2020 ANNUAL REPORT

House Bill 1437 Agricultural Water Conservation Program
LCRA Board of Directors

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Executive Summary

In accordance with LCRA Board Policy 301.603 – Agricultural Water Conservation Fund, this report provides a summary of activities in 2020 related to the implementation of House Bill 1437. The report provides information about provisions in the House Bill 1437 legislation, ongoing projects, and a status update on the fund.

Background
The Texas Legislature passed HB 1437 in 1999. The law authorizes LCRA to provide up to 25,000 acre-feet per year of surface water to Williamson County if there is “no net loss” to the lower Colorado River basin.

The legislation also created the HB 1437 Agricultural Water Conservation Fund, which is used to address the costs of mitigating any adverse effects of transferring water to Williamson County. The fund may be used only for water resources development or water use strategies to replace or offset the amount of transferred surface water, and those water resources must be used to benefit the water service areas of LCRA’s irrigation operations. Projects are funded by a 25% surcharge on all water under contract to the Brazos River Authority, which has secured the full 25,000 acre-feet per year.

Water Conserved and No Net Loss
To date, all of LCRA’s projects to meet the “no net loss” requirement have involved water conservation in the irrigation operations. In 2020, HB 1437-funded projects conserved an estimated 16,352 acre-feet of water. The amount of water available for transfer in 2020 under no net loss is 15,895 acre-feet, a figure computed in accordance with the LCRA Water Contract Rules by averaging the amount of water conserved annually in 2018, 2019 and 2020. LCRA transferred 868 acre-feet of water to Williamson County in 2020 under the HB 1437 program. The most recent information from the Brazos River Authority indicates transfers are expected to reach approximately 4,600 acre-feet per year in 2021, increasing to 6,900 acre-feet per year in 2022, and steadily increasing to 11,900 acre-feet per year by 2030.

2020 Activities
In 2020, LCRA began the Garwood Gate Automation Project and completed the Garwood savings verification study.

Agricultural Water Conservation Fund
The balance in the Agricultural Water Conservation Fund as of Dec. 31, 2020, was $2.82 million. In 2020, the fund’s income totaled $512,285, and expenditures were $206,067.
Program Outlook for 2021
The 2021 program includes continuing the Garwood Gate Automation Project, planning for potential future projects, and continued work on savings verification studies.
1.0 Program Overview and Requirements

1.1 Purpose of Report
This report summarizes HB 1437 Agricultural Water Conservation Program activities in 2020. It is submitted in accordance with LCRA Board Policy 301 – Finance and LCRA’s Water Contract rules. The report provides:

- Background on HB 1437 legislation and program.
- An update on projects implemented to achieve no net loss and the volume of water currently available for transfer.
- Statistics on how funds in the Agricultural Water Conservation Fund were spent.
- An overview of activities planned through fiscal year 2022.

1.2 HB 1437 Legislation
HB 1437, passed by the Texas Legislature in 1999, authorizes LCRA to provide up to 25,000 acre-feet of surface water per year for use outside the lower Colorado River watershed in Williamson County under several conditions.¹

- LCRA can only transfer water in accordance with HB 1437 if it assures “no net loss” of surface water to the lower Colorado River basin, as determined by the LCRA Board of Directors.² LCRA’s Water Contract Rules provide that the requirement for “no net loss” be satisfied prior to any diversion of water.
- LCRA is required to add a minimum of a 10% surcharge to the rates for water contracted in accordance with HB 1437 to pay the costs of mitigating any adverse effects of the transfer of water to Williamson County. Proceeds from the surcharge are deposited in the Agricultural Water Conservation Fund. In December 1999, the LCRA Board established the HB 1437 surcharge at 25%, which has remained unchanged.
- The LCRA Board may use money from the Agricultural Water Conservation Fund only for the development of water resources or other water use strategies to replace or offset the amount of surface water transferred. This includes opportunities to reduce reliance on surface water for agricultural irrigation. Water resources developed or conserved through the additional charge may be acquired from any source inside or outside LCRA’s boundaries and must be used to benefit the water service area of the authority’s irrigation operations.
- An agricultural advisory committee must be established and consulted on projects funded by HB 1437. The advisory committee is composed of agricultural interest representatives appointed by the Colorado, Wharton and Matagorda county judges.

