

STATUS UPDATE: REGULATION AND VALUATION OF
SURFACE WATER



PERFORMANCE AUDIT SERVICES
ISSUED JULY 6, 2022

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LOUISIANA LEGISLATIVE AUDITOR
MICHAEL J. "MIKE" WAGUESPACK, CPA

July 6, 2022

The Honorable Patrick Page Cortez,
President of the Senate
The Honorable Clay Schexnayder,
Speaker of the House of Representatives

Dear Senator Cortez and Representative Schexnayder:

The purpose of this performance audit was to provide information on Louisiana's progress in regulating and valuing surface water resources based on recommendations made in our February 2020 report *Louisiana's Management of Water Resources*.

We found that Louisiana does not have a statewide water management plan, which would help the state better regulate and value surface water. We also found that the delay in developing such a plan has been caused in part by the lack of a water code in state law and the need for more data on water use.

In addition, DNR's Surface Water Management Program, which was established as a result of Act 955 of the 2010 Regular Legislative Session, is voluntary. During fiscal years 2020 through 2021, DNR had 87 active cooperative endeavor agreements (CEAs) in place for surface water withdrawals that requested a total of 1.54 trillion gallons. For 56 (64.4%) of the CEAs, cash payment was required for water withdrawals, while 31 (35.6%) permitted the submission of economic impact reports in lieu of cash payments.

We found that DNR needs a more robust surface water regulatory process, even if the CEAs remain voluntary. For instance, 10 percent of the CEAs active during fiscal years 2020 through 2021 contained errors in the total volume of water requested. Additionally, DNR has limited staff and funds to administer the program and does not monitor compliance with all terms of the CEAs.

We also found that state law caps fair market value for surface water at 15 cents per 1,000 gallons, which does not allow for increases based on inflation and market demands. During fiscal years 2020 through 2021, DNR collected \$302,004 from surface water CEAs, which went into the Aquatic Plant Control Fund. Act 556 of the 2014 Regular Legislative Session capped fair market value based on what the Sabine River Authority charged at the time, which was 15 cents per 1,000 gallons. Currently, the authority charges 18 cents per 1,000 gallons

The Honorable Patrick Page Cortez,
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Speaker of the House of Representatives
July 6, 2022
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for Toledo Bend water for long-term industrial contracts and \$1.80 per 1,000 gallons for short-term contracts, which may include hydraulic fracturing. On the Texas side of Toledo Bend, in contrast, Texas charged \$4.50 per 1,000 gallons in July 2021 for hydraulic fracturing water use.

The report contains our findings, conclusions, and recommendations. I hope this report will benefit you in your legislative decision-making process.

We would like to express our appreciation to the Department of Natural Resources for its assistance during this audit.

Respectfully submitted,

A handwritten signature in blue ink, appearing to read "Mike Waguespack", with a long horizontal flourish extending to the right.

Michael J. "Mike" Waguespack, CPA
Legislative Auditor

MJW/aa

SURFACEWATER

Louisiana Legislative Auditor

Michael J. “Mike” Waguespack, CPA



Status Update: Regulation and Valuation of Surface Water

July 2022

Audit Control # 40220007

Introduction

We conducted this review in response to a legislative request on the regulation and valuation of surface water and to provide an update on the implementation of recommendations relevant to surface water that we made in the February 2020 audit report *Louisiana’s Management of Water Resources*.¹ In Louisiana, surface water may be used for drinking water, agriculture, and industry, such as in hydraulic fracturing.

The February 2020 performance audit on Louisiana’s management of water resources found that, since 1956, multiple studies have recommended that the state develop a comprehensive water management plan; however, the state has never developed one. In addition, because of numerous aquifers and associated surface water basins that are experiencing water declines in Louisiana,² and other states seeking to obtain our water, it is important that Louisiana know how much water it will need for long-term sustainability so it can, in turn, determine how much Louisiana needs for its own use and how much water can be made available for purchase. While Louisiana has taken some steps to mitigate its water issues, state and local entities may need to be given more authority to better manage their water resources. This audit included several matters for legislative consideration, including the following recommendations relevant to the creation of a comprehensive water resource management plan and the regulation of surface water:

Act 955 of the 2010 Regular Legislative Session defines **running surface water** as “the running waters of the state, including the waters of navigable water bodies and state-owned lakes.”

