflows and instream flows were incorporated into the 2010 WMP(See LCRA's March

21, 2014 Application, Attachment A, pg. 8). The 2010 WMP was developed using simulations of a repetition of the hydrologic period from 1940 to 1965. While that period includes the 1950s Drought of Record, the recent severe low inflows of 2011 and 2013 are less than half of the lowest annual inflow in the 1950s and the multi-year inflows are also worse than any multi-year inflows which were simulated during the development of the WMP (See LCRA's March 21, 2014 Application, Attachment A, pg. 8).

The Governor of Texas issued an Emergency Disaster Proclamation on July 5, 2011, certifying that exceptional drought conditions posed a threat of imminent disaster in specified counties in Texas. This proclamation has been renewed monthly, most recently on March 14, 2014, and includes nearly every county bordering or that contributes inflow to the Highland Lakes. These areas are in severe drought or worse.

LCRA's Firm Customers

LCRA provides raw water to over 60 retail and wholesale potable water suppliers that together serve over one million people throughout the lower Colorado River Basin and LCRA's water service area. LCRA's municipal raw water customers include Austin, Cedar Park, Leander, Burnet, Marble Falls, Pflugerville, Lakeway, Bee Cave, Horseshoe Bay, other Highland Lakes municipalities; water supply corporations, special districts (including LCRA's own water utility systems); and investor-owned utilities. In addition, LCRA provides water to several electric utilities-LCRA, Bastrop Energy Partners, Austin Energy, Gen-Tex Corporation, and South Texas Project Nuclear Operating Company-from the firm water supply of lakes Buchanan and Travis. These utilities provide power into the electrical grid in Texas operated by the Electric Reliability Council of Texas (ERCOT) to meet the electrical needs of customers in Texas. LCRA also provides firm raw water to several industries located downstream, including Oxea Chemical and Underground Services Markham (See LCRA's March 21, 2014 Application, Supplemental Information submitted April 4, 2014, pg. 2).

Over 40 public water systems that rely on the Highland Lakes or that draw from the tributaries that typically contribute significant inflow to the Highland Lakes are in some form of drought restriction and are at risk of water supply shortages. Currently, LCRA owns four water systems that take raw water from lakes Buchanan and Travis. LCRA also has 15 firm water customers that actively take raw water for municipal purposes from Lake Travis that are not a part of LCRA's utility facilities. The lowest pumping elevations of the intakes range from 545 feet mean sea level (msl) to 645 feet msl on Lake Travis. On January 9, 2014, the lake level at Travis was 628.45 msl (See LCRA's March 21, 2014 Application, Attachment E, pp. 3-4). On February 15, 2014, the lake level at Lake Travis was 627.75 msl.

The commission's February 2014 Emergency Order found that as lake levels drop, retail water suppliers are unable to pump water from the lakes. This causes wholesale raw water customers to either move intakes to reach the water, or obtain alternative sources. Smaller systems will likely have to haul water from a water utility with a viable source. If the lake levels drop more quickly than arrangements for alternative intakes or

supplies can be implemented, LCRA water systems and its customers' water systems will have difficulty in meeting firm customers' water needs.
(See TEX. COMM'N ENVTL. QUAL., Docket No. 2014-0124-WR, Order affirming in part and modifying in part the Executive Director's emergency order authorizing the Lower Colorado River Authority to amend its Water Management Plan, Permit 5838, pursuant to section 11.139 of the Texas Water Code (Feb. 27, 2014)).

Further, the February 2014 Order found that low lake levels in Lake Travis have a direct impact on the ability of local emergency services personnel to fight structure fires and wildfires that may occur. In 2011, the Pedernales Fire Department, which serves western Travis County and relies primarily upon water from Lake Travis, was able to draft water from Lake Travis at multiple locations on the lake. As of February 17, 2014, the Fire Department had access to only one reliable water source at the lake. With these limitations, the Fire Department has experienced 45-minte turnaround times for trucks to bring water to a fire, and it has had to stop fighting a fire due lack of water in its trucks or helicopters. These circumstances constitute a current threat to the public health, safety, and welfare of residents served by the Pedernales Fire Department (See TEX. COMM'N ENVTL. QUAL., Docket No. 2014-0124-WR, Order affirming in part and modifying in part the Executive Director's emergency order authorizing the Lower Colorado River Authority to amend its Water Management Plan, Permit 5838, pursuant to section 11.139 of the Texas Water Code (Feb. 27, 2014)).