¹ The 25,000 acre-feet per year amount is in addition to surface water that may be transferred to Cedar Park and Leander, municipalities that were water customers of LCRA on May 20, 1997, and are located in the watersheds of both the Colorado River and Brazos River.
² LCRA’s Water Contract Rules provide that the requirement for “no net loss” be satisfied prior to any diversion of water. The rules define “no net loss” as “a hydrologic condition where the volume of Transferred Water is equivalent to, or less than, the combined value of Conserved Water, Developed Water, and Returned Water resulting in a reduced reliance on Surface Water for agricultural irrigation” (“Surface Water” is limited to Colorado River supplies). The amount of conserved, developed or transferred water is based on the average volume over a continuous three-year period.
1.3 LCRA Board Policy
In accordance with HB 1437, the LCRA Board has established policies to implement the “no net loss” requirement and established the surcharge and procedures for tracking use of the Agricultural Water Conservation Fund. These are presently included in Board Policy 301 and the LCRA Water Contract Rules (Article 12).

1.4 Agricultural Conservation Fund Advisory Committee
The Agricultural Conservation Fund Advisory Committee was established in 2000 in accordance with HB 1437. The advisory committee represents agricultural irrigation interests appointed by Matagorda, Wharton and Colorado county judges. In February 2021, these county judges re-appointed all existing committee members to another three-year term. The committee last met in March 2021.

1.5 Brazos Water Contract and Interbasin Transfer Permit
In October 2000, LCRA and the Brazos River Authority signed a 50-year water sale agreement for 25,000 acre-feet per year. In addition to the standard contract provisions, the agreement included the statutorily required surcharge (currently set by the LCRA Board at 25%) for transferred and reserved water. It also contains a clause that allows the Brazos River Authority to terminate the agreement on Feb. 15 of any year after the contract has been in effect for 10 years by providing notice on or before Jan. 15 of that year. The contract has been in effect for more than 10 years, and the Brazos River Authority has not terminated the contract.

Brazos River Authority holds the interbasin transfer permit to allow transfer up to 25,000 acre-feet per year to Williamson County in the Brazos River Basin. In 2020, 868 acre-feet of water transfers occurred.

1.6 Demand Projections for HB 1437 Water
As required by its water contract, the Brazos River Authority updates water demand projections for HB 1437 water each year. In February 2021, the Brazos River Authority presented updated water demand projections, which include the finalized contract with the City of Georgetown. The projections are similar to the 2020 projections except they lack the more dramatic short-term demand increase previously predicted for 2022-2023. The water demand is expected to increase substantially in 2021 to as much as 4,640 acre-feet. The demand projections are consistent with projections estimated in 2020 for the period between 2024 and 2030, with a peak of 11,800 acre-feet, before decreasing in 2031 with the expiration of the Georgetown contract. The 2021 projections now go through 2035 (Figure 1.1). The Brazos River Authority is contracted to supply most of its reserved water to the City of Round Rock, with an additional allocation of 1,200 acre-feet each to the Liberty Hill Water Supply Corporation and the City of Georgetown. Larger transfers to Round Rock are projected to begin in 2021 at a rate of 2,200 acre-feet per year and increasing to 6,400 acre-feet per year by 2025 and 9,500 acre-feet per year by 2030.
Figure 1.1 – Demand Projections for HB 1437 Water
1.7 Water Conserved and Available for Transfer

HB 1437 requires “no net loss” be met for interbasin transfer of surface water to Williamson County. “No net loss” occurs when the average annual volume of HB 1437 water transferred in a given year is less than or equal to the rolling average of water conserved, developed or returned in the three preceding years (per Article 12 of LCRA’s Water Contract Rules).