Surface water management is intended to protect the resources and to maintain sustainability, ecological balance, and the environment.

Source: Department of Natural Resources

- designating a person or entity to develop a comprehensive water resource management plan that ensures water resources are protected, conserved, and replenished for the health, safety, and welfare of the people, as stated in Louisiana’s Constitution.

¹ [Louisiana’s Management of Water Resources](#), February 5, 2020

² Hemmerling, S.A., Clark, F.R., & Bienn, H.C. *Water Resources Assessment for Sustainability and Energy Management*. The Water Institute of the Gulf, Prepared for the Louisiana Department of Natural Resources and the Coastal Protection and Restoration Authority, (2016).

- amending Louisiana Revised Statute (R.S.) 30:961 to require a person or entity to enter into a cooperative endeavor agreement (CEA) in order to withdraw running water (i.e., surface water).
- directing a person or entity to develop a valuation model for determining the fair market value of Louisiana’s water resources and re-evaluations over time.

Louisiana follows a riparian water model, which means that surface water rights belong to landowners whose land physically touches a river, pond, or lake. Most eastern states, which typically contain more water, follow riparian legal models, while western states, typically more arid, follow a prior appropriation model. Under prior appropriation, the right to use the water is allocated by a permit by the authorizing entity, and the first person permitted to divert water has priority over those who come later. Under prior appropriation, the water is publicly-owned, and the right to use it is administered by the state. It is important to note that impacts on surface water ultimately affect groundwater resources, and vice versa, as the two are interconnected because when the availability of surface water decreases in areas prone to drought conditions, it increases the reliance on groundwater resources. Therefore, impacts on groundwater should be considered when evaluating changes to surface water regulation.

The Department of Natural Resources (DNR) created the Surface Water Management Program³ in response to Act 955 of the 2010 Regular Legislative Session to regulate surface water withdrawals through the establishment of *voluntary* cooperative endeavor agreements with non-riparian entities desiring to withdraw surface water. These entities submit an application and a plan of water use that is reviewed by DNR, the Department of Environmental Quality (DEQ), Coastal Protection and Restoration Authority (CPRA), Louisiana Department of Wildlife and Fisheries (LDWF), and other relevant state and local agencies. Entities either pay 15 cents per 1,000 gallons of water withdrawn or submit an economic impact study in lieu of cash payment. All monies collected through the CEAs are deposited into the Aquatic Plant Control Fund, which is managed by LDWF and used to manage invasive aquatic vegetation in waterbodies across the state. Exhibit 1 shows a picture of surface water pumps on Lake Bistineau.

Exhibit 1
Surface Water Pumps on Lake Bistineau
March 2020



Source: Prepared by legislative auditor’s staff using a photograph taken by a stakeholder.

In contrast, groundwater is privately-owned, similar to minerals. If an individual has a well on their own land (or give another party permission to drill a well), the individual can pump as much groundwater as they would like. While statute gives DNR authority to limit the amount of groundwater pumped, it may only do so if it issues an area of groundwater concern. The

³ This program was created after the Louisiana Attorney General’s office issued several opinions that concluded uncompensated withdrawals would not be allowed under the state constitution.

Capital Area Ground Water Conservation Commission is the only entity in Louisiana that has the authority to limit the amount of groundwater extracted and charge by withdrawal amount.

The objective of this audit was:

To provide information on the status of Louisiana's progress in regulating and valuing surface water resources.

Our results are summarized on the next page and discussed in detail throughout the remainder of the report. Appendix A contains DNR's response, and Appendix B contains our scope and methodology. Appendix C contains a map of surface water CEAs active during fiscal years 2020 through 2021, and Appendix D contains Aquatic Plant Control Program expenditures by source.

Objective: To provide information on the status of Louisiana's progress in regulating and valuing surface water resources.

