

# LCRA Water Use Summary 2021

The dry conditions in place at the end of 2020 continued into 2021, with the basin seeing below-normal rainfall until the spring and summer. A wetter pattern began in late spring and continued through July, but the Highland Lakes saw limited runoff, as the rain fell intermittently and largely soaked into the soil. Dry conditions returned to the Highland Lakes watershed through the fall.

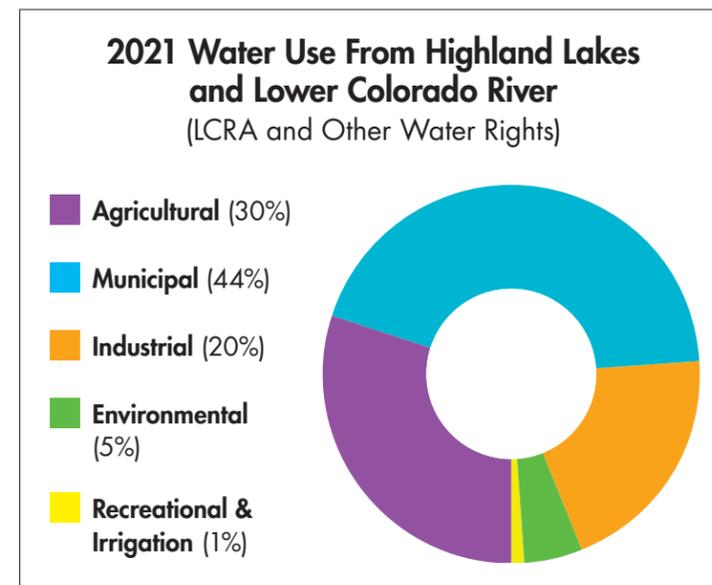
Total water use from the Highland Lakes and lower Colorado River decreased from 2020 to 2021. Water use from the Highland Lakes decreased by 43%, with reductions in all types of use. The increased runoff in the Colorado River downstream of the Highland Lakes in the late spring and early summer helped meet customer and environmental needs downstream. Diversions from the lower Colorado River increased by 18% from 2020 to 2021.

**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 customer needs and environmental obligations, 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 2021, the Highland Lakes supplied 211,841 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 135,415 acre-feet, or about 64% of all water used from the Highland Lakes, in 2021. This includes 1,450 acre-feet used in hydroelectric generation to meet emergency needs for electricity, mostly in February during Winter Storm Uri.
  - Interruptible water contracts** – These contracts supply agricultural customers. Interruptible water is subject to cutbacks during drought conditions. Interruptible customers used 45,109 acre-feet, or about 21% of all water used from the Highland Lakes, in 2021.
  - 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 2021, LCRA released 31,317 acre-feet, or about 15% 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 2021, a total of 221,992 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	2021 Use (in acre-feet)
LCRA Garwood*	71,454
LCRA and South Texas Project*	79,716
LCRA Lakeside*	22,974
LCRA Gulf Coast*	41,893
LCRA Pierce Ranch*	5,955
LCRA Lakes Buchanan and Travis	211,841
<b>SUBTOTAL – LCRA</b>	<b>433,833</b>
City of Austin Water Rights*	136,013
Bastrop Energy Partners, LP*	180
<b>SUBTOTAL – Other</b>	<b>136,193</b>
<b>TOTAL</b>	<b>570,026</b>

\*Water use from the Colorado River was 358,185 acre-feet.



## HOW DOES 2021 COMPARE?

TYPE OF WATER USE*	2017	2018	2019	2020	2021
<b>Municipal (firm customers)</b>	<b>221,037</b>	<b>225,861</b>	<b>234,648</b>	<b>251,970</b>	<b>249,011</b>
Water from the Highland Lakes	115,416	133,517	112,701	144,531	118,821
Water from the Colorado River†	105,621	92,344	121,947	107,439	130,190
<b>Industrial (firm customers)</b>	<b>91,188</b>	<b>80,580</b>	<b>57,030</b>	<b>50,343</b>	<b>113,594</b>
Water from the Highland Lakes	23,000	24,433	9,157	18,593	12,390
Water from the Colorado River†	68,188	56,147	47,873	31,750	101,204
<b>Recreational &amp; Irrigation (firm customers)</b>	<b>7,362</b>	<b>6,760</b>	<b>7,013</b>	<b>7,568</b>	<b>4,204</b>
Water from the Highland Lakes	7,225	6,667	6,766	7,413	4,204
Water from the Colorado River	137	93	247	155	0
<b>Agricultural (interruptible customers)</b>	<b>235,255</b>	<b>289,665</b>	<b>219,467</b>	<b>247,573</b>	<b>171,900</b>
Water from the Highland Lakes	59,266	136,490	27,319	84,472	45,109
Water from the Colorado River	175,989	153,175	192,148	163,101	126,791
<b>Environmental‡</b>	<b>67,762</b>	<b>55,923</b>	<b>61,954</b>	<b>115,586</b>	<b>31,317</b>
(from the Highland Lakes)					
<b>TOTAL WATER USE</b>	<b>622,604</b>	<b>658,789</b>	<b>580,112</b>	<b>673,040</b>	<b>570,026</b>

\* Water use is in acre-feet.