**Water Conserved**

LCRA estimates a total savings of 16,352 acre-feet conserved in 2020 in all three LCRA irrigation divisions.

In 2020, 10,853 acres of agricultural fields previously laser-leveled with matching funds from LCRA’s Agricultural Water Conservation Fund were in production and conserved approximately 4,992 acre-feet of water. LCRA did not provide any new funds for land leveling in 2020. The installation of standardized delivery structures and canal rehabilitation within the Garwood Irrigation Division saved an additional estimated 6,519 acre-feet of water in 2020, based on updating the savings estimate in 2020 (see section 2.6). The automation of canal gates in the Gulf Coast Irrigation Division saved an estimated 4,840 acre-feet in 2020.

**Water Available for Transfer**

Based on data from the last three years, there is 15,895 acre-feet of water available for transfer to Williamson County in 2021. Staff estimates that water conserved through existing projects (including funded but incomplete projects) will be sufficient to meet the “no net loss” requirement consistent with Brazos River Authority’s projections through 2025.

**Water Transferred**

In 2020, 868 acre-feet of water was transferred, which includes 372 acre-feet of water to Liberty Hill and 496 acre-feet of water to Round Rock.
The "no net loss" chart (Table 1.1) summarizes HB 1437 availability. LCRA can presently satisfy demand for up to 15,895 acre-feet of water.
## Table 1.1 – No Net Loss Summary, Volume of HB 1437 Water in Acre-Feet

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>1,274</td>
<td>0</td>
<td>0</td>
<td>1,274</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2007</td>
<td>1,688</td>
<td>0</td>
<td>0</td>
<td>1,481</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2008</td>
<td>3,656</td>
<td>0</td>
<td>0</td>
<td>2,206*</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2009</td>
<td>4,900</td>
<td>0</td>
<td>0</td>
<td>3,415*</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2010</td>
<td>5,607</td>
<td>0</td>
<td>0</td>
<td>4,721*</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2011</td>
<td>7,101</td>
<td>0</td>
<td>0</td>
<td>5,869*</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2012</td>
<td>5,803</td>
<td>0</td>
<td>0</td>
<td>6,170*</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2013</td>
<td>5,681</td>
<td>0</td>
<td>0</td>
<td>6,195*</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2014</td>
<td>5,188</td>
<td>0</td>
<td>0</td>
<td>5,557*</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2015</td>
<td>5,538</td>
<td>0</td>
<td>0</td>
<td>5,469*</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2016</td>
<td>12,200</td>
<td>0</td>
<td>0</td>
<td>7,642*</td>
<td>32</td>
<td>0</td>
</tr>
<tr>
<td>2017</td>
<td>12,036</td>
<td>0</td>
<td>0</td>
<td>9,925*</td>
<td>532</td>
<td>102</td>
</tr>
<tr>
<td>2018</td>
<td>13,076 (16,134**)</td>
<td>0</td>
<td>0</td>
<td>12,437*</td>
<td>532</td>
<td>296</td>
</tr>
<tr>
<td>2019</td>
<td>12,800 (15,200**)</td>
<td>0</td>
<td>0</td>
<td>12,637*</td>
<td>2,316</td>
<td>345</td>
</tr>
<tr>
<td>2020</td>
<td>16,352</td>
<td>0</td>
<td>0</td>
<td>15,895*</td>
<td>4,640*</td>
<td>868</td>
</tr>
</tbody>
</table>

* Three-year rolling average
** The 2018 and 2019 annual conserved volumes shown in parentheses reflect new information gathered as part of the Garwood measurement project savings update. The original estimates are shown immediately above the updated conserved volumes. The new methodology from the Garwood measurement project savings update will be used to calculate this year’s three-year rolling average conserved volumes and to calculate estimated conserved volumes in future years.