Water Conservation Plans, Drought Contingency Plans, and Alternatives

LCRA's Raw Water Conservation Plan (WCP) and Drought Contingency Plan (DCP) comply with TCEQ rules and are contained in Chapter 4 of the 2010 WMP. LCRA was originally required to develop this part of the WMP as a direct result of the court order adjudicating LCRA's water rights and the Texas Water Commission's 1989 WMP Order, giving initial approval to LCRA of an earlier version of the plan. When LCRA was required under the TCEQ's Chapter 288 rules to develop and implement a DCP, LCRA incorporated all of the same triggers and criteria from the approved WMP into its DCP. The 2010 WMP includes a requirement that LCRA develop a stored water curtailment plan to be approved by the LCRA Board and TCEQ in response to combined storage dropping below 900,000 AF. TCEQ approved LCRA's water curtailment plan for its firm customers in December 2011 (See TEX. COMM'N ENVTL. QUAL., Docket No. 2014-0124-WR, Order affirming in part and modifying in part the Executive Director's emergency order authorizing the Lower Colorado River Authority to amend its Water Management Plan, Permit 5838, pursuant to section 11.139 of the Texas Water Code (Feb. 27, 2014)).

LCRA provides conservation program planning support for its customers. In 2012, LCRA began a rebate program for certain irrigation technologies and a wholesale customer cost-share program focused on conservation. LCRA has supported significant improvements in water use efficiency in rice irrigation systems, including volumetric pricing and canal rehabilitation. LCRA adopted water use reduction targets including the following: water use reduction goals for firm water supply customers of 5 percent by asking firm customers to implement their voluntary water use reduction measures when

the combined storage of lakes Buchanan and Travis is less than 1.4 MAF; ten to twenty percent reduction goals by asking firm customers to implement their own mandatory water use reduction measures when combined storage levels fall below 900,000 AF; and a mandatory pro rata curtailment of firm water supplies for customers of 20 percent or more will be implemented when combined storage levels fall below 600,000 AF and other criteria are met for a drought more severe than the Drought of Record (See LCRA's March 21, 2014 Application, Attachment K).

In August, 2011, LCRA called on its firm water customers to voluntarily implement mandatory water use restrictions under their DCPs to reduce water use by 10 to 20 percent. LCRA has adopted additional changes to LCRA's raw water contract rules that include the procedures for implementing a pro rata curtailment of firm water customers. The rules also provide a surcharge to be set by the LCRA Board for unauthorized use of water (taking more water than authorized under a mandated curtailment of firm water supplies) and clarifying the drought contingency requirements related to golf course irrigation and recreational use (See TEX. COMM'N ENVTL. QUAL., Docket No. 2014-0124-WR, Order affirming in part and modifying in part the Executive Director's emergency order authorizing the Lower Colorado River Authority to amend its Water Management Plan, Permit 5838, pursuant to section 11.139 of the Texas Water Code (Feb. 27, 2014)).

LCRA has fully implemented its DCP. It requires all of its customers that currently divert and purchase water from LCRA to have a DCP. Currently, all customers have an approved DCP. Most of these firm customers have stayed in some form of mandatory water restrictions, significantly limiting landscape irrigation. LCRA industrial customers, who consist of power plants and a few large industries along the Gulf Coast, have cut back on non-essential water uses, such as outdoor watering. However these cutbacks likely have resulted in a very minimal savings. Any further cutbacks will result in a decrease in production (See LCRA's March 21, 2014 Application, Attachment K). LCRA has had several meetings with firm customers in preparation for pro rata curtailment. The LCRA Board approved a no more than once per week watering restriction that took effect in March 2014 and applies if combined storage is below 1.1 MAF and interruptible stored water to the Gulf Coast and Lakeside irrigation divisions and Pierce Ranch has been cut off (See TEX. COMM'N ENVTL. QUAL., Docket No. 2014-0124-WR, Order affirming in part and modifying in part the Executive Director's emergency order authorizing the Lower Colorado River Authority to amend its Water Management Plan, Permit 5838, pursuant to section 11.139 of the Texas Water Code (Feb. 27, 2014)).

LCRA evaluated the following alternatives to address current drought conditions: utilizing water from LCRA's other lakes, aggressive conservation, groundwater, off-channel storage, interbasin transfers, and trucking in water from other sources. LCRA also evaluated several other alternatives to address the emergency conditions resulting from the current drought (See Supplemental Information to LCRA's March 21, 2014 Application, April 4, 2014, Tab 3 pp. 1-3 and See also TEX. COMM'N ENVTL. QUAL., Docket No. 2014-0124-WR, Order affirming in part and modifying in part the Executive Director's emergency order authorizing the Lower Colorado River Authority to amend

its Water Management Plan, Permit 5838, pursuant to section 11.139 of the Texas Water Code (Feb. 27, 2014)).