Overall, we found that Louisiana does not have a statewide water management plan, which would help it better regulate surface water. In addition, DNR's Surface Water Management Program remains voluntary, and DNR should strengthen its management of surface water CEAs. Current state law caps the fair market value of surface water, which does not allow for increases due to market changes and inflation. Specifically, we found the following:

- **Louisiana does not have a statewide water management plan, which would help Louisiana better regulate and value surface water. The lack of a water code in state law and the need for more water use data have delayed the creation of a statewide water management plan.** A comprehensive water management plan is important to help ensure adequate and sustainable water sources, surface and ground, for the citizens of Louisiana; determine what quantity of water Louisiana can sell to companies or other states; and determine how much water is worth.
- **DNR's Surface Water Management Program is voluntary. During fiscal years 2020 through 2021, DNR had 87 active CEAs for surface water withdrawals in place, requesting a total of 1.54 trillion gallons of surface water withdrawals.** For 56 (64.4%) CEAs, the CEAs stipulate cash payment for water withdrawals, while 31 (35.6%) provided economic impact reports in lieu of cash payments. In fiscal years 2020 through 2021, DNR collected \$302,004 in cash payments for surface water use. The approximate value of the water used for the 23 in-lieu CEAs was \$239,168.⁴ For 32 CEAs, companies did not report any water usage.
- **Even if CEAs remain voluntary, DNR needs a more robust surface water regulatory process. Ten percent of the CEAs active during fiscal years 2020 through 2021 contained errors in the total volume of water requested. In addition, DNR has limited staff and funds to administer the program and does not monitor compliance with all terms of the CEAs.** Although surface water CEAs authorize DNR to monitor companies' compliance with CEA requirements, DNR currently relies on self-reported information from entities with CEAs and does not verify the information companies submit.
- **State law caps fair market value at 15 cents per 1,000 gallons, which does not allow for increases based on inflation and market demands. During fiscal years 2020 through 2021, DNR collected \$302,004 from surface water CEAs, which went into the Aquatic Plant Control Fund. The CEA payments made up only 11% of the Aquatic Plant Control Fund revenue and 3.5% of LDWF's overall Aquatic Plant Control Program.** Act 556 of the 2014 Regular

⁴ The in-lieu value is based on fifteen cents per one thousand gallons and the amount of reported water used over the life of the CEA.

Legislative Session capped fair market value based on what the Sabine River Authority (SRA) charged at the time, which was 15 cents per 1,000 gallons. Currently, SRA charges 18 cents per 1,000 gallons for Toledo Bend water for long-term industrial contracts and charges \$1.80 per 1,000 gallons for short-term contracts, which may include hydraulic fracturing. In July 2021, on the Texas side of Toledo Bend, Texas charged \$4.50 per 1,000 gallons for hydraulic fracturing water use.

Our findings, and our two recommendations and five matters for legislative consideration, are discussed in more detail in the sections below.

Louisiana does not have a statewide water management plan, which would help Louisiana better regulate and value surface water. The lack of a water code in state law and the need for more water use data have delayed the creation of a statewide water management plan.

In our 2020 performance audit on the statewide regulation of water, we recommended that the legislature consider designating a person or entity to develop a comprehensive water resource management plan that ensures the state meets its constitutional mandate that water resources are protected, conserved, and replenished for the health, safety, and welfare of the people. Comprehensive water plans allow these states to evaluate their long-term goals and identify potential threats to water resources, as well as establish recommendations to combat the threats.

Since 1956, multiple studies have recommended that Louisiana develop a statewide water management plan; however, the state still does not have one. A comprehensive water management plan is important to help ensure adequate and sustainable water sources, surface and ground, for the citizens of Louisiana; determine what quantity of water Louisiana can sell to companies or other states; and determine how much water is worth. Stakeholders have continued to stress the need for a comprehensive statewide water resources management plan to protect the state's water resources. Act 446 was passed in 2001 and required the Commissioner of Conservation, the Water Resources Commission, and Water Management Task Force to develop and present a plan by January 2003 for the implementation of a comprehensive water management system. The resulting study, *Assistance in Developing the Statewide Water Management Plan*, provided guidance for the Water Resource Commission and the legislature in the fulfillment of their duties to develop a water management plan.