Forecast for 2021, Letter from Brazos River Authority to LCRA, Feb. 11, 2021
2.0 HB 1437 Programs

2.1 Program Planning
In 2004, the LCRA Board authorized a seven-year plan to meet projected water demands through on-farm and in-district water conservation projects and a 25% surcharge on the water transferred to Williamson County customers.

In 2009, a report of short-term water conservation strategies included a five-year plan (2010-2014) to meet revised demand projections for water transfers to Williamson County. Strategies included 12,500 acres of land leveling cost-share grants, which were completed in 2013; construction of the Garwood measurement project, which was completed in 2012; and the first gate rehabilitation project in the Gulf Coast Irrigation Division, which was completed in 2012.

Since 2014, in five phases, LCRA continued to rehabilitate gates in Gulf Coast based on availability of funding and irrigation division staff labor. The project was completed in 2019. Based on the success of this project, LCRA began a gate automation project in Garwood in 2020.

Discussions are underway with Brazos River Authority regarding estimated current conservation savings and potential infrastructure projects for meeting HB 1437 requirements in the long term.
2.2 Laser Land Leveling Cost-Share Program

In 2006, the LCRA Board adopted the application guidelines, eligibility rules and contract provisions for awarding cost-sharing conservation grants from the Agricultural Water Conservation Fund. The guidelines integrated the Natural Resources Conservation Service (NRCS) technical specifications and payment certification processes, which significantly reduced the verification and administrative costs for the HB 1437 grant program.

Table 2.1 shows the total acres leveled and cost-share grants awarded from 2006 to 2013. The program shared the precision land leveling cost for 365 fields, totaling 30,288 acres. The most acreage is in the Lakeside Irrigation Division (53%), followed by Garwood (43%) and Gulf Coast (4%). Since its inception, the HB 1437 Agricultural Water Conservation Fund has contributed nearly $1.75 million of a total land leveling cost of about $9.68 million – an average of 18% cost-share. The average acreage of a leveled field is about 83 acres. The average total cost to precision land level a field was about $320 per acre during this time frame.

Table 2.1 – 2006-2013 Acres Leveled and HB 1437 Cost-Share Grants

<table>
<thead>
<tr>
<th>Division</th>
<th>Fields Leveled</th>
<th>Acres Leveled</th>
<th>Total Project Cost</th>
<th>HB 1437 Grant Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lakeside</td>
<td>189</td>
<td>16,177*</td>
<td>$5,645,770</td>
<td>$996,763</td>
</tr>
<tr>
<td>Garwood</td>
<td>162</td>
<td>13,023</td>
<td>$3,730,554</td>
<td>$689,938</td>
</tr>
<tr>
<td>Gulf Coast</td>
<td>14</td>
<td>1,088</td>
<td>$305,932</td>
<td>$61,818</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>365</strong></td>
<td><strong>30,288</strong></td>
<td><strong>$9,682,255</strong></td>
<td><strong>$1,748,518</strong></td>
</tr>
</tbody>
</table>

* Excludes 682 acres leveled with HB 1437 grant funds but refunded to the Agricultural Water Conservation Fund in 2010 and 2011 due to contractual issues.

LCRA’s cost-share program ended in 2013 after achieving the five-year planning goals set in 2009. HB 1437 funds had become less relevant in encouraging participation in the NRCS Environmental Quality Incentives Program (EQIP), due to increases in the percentage of total precision land leveling cost that EQIP would fund. The LCRA program funded 11,500 acres above the original planned implementation study and 5,000 acres above the goal set in the 2009 five-year strategy report update.

In this report, LCRA incorporated water savings from land leveled acreage in production funded through the HB 1437 program in all three irrigation divisions. Land leveled acreage in production in 2020 (Figure 2.1) was slightly higher than estimated, due to higher land leveled acreage in production in Lakeside and Garwood.