Amending downstream run of the river rights to allow diversion for new uses and at new locations would provide some supply, but the use of these rights alone is not – by itself – a feasible and practicable alternative to the emergency relief related to the 2010 WMP. All of the rights would require amendments to add diversion points, additional places of use, and possible storage. Also, the downstream run-of-river water rights are highly variable in terms of availability and quantity, and do not provide by themselves a sufficient quantity of water to eliminate the need for the emergency relief from the 2010 WMP (See TEX. COMM'N ENVTL. QUAL., Docket No. 2014-0124-WR, Order affirming in part and modifying in part the Executive Director's emergency order authorizing the Lower Colorado River Authority to amend its Water Management Plan, Permit 5838, pursuant to section 11.139 of the Texas Water Code (Feb. 27, 2014)). In 2012, LCRA supplied about 4,000 AF to firm customers downstream of Austin under temporary permits that would otherwise have been released from Lakes Buchanan and Travis. In 2013, LCRA supplied about 1,000 AF to such customers under such temporary permits. While this was beneficial, temporary permits are not sufficient replacement for water lost if releases are required. (See Supplemental Information to LCRA's March 21, 2014 Application, April 4, 2014).

There is no feasible practicable alternative for Austin on short order to replace its water supply should it be depleted to the point of drastic shortages. Although Austin has made very earnest efforts to identify alternative water supplies, a replacement water supply for 1 million people cannot be identified and developed in a few years. Austin has identified only very small amounts of water that may be able to be purchased for exorbitantly expensive prices. The small amounts do not sufficiently address the public health, safety, and welfare risks and the exorbitant prices do not make these practicable alternatives (See TEX. COMM'N ENVTL. QUAL., Docket No. 2014-0124-WR, Order affirming in part and modifying in part the Executive Director's emergency order authorizing the Lower Colorado River Authority to amend its Water Management Plan, Permit 5838, pursuant to section 11.139 of the Texas Water Code (Feb. 27, 2014)).

Amending the WMP to reduce the instream flow requirements is not a viable alternative because the WMP would have to be amended using regular procedures for amending a water right, which would require basin-wide 30 day notice and an opportunity for a hearing. Releases for the Blue Sucker in 2014 must start around mid-April.

Water Quality and High Interest Species/Protecting Environmental Flow Needs

The Blue Sucker is a state-listed threatened species in Texas which is uniquely adapted to life in swift current. When spawning, adults utilize high velocity flow areas over hard substrate such as bedrock outcrop, boulders, and cobble riffles. These habitat types are abundant between Bastrop and Eagle Lake (See LCRA's March 21, 2014 Application, Attachment J, pg. 2). An instream flow study in 1992 established critical and target instream flow criteria for several locations in the lower Colorado River. The study also recommended the requirement for the 500 cfs for a continuous six week period in

March, April and May to provide spawning habitat for the Blue Sucker. The 2010 WMP used these critical instream flow criteria (See LCRA's March 21, 2014 Application, Attachment J, Tab 4 pg. 2). LCRA's WMP includes "target" and "critical" requirements for instream flows based on the amount of water LCRA has in storage on January 1 each year. At the present time, LCRA must meet critical instream flow requirements, including the 500 cfs instream flow requirement for a continuous six week period between March and May

Based on instream flow studies evaluating the habitat of the Blue Sucker, LCRA states that at 500 cfs, the flow provides for 93 to 100% of the maximum available spawning habitat for the Blue Sucker, while at 300cfs, at least 86 % of the habitat will be supported (See LCRA's March 21, 2014 Application, Attachment J, pg. 4). From February 1 through March 18, flow at the Bastrop gage has averaged 335 cfs with a minimum daily flow of 297 cfs (See LCRA's March 21, 2014 Application, Attachment E, pg. 9). Without any dedicated releases so far in 2014, streamflows in February and March of 2014 are supportive of significant spawning habitat (See LCRA's March 21, 2014 Application, Attachment J, pg. 4). LCRA states that when releases for Garwood Irrigation division begin, there will be higher flows through the end of May (See LCRA's March 21, 2014 Application, pg. 13).

Review

An applicant for an emergency order must file the specific information described under 30 TAC Section 35.101(c). Staff reviewed LCRA's application, supporting materials and affidavits and determined that the application included all of the information and documents required by Tex. Water Code Section 35.101(c). Under 30 TAC Section 35.101(b), an emergency is a condition where water supplies available to the applicant have been reduced or impaired to such an extent that an imminent peril to the public health, safety, or welfare exists. 30 TAC Section 35.101(b)(1) describes one such condition as the reduction of public water supplies to critical levels as a result of a severe and sustained drought. LCRA's application and supporting affidavits provided extensive information on the severity of the ongoing drought and the current and projected impacts on its firm customers.