† Reported use includes water under water rights held by the City of Austin and Bastrop Energy Partners, LP and jointly by South Texas Project and LCRA.

‡ Environmental releases are made to meet environmental requirements set out in the LCRA Water Management Plan. Releases for downstream customers and runoff flowing into the river and bay also help satisfy environmental needs.

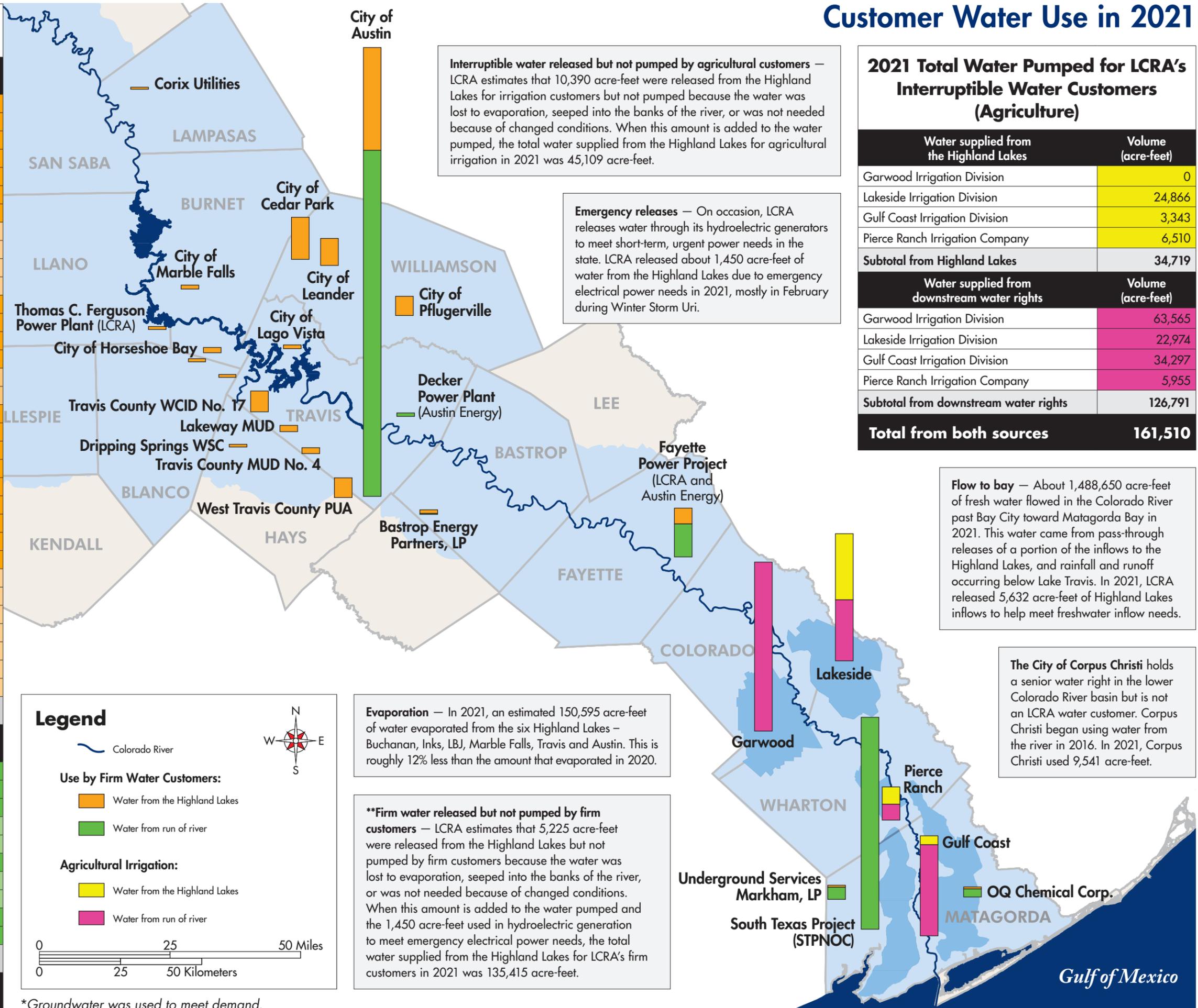
Learn more about the lower Colorado River at [www.lcra.org](http://www.lcra.org).