NRCS defines the useful life of projects in the EQIP program. Per NRCS, the useful life of precision land leveling projects is 15 years. At the end of the 15 years, NRCS allows
farmers to re-sign for additional financial assistance with the condition that new work must move at least 100 cubic yards of dirt per acre. The useful life on land LCRA awarded cost-share grants will begin maturing in 2021, with the largest yearly acreage reaching its maturity in 2023-2024. Staff presented options for the future of the land leveling program to the advisory committee in March 2021. LCRA will contact customers with 2006 and 2007 LCRA HB 1437 cost-share contracts in 2021 to assess future plans as these fields reach their 15-year life. The schedule for the expiration of LCRA HB 1437 contracts and associated NRCS contracts through EQIP is shown in Table 2.2. Staff conducted a survey of Garwood customers in early 2020; half of the customers who had land leveled fields indicated they plan to re-apply for EQIP, and the rest plan to continue to perform yearly land-grading maintenance.

Table 2.2 - Expiration of HB 1437 Land Leveling Contracts

<table>
<thead>
<tr>
<th>HB 1437 Grants 2006-2013</th>
<th>Award Year</th>
<th>Expiration Year</th>
<th>Total Acres Funded</th>
<th>Percent Expiring</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>2021</td>
<td>2,599</td>
<td>9%</td>
<td></td>
</tr>
<tr>
<td>2007</td>
<td>2022</td>
<td>3,533</td>
<td>12%</td>
<td></td>
</tr>
<tr>
<td>2008</td>
<td>2023</td>
<td>5,592</td>
<td>18%</td>
<td></td>
</tr>
<tr>
<td>2009</td>
<td>2024</td>
<td>6,463</td>
<td>21%</td>
<td></td>
</tr>
<tr>
<td>2010</td>
<td>2025</td>
<td>3,217</td>
<td>11%</td>
<td></td>
</tr>
<tr>
<td>2011</td>
<td>2026</td>
<td>3,189</td>
<td>11%</td>
<td></td>
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<tr>
<td>2012</td>
<td>2027</td>
<td>2,216</td>
<td>7%</td>
<td></td>
</tr>
<tr>
<td>2013</td>
<td>2028</td>
<td>3,479</td>
<td>11%</td>
<td></td>
</tr>
</tbody>
</table>

2.3 Garwood Irrigation Division Measurement Project

The Garwood volumetric measurement project installed or rehabilitated approximately 400 water measurement and check structures on existing canals and field laterals in the Garwood Irrigation Division. In addition, 85 miles of canal laterals were rehabilitated to facilitate LCRA control of all measurement structures. The project was completed in 2012 and was expected to conserve about 3,400 acre-feet of water each year. In 2020, LCRA worked with the University of Wisconsin to complete a Garwood savings verification study. Based on that study, LCRA updated the savings estimate to 0.33 acre-foot per acre in production, which was 6,519 acre-feet in 2020. (see Section 2.6 for more details on the study).
2.4 Gulf Coast Irrigation Division Gate Rehabilitation and Control Project

In 2011, LCRA began implementing rehabilitation, automation, and remote monitoring and control of main canal gates in the Gulf Coast Irrigation Division to address historical high canal water losses. A matching grant from the U.S. Bureau of Reclamation funded a portion of the work. A radio-based communications system and supervisory control and data acquisition (SCADA) interface now allows centralized management of the canal system’s main gates, reducing water loss and spills.

2019 Gate Rehabilitation Project Results

In 2019, LCRA finished the last phase of the Gulf Coast Irrigation Division gate rehabilitation project to automate 12 additional gates on the Wadsworth line of the eastern canal system. Fifty-seven main canal structures are now automated in the Gulf Coast canal system.

The combined gate rehabilitation projects are projected to save an estimated 4,840 acre-feet per year, based on the original savings estimate of 3.5% reduction in historical river diversions. In 2020, overflow volumes (excess water not needed for irrigation that is released out of the end of canal lines) at the six overflow measurement sites in use continue to be low throughout the system, totaling 194 acre-feet as compared to estimates of 3,569 acre-feet of overflows before the gate rehabilitation project began.