Under Tex. Admin. Code §35.101(k), in determining whether feasible, practicable alternatives exist to the suspension of water right conditions, the Commission or Executive Director shall examine the amount and purposes of use for water currently being used by the applicant, all evidence relating to the availability of alternative, supplemental water supplies to the applicant, and the applicant's efforts to curtail water use not essential for the protection of public health, safety and welfare. LCRA has fully implemented its DCP. A twenty percent reduction in water use by firm customers will require difficult measures. However, none of these measures will occur quickly enough to help lake levels. Some LCRA customers, such as Austin, have achieved water savings through reductions in water use. Most industrial customers would have to implement the full twenty percent reduction more immediately and this likely means a decrease in annual production.

LCRA has taken steps to preserve its water supply for firm customers during this drought, including emergency orders in 2012, 2013, and 2014 and implementation of mandatory water use restrictions for its firm water customers in February 2014. None of the additional alternatives LCRA identified in its application are feasible or practicable alternatives to the emergency authorization because they could not be implemented before mid-April, 2014, which is when LCRA would need to begin releases to meet the 500 cfs requirement for a continuous six week period before the end of May 2014.

LCRA's requested relief would partially suspend the instream flow requirement for the Blue Sucker by reducing the requirement from 500 cfs to 300 cfs, which LCRA states would prevent approximately 17,000 AF from being released from lakes Buchanan and Travis. LCRA's application states that, as of March 1, 2014, even with no releases of interruptible stored water to the Gulf Coast, Lakeside and Pierce Ranch irrigation operations in 2014, there is about a 29 percent chance of triggering a DWDR declaration by the end of 2014. If the instream flow requirement for the Blue Sucker is reduced from 500 cfs to 300 cfs, there is about a 21 percent chance of trigger a DWDR by the end of 2014.

Tex. Admin. Code § 35.101(m) provides that when issuing an emergency order, all existing instream flows shall be passed up to the amount necessary to maintain water quality standards for the affected stream. Section 35.101(m) states that additional flows necessary to protect an endangered species under federal law or "other species that are considered to be of high interest" may be required. LCRA's supporting affidavits state that water quality standards are maintained in the river segments between Bastrop and Eagle Lake if the flow levels have been near or lower than 300 cfs with few exceptions.

Texas Parks and Wildlife Department (TPWD) provided additional information on LCRA's application. TPWD recognizes that the application is based, in part, on a 2008 study that produced recommendations for an instream flow regime in the lower Colorado River. This study found that spring season subsistence flows of approximately 300 cfs were included in that recommendation. However, TPWD notes that if the instream flow requirement is reduced from 500 cfs to 300 cfs, the 300 cfs requirement will occur in the absence of a varying instream flow regime. TPWD staff surveyed three sites in the lower Colorado River for Blue Sucker spawning activity in March of 2014. Results of the survey indicate that spawning may be occurring but may be completed for some fish.

Conclusion

Based on staff review of LCRA's application and supporting affidavits, current and forecasted hydrologic conditions and information from Texas Parks and Wildlife Department, staff concludes that:

- Inflows to LCRA's Highland Lakes have been extremely low for the past few years and weather forecasts do not show significant improvement. The extraordinary magnitude of the reduction in inflows, as compared to the inflows in the drought of record, which is the basis of the 2010 WMP, signals the need for great caution

to be taken with regard to decisions concerning large releases because these large releases could make it more probable that lake levels will not quickly recover once such releases occur;

- If water supply for LCRA's firm customers is reduced before arrangements for alternative supplies can be developed, LCRA will have difficulty in meeting its firm customers' water needs; hence the need for emergency relief;

- This emergency order request would help meet the clearly identified water needs of the LCRA's firm water customers and thus constitutes a benefit to the public welfare;

- If LCRA is required to follow the 2010 WMP and the drought continues, LCRA will be required to release around 21,000 AF to maintain an instream flow rate of 500 cfs at Bastrop over a period of six weeks beginning mid-April and probably reach the third criteria for DWDR conditions. If a DWDR is declared, LCRA will have to curtail cities' and industries' water use by 20% or more. Releasing this stored water could cause the DWDR to occur sooner;

- Curtailments that would occur will result in reduced water supply to power plants, threatening their ability to generate electricity. Because LCRA's firm water customers would be required to cut back substantially if the drought persists under a DWDR declaration, municipal customers are likely to be forced to institute drought response measures that would include restrictions on indoor water use, resulting in threats to public health and safety;

- Release of additional stored water from the lakes to maintain a 500 cfs instream flow requirement, would only provide a small incremental benefit to the Blue Sucker spawning habitat;

Because of the lingering extreme drought conditions the possible impact to public health, safety, and welfare overrides the need to maintain the balance between protecting environmental flow needs and other public interests and relevant factors and there are no feasible and practicable alternatives to the emergency order.