

LCRA Water Use Summary 2019

In 2019, the Highland Lakes watershed cycled from a wet first half of the year to much drier conditions in late summer through the end of the year.

Rainfall was above average for the first half of the year, and the amount of water flowing into the Highland Lakes ranked as the 25th highest inflows on record for January-July. The region experienced flooding in May, when LCRA had flood operations underway at every Highland Lakes dam to pass floodwater downstream.

July marked the start of a much drier weather pattern, and the basin began to dry out. Inflows to the Highland Lakes for August through December ranked 10th lowest on record for that five-month period.

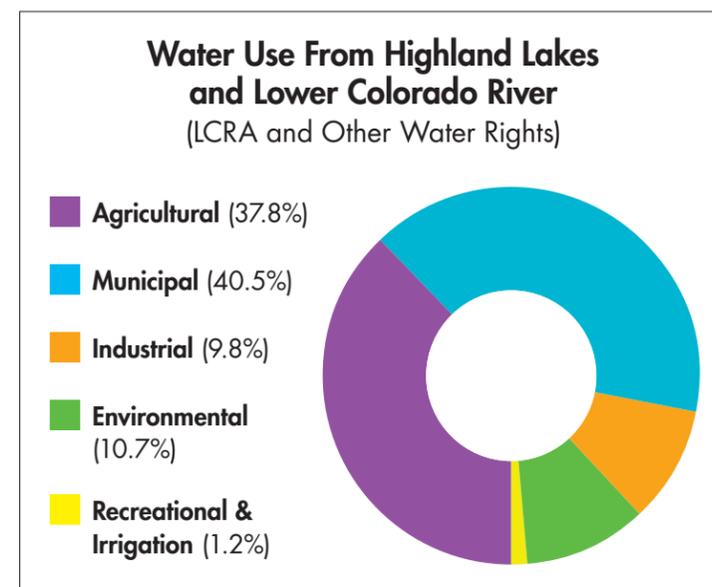
Due largely to the wetter first half of the year, municipal water use from the Highland Lakes decreased by 16% from 2018 to 2019, and the amount of water released from the Highland Lakes for downstream agriculture decreased by 80%.



WATER USE BY SOURCE – LCRA uses two basic sources of water to meet customer and environmental needs: water stored in lakes Buchanan and Travis and water naturally flowing in the Colorado River. When the natural flow into the Highland Lakes is greater than the customer and environmental needs, LCRA stores the excess in lakes Buchanan and Travis for later use.

- Highland Lakes water use** – Contracts for water stored in lakes Buchanan and Travis can be for firm or interruptible supply. LCRA also supplies water from the Highland Lakes to help maintain environmental flows, as required by the state-approved Water Management Plan. In 2019, the Highland Lakes supplied 217,897 acre-feet of water for all uses.
 - Firm water contracts** – These contracts supply cities, businesses and industries that need a reliable long-term water supply. Firm supply is expected to be available through a repeat of the driest conditions the region has experienced. Firm customers accounted for 128,624 acre-feet, including 496 acre-feet to meet emergency needs for electricity, or about 59% of all water used from the Highland Lakes, in 2019.
 - Interruptible water contracts** – These contracts supply agricultural customers. Interruptible water is subject to cutbacks during drought conditions. Interruptible customers used 27,319 acre-feet, or about 13% of all water used from the Highland Lakes, in 2019.
 - Environmental** – From time to time, LCRA releases water from the Highland Lakes to meet environmental flow requirements for the Colorado River downstream of Austin and for Matagorda Bay. In 2019, LCRA released 61,954 acre-feet, or about 28% of water released from the Highland Lakes, for environmental flows.
- Colorado River water use** – In addition to the rights to water from the Highland Lakes, LCRA owns and manages other rights to the natural flow of the Colorado River. In 2019, a total of 234,235 acre-feet of water was supplied from the Colorado River for agricultural, municipal, industrial, recreation and firm irrigation uses under these water rights.

Water Rights	2019 Use (in acre-feet)
LCRA Garwood	81,604
LCRA South Texas Project	24,028
LCRA Lakeside	46,398
LCRA Gulf Coast	70,456
LCRA Pierce Ranch	11,749
LCRA Lakes Buchanan and Travis	217,897
SUBTOTAL – LCRA	452,132
City of Austin Water Rights	127,800
Bastrop Energy Partners, LP	180
TOTAL	580,112



HOW DOES 2019 COMPARE?