2.5 Garwood Gate Automation Project

The main canal gate structures in the Garwood Irrigation Division are unique compared with the other irrigation divisions because they already have metal slide gates in good condition. Staff proposed automating the existing gates using the same actuators as in the Gulf Coast gate rehabilitation project. In fall 2019, Irrigation staff built an automated gate prototype in Garwood. The two-week pilot project was successful, and in November 2019, staff presented the project to automate 46 main canal gate structures in Garwood to the HB 1437 Agricultural Water Conservation Fund Advisory Committee. With the committee’s unanimous support for the project and authorization from the LCRA Board in May 2020, LCRA added the three-year project to the LCRA fiscal year 2021-2023 proposed budgets. In June 2020, LCRA received a grant from the Texas Water Development Board to cover $244,744 of the project cost.

Figure 2.2 shows the sites planned for automation each year from 2021 through 2023. These structures will be integrated into the existing SCADA system developed for the Gulf Coast gate rehabilitation project.
2.6 Conservation Monitoring and Measurement
Accurate water conservation estimates are critical to demonstrate compliance with the “no net loss" requirement.

Leveling Verification Study
In 2012, LCRA worked with The University of Texas LBJ School of Public Affairs to complete a land leveling savings verification study. The study used six years of LCRA billing data and detailed farmer surveys to quantify water savings from the on-farm precision land leveling in the Lakeside Irrigation Division. The study identified a statistically significant difference in water use between leveled and non-leveled fields for the first crop. Based on the study, LCRA revised the savings estimate to 0.46 acre-foot per acre and extrapolated water savings for the second crop from the savings identified for the first crop based on average water use. In 2022, LCRA plans to update this study with 2016-2021 data.

Land Leveled Field Mapping
LCRA uses an electronic mapping application to determine the land leveled acres in production each year, which is used to calculate water conserved through land leveling. LCRA staff developed the first version of this application called “uMap” in 2012. The application makes mapping fields for contracted acreage more efficient and accurate. In 2016, for the first time, all three irrigation divisions used uMap as a part of the irrigation water contracting process. In 2018, uMap was upgraded to a new platform called xMap and in 2019, for the first time, the irrigation billing software was linked to xMap. This linked system significantly reduced the quality assurance/quality control that was previously required to match data between the GIS platform and the billing software and time spent by staff to re-draw field shapes that can now be copied from one year to the next. In early 2020, the structures data set also was upgraded to xMap.

Ongoing and Future Verification Studies
In 2020, LCRA staff conducted a survey of Garwood customers to add 2017-2019 data to the Garwood savings verification study. As a result, the final updated model developed by the University of Wisconsin included records for 256 fields and 24 farmers from 2012-2019. In late 2020, the University of Wisconsin finalized the savings verification study results and found that the implementation of completely volumetric billing conditions result in a decreased water use of at least 0.33 acre-foot per acre.

LCRA staff has also evaluated potential savings from the Garwood measurement project using a statistical analysis of river diversions and predicted water use factoring in weather and acreage variability. Over the past decade, conjunctive groundwater use on fields watered by LCRA has increased, however, detailed information on groundwater use by individual field is not available. Therefore, staff does not recommend relying on that analysis because it does not have sufficient data to compensate for areas using groundwater.
Based on findings from the on-farm conservation verification study, staff recommends updating the current savings number of 3,400 acre-feet for the Garwood measurement project to 0.33 acre-foot per acre, for an average annual savings of 6,259 acre-feet per year for the 2018-2020 period. The total savings volume will be updated annually based on the Garwood first crop rice acreage in production for the current year.

The 2020 irrigation season data for Gulf Coast continues to demonstrate the success of the gate rehabilitation project, reducing overflows from thousands of acre-feet to hundreds. The initial estimate of 4.840 acre-feet of savings will be used until there are at least five years of data following completion of the project because the frequency and timing of shutdowns due to heavy rainfall events vary greatly between seasons.