# Customer Water Use in 2021

## 2021 Total Water Pumped by LCRA's Firm Water Customers

Water supplied from the Highland Lakes	Volume (acre-feet)
City of Austin, municipal and parks	38,657
City of Cedar Park	15,828
City of Leander	10,164
Travis County WCID No. 17	7,807
West Travis County PUA	7,414
City of Pflugerville	7,225
LCRA power plants	4,857
• Fayette Power Project (LCRA share)	3,747
• Sim Gideon Power Plant*	0
• Lost Pines 1 Power Project*	0
• Thomas C. Ferguson Power Plant	1,110
Domestic water users on the Highland Lakes	4,809
Lakeway MUD	2,351
Travis County MUD No. 4	2,214
Austin Energy (AE) power plants	2,197
• Fayette Power Project (AE share)	2,197
• Decker Power Plant	0
City of Horseshoe Bay	1,973
City of Marble Falls	1,483
City of Lago Vista	1,422
Bastrop Energy Partners, LP	1,375
Dripping Springs WSC	1,009
Corix Utilities (Lometa)	758
OQ Chemical Corp.	747
Underground Services Markham, LP	742
Other firm customers	15,708
• Diverted from Lake Buchanan	14
• Diverted from Inks Lake	543
• Diverted from Lake LBJ	2,672
• Diverted from Lake Marble Falls	0
• Diverted from Lake Travis	5,355
• Diverted from Lake Austin	5,559
• Diverted downstream of Lake Austin	1,565
<b>Subtotal from Highland Lakes**</b>	<b>128,740</b>
Water supplied from other water rights	Volume (acre-feet)
City of Austin, municipal and parks	130,190
South Texas Project Nuclear Operating Co.	79,716
Gulf Coast municipal and industrial use	7,596
• Underground Services Markham, LP	4,564
• OQ Chemical Corp.	3,032
Austin Energy (AE) power plants	5,823
• Fayette Power Project (AE share)	4,521
• Decker Power Plant	1,302
LCRA Fayette Power Project - Garwood amendment	7,889
Bastrop Energy Partners, LP	180
<b>Subtotal from other water rights</b>	<b>231,394</b>
<b>Total from both sources</b>	<b>360,134</b>



**Interruptible water released but not pumped by agricultural customers** — LCRA estimates that 10,390 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 2021 was 45,109 acre-feet.

**Emergency releases** — On occasion, LCRA releases water through its hydroelectric generators to meet short-term, urgent power needs in the state. LCRA released about 1,450 acre-feet of water from the Highland Lakes due to emergency electrical power needs in 2021, mostly in February during Winter Storm Uri.

## 2021 Total Water Pumped for LCRA's Interruptible Water Customers (Agriculture)

Water supplied from the Highland Lakes	Volume (acre-feet)
Garwood Irrigation Division	0
Lakeside Irrigation Division	24,866
Gulf Coast Irrigation Division	3,343
Pierce Ranch Irrigation Company	6,510
<b>Subtotal from Highland Lakes</b>	<b>34,719</b>
Water supplied from downstream water rights	Volume (acre-feet)
Garwood Irrigation Division	63,565
Lakeside Irrigation Division	22,974
Gulf Coast Irrigation Division	34,297
Pierce Ranch Irrigation Company	5,955
<b>Subtotal from downstream water rights</b>	<b>126,791</b>
<b>Total from both sources</b>	<b>161,510</b>

**Flow to bay** — About 1,488,650 acre-feet of fresh water flowed in the Colorado River past Bay City toward Matagorda Bay in 2021. This water came from pass-through releases of a portion of the inflows to the Highland Lakes, and rainfall and runoff occurring below Lake Travis. In 2021, LCRA released 5,632 acre-feet of Highland Lakes inflows to help meet freshwater inflow needs.

**The City of Corpus Christi** holds a senior water right in the lower Colorado River basin but is not an LCRA water customer. Corpus Christi began using water from the river in 2016. In 2021, Corpus Christi used 9,541 acre-feet.

### Legend

- Colorado River
- Use by Firm Water Customers:**
  - 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 2021, an estimated 150,595 acre-feet of water evaporated from the six Highland Lakes — Buchanan, Inks, LBJ, Marble Falls, Travis and Austin. This is roughly 12% less than the amount that evaporated in 2020.

**\*\*Firm water released but not pumped by firm customers** — LCRA estimates that 5,225 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 and the 1,450 acre-feet used in hydroelectric generation to meet emergency electrical power needs, the total water supplied from the Highland Lakes for LCRA's firm customers in 2021 was 135,415 acre-feet.

\*Groundwater was used to meet demand.