TYPE OF WATER USE*	2015	2016	2017	2018	2019
Municipal (firm)	198,738	210,376	221,037	225,861	234,648
Water from the Highland Lakes	98,920	97,134	115,416	133,517	112,701
Water from the Colorado River	99,818	113,242	105,621	92,344	121,947
Industrial (firm)	92,623	39,018	91,188	80,580	57,030
Water from the Highland Lakes	8,956	13,404	23,000	24,433	9,157
Water from the Colorado River	83,667	25,614	68,188	56,147	47,873
Recreational and Irrigation (firm)	5,620	5,123	7,362	6,760	7,013
Water from the Highland Lakes	5,346	4,870	7,225	6,667	6,766
Water from the Colorado River	274	253	137	93	247
Agricultural (interruptible)†	74,723	254,085	235,255	289,665	219,467
Water from the Highland Lakes	0	7,656	59,266	136,490	27,319
Water from the Colorado River	74,723	246,429	175,989	153,175	192,148
Environmental‡	0	54,641	67,762	55,923	61,954
(from the Highland Lakes)					
TOTAL WATER USE	371,704	563,243	622,604	658,789	580,112

* Water use is in acre-feet.

† Releases from the Highland Lakes for downstream agriculture in the Gulf Coast, Lakeside and Pierce Ranch irrigation operations were suspended from 2012 through 2015 because of the severe drought.

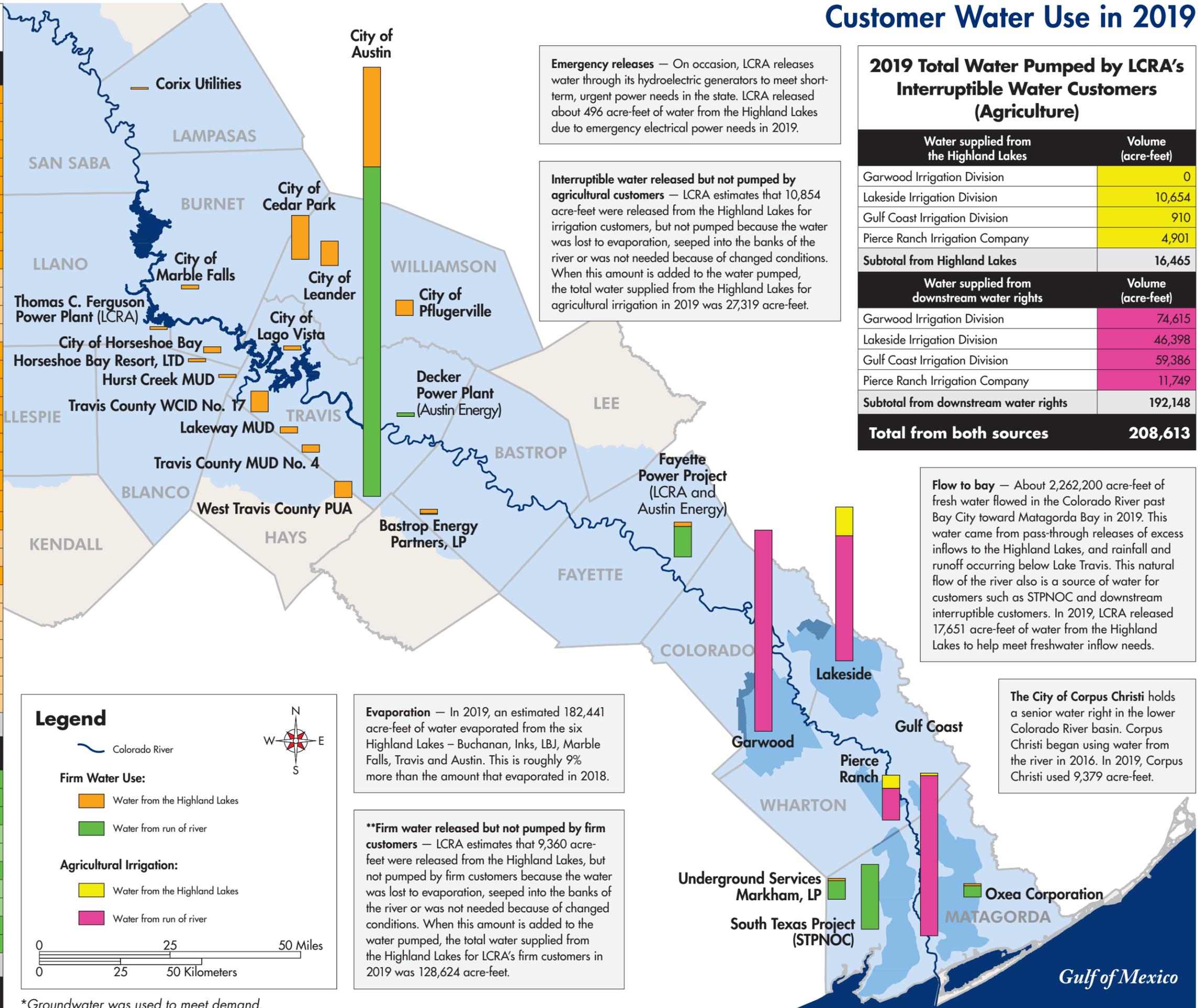
‡ Dedicated environmental releases are the water released solely for the purpose of meeting environmental needs. Releases for downstream customers and runoff flowing into the river and bay also help satisfy environmental needs.

Learn more about the lower Colorado River at lcr.org.