Louisiana has faced barriers to developing a comprehensive statewide water management plan, including:

- **Louisiana does not have a water code in state statute.** According to the Office of Conservation, the development of a comprehensive statewide water management plan is contingent on the development of a water code because of

concerns that any changes to laws or regulations may end up being negated by the finished code. Senate Resolution 171 of the 2014 Regular Legislative Session urged and requested the Louisiana State Law Institute (LSLI) to create a Water Code Committee in order to develop proposed legislation establishing a comprehensive water code that integrates all of Louisiana's water resources. According to LSLI, it is still in the process of developing recommendations for a comprehensive water code. In addition, LSLI notes that it is critical to treat naturally-occurring water as a resource vital to the public, and that good water management depends on good data about the condition and uses of water.

- **The water-related data that Louisiana collects is fragmented and not always compatible with each other. As a result, it is difficult to determine whether Louisiana has enough data to create a comprehensive water management plan.** Multiple entities are involved with collecting water-related data; however, each entity collects information differently and does not always make their data available to other entities. Louisiana has a CEA with the U.S. Geological Survey (USGS) and the Louisiana Department of Transportation and Development to maintain a water resource monitoring network that measures water levels, stream flow, and high-water points in surface waters and water levels in groundwater, but there are only 453 monitoring sites as of 2021, down from 960 monitoring sites in 1980. Thirty-two of these sites are for surface water. These monitoring sites help identify issues and also help predict future water needs and the sustainability of surface and groundwater across the state. If water usage data is limited, the state has less data to use in the creation of a water management plan. In addition, the Louisiana Watershed Initiative is working on regional models, primarily to manage flood risk, and these models, once completed, will be helpful in creating a statewide water management plan.

Louisiana could consider a variety of strategies to create a comprehensive statewide water management plan. For example, according to the Division of Administration (DOA), it is in the process of creating an Office of Statewide Planning, which will help coordinate statewide issues and determine budget priorities. According to DOA, this office could assist and coordinate the creation of a comprehensive statewide water plan. In addition, the legislature could work with LSLI to incorporate key parts of the anticipated water code or from the Regulated Riparian Model Water Code⁵ rather than waiting for LSLI to complete the entirety of its water code recommendations.

Matter for Legislative Consideration 1: The legislature may wish to consider designating a person or entity to develop a comprehensive water resource management plan that ensures water resources are protected, conserved, and replenished for the health, safety, and welfare of the people, as stated in Louisiana's Constitution.

⁵ *Regulated Riparian Model Water Code* was issued by the American Society of Civil Engineers in 2004, and it provides a complete, comprehensive, and well-integrated statutory scheme for creating or refining a regulated riparian system of water law capable of dealing with the water management problems of the twenty-first century.

Matter for Legislative Consideration 2: The legislature may wish to consider adopting key pieces of the anticipated new water code or of the Regulated Riparian Model Water Code prior to the completion of the entire proposal for a new water code.