In 2018-2019, LCRA installed a total of 16 temporary water level monitoring devices at key check structure locations within the Lakeside and Garwood irrigation divisions. Irrigation division staff continue to find that having remote access to water flow data is a helpful tool to increase efficiency in managing canal water levels. In 2021, staff will develop a prototype automated gate site in Lakeside to compare current gate structure sites that are used in Lakeside with those in Gulf Coast. The prototype will test an alternate gate design to determine the least expensive design that meets the requirements of shorter response times and minimizing frequent gate height changes in the Lakeside system compared with the Gulf Coast system. This prototype is not funded through HB 1437, but the information gathered will be used to plan potential future projects that could be funded through HB 1437.
3.0 Agricultural Water Conservation Fund

The HB 1437 Agricultural Water Conservation Fund was established by the HB 1437 legislation for the development of water resources or other water use strategies to replace or offset the amount of surface water to be transferred to Williamson County. It is managed separately from LCRA funds in an interest-bearing account.

The fund receives income from the surcharge provision incorporated into the HB 1437 water sales contract with the Brazos River Authority. The current surcharge is 25% and is applied to both reserved and diverted water. Surcharge income is deposited into the Agricultural Water Conservation Fund in January of each year.

3.1 Expenditures

Table 3.1 summarizes 2020 expenditures by project. It shows that 2020 expenditures totaled $206,067, which included $187,108 for the Garwood gate automation project. Program administration and conservation verification expenditures were $18,959. The 2020 expenses in the Garwood Gate Automation column represent the first year of expenses for the three-year project (see Section 2.5).

Table 3.1 – HB 1437 Expenditures by Project

<table>
<thead>
<tr>
<th></th>
<th>Leveling Grants and Other Administrative Costs</th>
<th>Garwood Project</th>
<th>Gulf Coast Gate Rehab</th>
<th>Garwood Gate Automation</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Previous Expenditures 2003-2019</td>
<td>$2,777,851</td>
<td>$817,606</td>
<td>$1,597,480</td>
<td>$0</td>
<td>$5,192,937</td>
</tr>
<tr>
<td>Expenditures in 2020**</td>
<td>$18,959</td>
<td>$0</td>
<td>$0</td>
<td>$187,108</td>
<td>$206,067</td>
</tr>
<tr>
<td>Total</td>
<td>$2,796,810</td>
<td>$817,606</td>
<td>$1,597,480</td>
<td>$187,108</td>
<td>$5,399,004</td>
</tr>
</tbody>
</table>
In 2020, the LCRA Board authorized the use of $1.175 million from the fund for the Garwood Gate Automation Project. Program expenditures through 2020 were below the $6.635 million amount authorized to date.