Customer Water Use in 2019

2019 Total Water Pumped by LCRA's Firm Water Customers

Water supplied from the Highland Lakes	Volume (acre-feet)
City of Austin, municipal and parks	36,975
City of Cedar Park	16,286
City of Leander	9,055
Travis County WCID No. 17	7,655
West Travis County Public Utility Agency	6,002
City of Pflugerville	5,668
Domestic water users on Highland Lakes	4,210
Travis County MUD No. 4	2,739
Lakeway MUD	2,305
LCRA power plants	2,243
• Fayette Power Project (LCRA share)	1,188
• Sim Gideon Power Plant*	0
• Lost Pines 1 Power Project*	0
• Thomas C. Ferguson Power Plant	1,055
City of Horseshoe Bay	2,215
Bastrop Energy Partners, LP	1,584
City of Lago Vista	1,512
City of Marble Falls	1,450
Horseshoe Bay Resort, LTD	1,147
Hurst Creek MUD (The Hills)	1,117
Underground Services Markham, LP	817
Oxea Corporation	802
Corix Utilities (Lometa)	655
Austin Energy (AE) power plants	456
• Fayette Power Project (AE share)	456
• Decker Power Plant	0
Other firm customers	13,875
• Diverted from Lake Buchanan	23
• Diverted from Inks Lake	513
• Diverted from Lake LBJ	1,985
• Diverted from Lake Marble Falls	0
• Diverted from Lake Travis	4,053
• Diverted from Lake Austin	6,019
• Diverted downstream of Lake Austin	1,282
Subtotal from Highland Lakes**	118,768
Water supplied from other water rights	Volume (acre-feet)
City of Austin, municipal and parks	122,194
South Texas Project Nuclear Operating Co.	24,028
Gulf Coast municipal and industrial use	11,070
• Underground Services Markham, LP	6,947
• Oxea Corporation	4,123
Austin Energy (AE) power plants	5,606
• Fayette Power Project (AE share)	4,265
• Decker Power Plant	1,341
LCRA Fayette Power Project - Garwood amendment	6,989
Bastrop Energy Partners, LP	180
Subtotal from other water rights	170,067
Total from both sources	288,835



Emergency releases — On occasion, LCRA releases water through its hydroelectric generators to meet short-term, urgent power needs in the state. LCRA released about 496 acre-feet of water from the Highland Lakes due to emergency electrical power needs in 2019.

Interruptible water released but not pumped by agricultural customers — LCRA estimates that 10,854 acre-feet were released from the Highland Lakes for irrigation customers, but not pumped because the water was lost to evaporation, seeped into the banks of the river or was not needed because of changed conditions. When this amount is added to the water pumped, the total water supplied from the Highland Lakes for agricultural irrigation in 2019 was 27,319 acre-feet.

2019 Total Water Pumped by LCRA's Interruptible Water Customers (Agriculture)

Water supplied from the Highland Lakes	Volume (acre-feet)
Garwood Irrigation Division	0
Lakeside Irrigation Division	10,654
Gulf Coast Irrigation Division	910
Pierce Ranch Irrigation Company	4,901
Subtotal from Highland Lakes	16,465
Water supplied from downstream water rights	Volume (acre-feet)
Garwood Irrigation Division	74,615
Lakeside Irrigation Division	46,398
Gulf Coast Irrigation Division	59,386
Pierce Ranch Irrigation Company	11,749
Subtotal from downstream water rights	192,148
Total from both sources	208,613

Flow to bay — About 2,262,200 acre-feet of fresh water flowed in the Colorado River past Bay City toward Matagorda Bay in 2019. This water came from pass-through releases of excess inflows to the Highland Lakes, and rainfall and runoff occurring below Lake Travis. This natural flow of the river also is a source of water for customers such as STPNOC and downstream interruptible customers. In 2019, LCRA released 17,651 acre-feet of water from the Highland Lakes to help meet freshwater inflow needs.

The City of Corpus Christi holds a senior water right in the lower Colorado River basin. Corpus Christi began using water from the river in 2016. In 2019, Corpus Christi used 9,379 acre-feet.

Legend

- Colorado River
- Firm Water Use:**
 - Water from the Highland Lakes
 - Water from run of river
- Agricultural Irrigation:**
 - Water from the Highland Lakes
 - Water from run of river

0 25 50 Miles
0 25 50 Kilometers

Evaporation — In 2019, an estimated 182,441 acre-feet of water evaporated from the six Highland Lakes – Buchanan, Inks, LBJ, Marble Falls, Travis and Austin. This is roughly 9% more than the amount that evaporated in 2018.

****Firm water released but not pumped by firm customers** — LCRA estimates that 9,360 acre-feet were released from the Highland Lakes, but not pumped by firm customers because the water was lost to evaporation, seeped into the banks of the river or was not needed because of changed conditions. When this amount is added to the water pumped, the total water supplied from the Highland Lakes for LCRA's firm customers in 2019 was 128,624 acre-feet.

*Groundwater was used to meet demand.