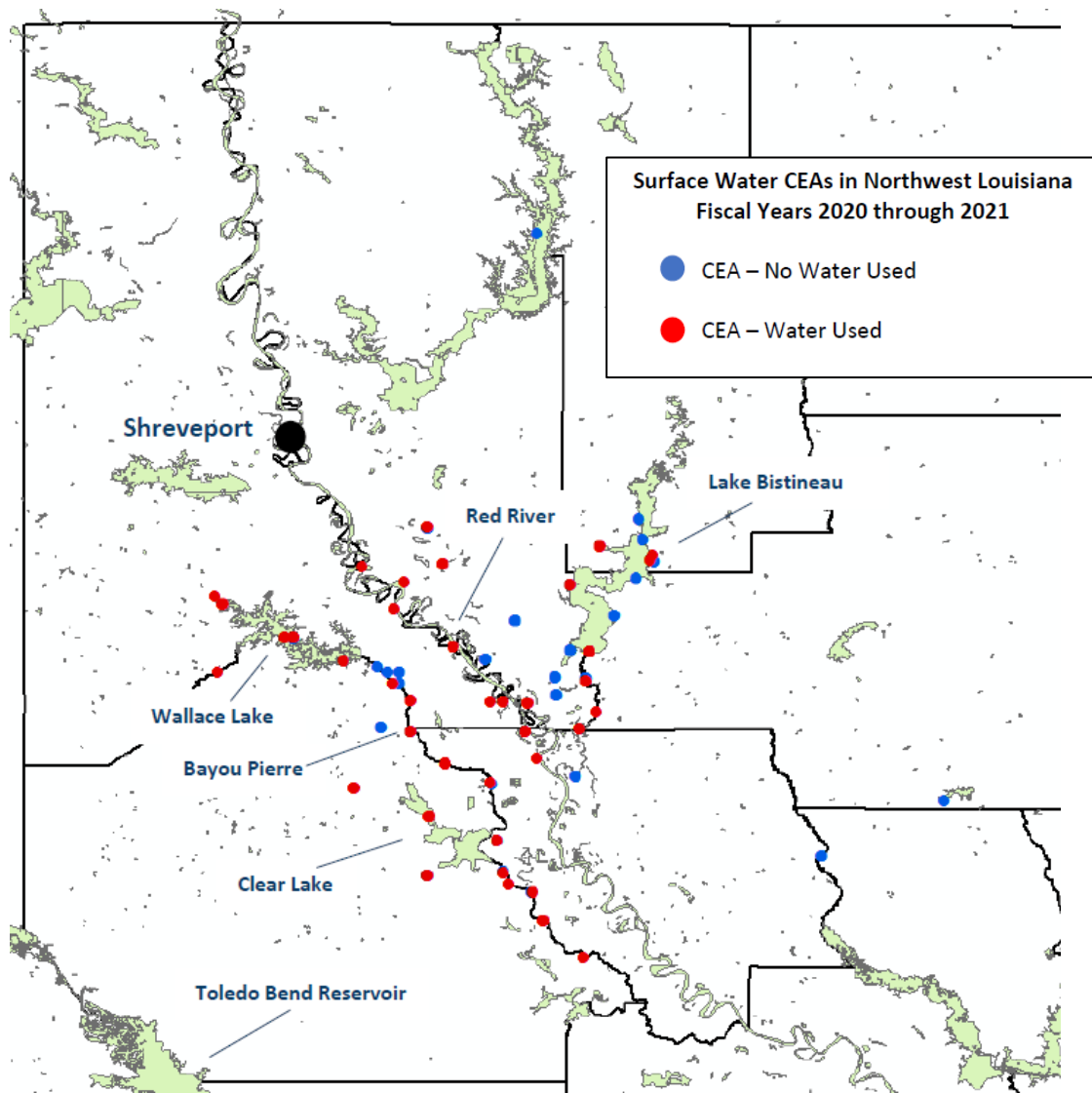
DNR’s Surface Water Management Program is voluntary. During fiscal years 2020 through 2021, DNR had 87 active CEAs for surface water withdrawals, requesting a total of 1.54 trillion gallons of surface water withdrawals.

In the 2020 performance audit, we recommended that the legislature consider amending state law⁶ to *require* a person or entity to enter into a CEA in order to withdraw running water. Currently, this program is voluntary. Surface water (running waters or navigable surface water) is considered a thing of public value. The Louisiana Constitution prohibits the donation of things of value belonging to the state. Act 955 of the 2010 Regular Legislative Session enacted R.S. 30:961, which authorizes DNR to enter into CEAs to withdraw running surface water, provided that such agreement complies with the prohibition against gratuitous donation of state property by ensuring that the state receives fair market value for any water removed, and the substance of the agreement is contained within a written CEA.