**Table 3.2 – HB 1437 Board Approvals**

<table>
<thead>
<tr>
<th>LCRA Board Meeting</th>
<th>Amount</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>November 2003</td>
<td>$250,000</td>
<td>Implementation study</td>
</tr>
<tr>
<td>March 2005</td>
<td>$75,000</td>
<td>Implementation study</td>
</tr>
<tr>
<td>March 2006</td>
<td>$350,000</td>
<td>Spring 2006 on-farm conservation projects</td>
</tr>
<tr>
<td>November 2006</td>
<td>$500,000</td>
<td>Spring 2007 on-farm conservation projects</td>
</tr>
<tr>
<td>December 2007</td>
<td>$500,000</td>
<td>Spring 2008 on-farm conservation projects</td>
</tr>
<tr>
<td>December 2008</td>
<td>$350,000</td>
<td>Spring 2009 on-farm conservation projects</td>
</tr>
<tr>
<td>November 2009</td>
<td>$450,000</td>
<td>Spring 2010 on-farm conservation projects; Phase 1 of Garwood Measurement Project</td>
</tr>
<tr>
<td>May 2010</td>
<td>$300,000</td>
<td>Cost-share match for Gulf Coast Gate Rehabilitation Project grant</td>
</tr>
<tr>
<td>December 2010</td>
<td>$625,000</td>
<td>Spring 2011 on-farm conservation projects; Phase 2 of Garwood Measurement Project; Phase 1 of Gulf Coast Gate Rehabilitation Project</td>
</tr>
<tr>
<td>November 2011</td>
<td>$590,000</td>
<td>Spring 2012 on-farm conservation projects; Phase 3 of Garwood Measurement Project; Phase 2 of Gulf Coast Gate Rehabilitation Project</td>
</tr>
<tr>
<td>January 2013</td>
<td>$340,000</td>
<td>Spring 2013 on-farm conservation projects; Phase 3 of Gulf Coast Gate Rehabilitation Project – Oxea</td>
</tr>
<tr>
<td>March 2014</td>
<td>$400,000</td>
<td>Phase 4 of Gulf Coast Gate Rehabilitation Project – Western Canal System</td>
</tr>
<tr>
<td>May 2016</td>
<td>$430,000</td>
<td>Phase 5 of Gulf Coast Gate Rehabilitation Project – Western Canal System extension</td>
</tr>
<tr>
<td>August 2017</td>
<td>$300,000</td>
<td>Phase 6 of Gulf Coast Gate Rehabilitation Project – Eastern Canal System completion</td>
</tr>
<tr>
<td>May 2020</td>
<td>$1,175,000</td>
<td>Garwood Gate Automation Project</td>
</tr>
</tbody>
</table>

Total $6,635,000
3.2 Fund Balance
Figure 3.1 shows the annual income, expenditures and current balance of the Agricultural Water Conservation Fund. The fund balance as of Dec. 31, 2020, was $2,822,453. Expenditures over the 2020 reporting period totaled $206,067. Total income over the 2020 reporting period was $512,285.

Figure 3.1 – Annual Agricultural Water Conservation Fund Income and Expenditures
4.0 FY 2022 Program and Budget

The fiscal year 2022 outlook includes ongoing work on verification studies and the second year of the Garwood gate automation project (see Section 2.5 for a detailed project description). This section discusses projects that are scheduled to be implemented during fiscal year 2022.

4.1 Garwood Gate Automation Project

This project to automate 46 main canal gate structures in the Garwood Irrigation Division is expected to cost about $1.1 million and will be completed in phases over three fiscal years, FY 2021-FY 2023. This project will complete automation of key canal gate structures necessary to remotely control the majority of canal flows in the Garwood canal system.

4.1 FY 2022 Budget

The budget period for HB 1437 is LCRA’s fiscal year (July 1 through June 30). The proposed FY 2022 budget for the HB 1437 program is summarized in Table 4.1 and shows a total estimated budget of $412,000.

<table>
<thead>
<tr>
<th>Activity</th>
<th>Budget</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Garwood Gate Automation Project Phase 2</td>
<td>$387,000</td>
<td>This three-year project was funded through one Board authorization in May 2020.</td>
</tr>
<tr>
<td>2. Program management, communications, conservation verification and oversight</td>
<td>$25,000</td>
<td>Preparation of annual report; ongoing savings verification study updates.</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$412,000</strong></td>
<td></td>
</tr>
</tbody>
</table>
About LCRA

The Lower Colorado River Authority serves customers and communities throughout Texas by managing the lower Colorado River; generating and transmitting electric power; providing a clean, reliable water supply; and offering outdoor adventures at more than 40 parks along the Colorado River from the Texas Hill Country to the Gulf Coast. LCRA and its employees are committed to fulfilling our mission to enhance the quality of life of the Texans we serve through water stewardship, energy and community service.

LCRA was created by the Texas Legislature in 1934 and receives no state appropriations. For more information, visit lcra.org.