When DNR receives a CEA application, it solicits feedback from multiple entities, including DEQ, LDWF, CPRA, and DNR’s Office of Conservation to ensure there are not adverse impacts. This feedback may be used to make modifications to the CEA requirements. The majority of CEAs are for withdrawing surface water in northwest Louisiana for hydraulic fracturing. Exhibit 2 shows the locations for CEAs active during fiscal years 2020 through 2021 in northwest Louisiana and whether or not surface water has been withdrawn. See Appendix C for a statewide map of CEA locations.

⁶ R.S. 30:961

Exhibit 2
Surface Water CEAs in Northwestern Louisiana
CEAs Active during Fiscal Years 2020 through 2021



Source: Prepared by legislative auditor's staff using information provided by DNR.

Based on state law and Attorney General opinions, non-riparian water users should pay the state for withdrawing surface water from state-owned waterbodies; however, using DNR's CEA process is voluntary. Currently, DNR's Surface Water Management Program is the state's only standard process for paying the state for the use of surface water.⁷ In addition, according to DNR, state law is not clear regarding who is required to pay for surface water, and state law does not include a minimum water withdrawal amount to determine which entities should pay the state for surface water withdrawals. For example, other states define a minimum

⁷ Not including the Sabine River Authority's ability to sell water from Toledo Bend.

withdrawal amount that is required to register or permit a well/pump or required to report water usage. For example, Arkansas requires non-riparian water users to apply for a permit, which has a \$500 fee. If the user withdraws more than 325,900 gallons (1 acre-foot) of water in any year, they are required to register that use, report usage annually, and pay a \$10 registration fee.⁸ Alabama requires users diverting, withdrawing, or consuming more than 100,000 gallons on any day to obtain a certificate of use and submit annual water use reports. Alabama does not charge any fees associated with surface water use. As previously recommended, the legislature may wish to make CEAs for surface water mandatory. However, it may also want to consider other processes that could be more efficient, as there could be an increase in entities desiring to withdraw surface water, and DNR will need to develop enforcement processes to deter noncompliance. Other processes, such as permitting processes that include water withdrawal fees, similar to how Capital Area Groundwater Conservation Commission manages groundwater, may be more efficient.

During fiscal years 2020 through 2021, DNR had 87 active CEA agreements for surface water withdrawals.⁹ State law allows for the economic development, employment, and increased tax revenues created by the activities associated with the withdrawal of running surface water in lieu of cash payments. Overall, the CEAs requested a total of 1.54 trillion gallons of water,¹⁰ with entities reporting 4.5 billion gallons withdrawn during the life of the CEAs. For 56 (64.4%) CEAs, the CEAs stipulate cash payment for water withdrawals, while 31 (35.6%) provided economic impact reports in lieu of cash payments. In fiscal years 2020 through 2021, DNR collected \$302,004 in cash payments for surface water use. The approximate value of the water used for the 23 in-lieu CEAs reporting water usage was \$239,168.¹¹ For 32 CEAs, companies did not report any water usage. Exhibit 3 shows the number of CEAs active during fiscal years 2020 through 2021 by waterbody, including how many gallons were requested, gallons reported used, and the total cash received.

⁸ Arkansas charges flat permit and annual fees and does not charge by the gallon for water use.

⁹ As of February 2022, DNR has received 253 CEA applications since fiscal year 2011, 209 of which were executed.

¹⁰ See page 12 for information about discrepancies between how many gallons of water entities requested in CEA applications compared to what was approved in the signed CEAs.

¹¹ The in-lieu value is based on 15 cents per 1,000 gallons and the amount of reported water used over the life of the CEA.

Exhibit 3 CEA Statistics by Waterbody Active During Fiscal Years 2020 through 2021								
Waterbody	Total Requested Volume in CEA (gal)	No. of CEAs **	Total Reported Water Used During Life of CEA (gal)	CEAs (Reported Use)	Cash Received ***	Cash CEAs (Reported Use) †	In Lieu CEAs (Reported Use)	CEAs with No Reported Use ††
Lake Bistineau*	2,423,190,000	15	1,131,715,380	9	\$114,989	9	-	6
Red River*	304,431,900,000	11	1,042,931,062	10	\$68,581	9	1	1
Bayou Pierre*	995,740,000	18	579,416,696	11	\$16,931	4	7	7
Red Chute Bayou*	1,150,368,480	5	449,686,062	3	\$54,594	1	2	2
Loggy Bayou*	873,390,000	7	440,555,894	5	\$26,012	4	1	2
Wallace Lake	428,400,000	4	282,486,204	3	\$13,773	2	1	1
Wallace Bayou	1,830,000,000	3	182,531,028	2	-	-	2	1
Clear Lake-Smithport Lake*	3,326,000,000	3	140,982,870	2	-	-	2	1
Boggy Bayou	105,000,000	1	75,981,192	1	-	-	1	-
Cypress Bayou	115,500,000	2	64,958,208	2	-	-	2	-
Gulf Intracoastal Waterway	26,993,988	1	22,628,600	1	-	1	-	-
Gilmer Bayou	33,600,000	1	21,786,618	1	-	-	1	-
Colvin Creek	100,000,000	1	16,706,069	1	\$2,506	1	-	-
McGee Bayou	23,770,000	1	14,691,162	1	-	-	1	-
Cypress Creek	12,000,000	1	7,125,930	1	\$1,069	1	-	-
Buffalo Bayou	3,990,000	2	3,294,480	1	-	-	1	1
Potts Bayou	147,840,000	1	2,415,040	1	-	1	-	-
Cocodrie Lake	336,000,000	3	85,254	1	-	-	1	1
Avery Island Canal	14,500,000,000	1	-	-	-	-	-	1
Bayou Bodcau	8,048,000	1	-	-	-	-	-	1
Black Lake Bayou	504,000,000	1	-	-	-	-	-	1
Cane River Lake*	1,204,000,000,000	1	-	-	-	-	-	1
Flat River	57,960,000	1	-	-	-	-	-	1
Guyton Creek	12,000,000	1	-	-	-	-	-	1
Mill Creek Reservoir*	420,000,000	1	-	-	-	-	-	1

Waterbody	Total Requested Volume in CEA (gal)	No. of CEAs **	Total Reported Water Used During Life of CEA (gal)	CEAs (Reported Use)	Cash Received ***	Cash CEAs (Reported Use) †	In Lieu CEAs (Reported Use)	CEAs with No Reported Use ††
Mississippi River	588,000	1	-	-	-	-	-	1
Unnamed creek	10,000,000	1	-	-	-	-	-	1
Wallace Lake Canal	42,000,000	1	-	-	-	-	-	1
Grand Total	1,535,918,278,468	90	4,479,977,749	56	\$298,456	33	23	33

*These waterbodies had errors in the total water volume authorized in the CEAs compared to what was requested in the CEA applications.
 **Three CEAs included two waterbodies.
 *** One CEA that was excluded from our analysis did not have an executed date but remitted DNR \$3,548, which brings the total to \$302,004.
 †There were actually a total of 32 CEAs paying in cash for reported water use, but one CEA that was an in-lieu agreement also made a cash payment.
 ††The total CEAs with no reported water use was 32, but one CEA includes two waterbodies.
Source: Prepared by legislative auditor’s staff using information provided by DNR.

Matter for Legislative Consideration 3: The legislature may wish to consider either making surface water CEAs mandatory or another process, such as permitting, for entities wishing to use a certain amount of surface water.

Matter for Legislative Consideration 4: The legislature may wish to consider specifying a minimum amount of surface water withdrawals that are subject to a mandatory process, such as CEAs or permits.

Even if CEAs remain voluntary, DNR needs a more robust surface water regulatory process. Ten percent of the CEAs active during fiscal years 2020 through 2021 contained errors in the total volume of water requested. In addition, DNR has limited staff and funds to administer the program and does not monitor compliance with all terms of the CEAs.

A robust regulatory process for surface water withdrawals could help the state collect more and better data on withdrawal amounts that would assist in developing a statewide management plan. A more robust regulatory process, in addition to increasing the state-wide monitoring network, would help the state better determine current and future water needs. However, according to DNR, it has not been able to develop a robust regulatory process to oversee surface water withdrawals, in part, because the Surface Water Management Program is voluntary. DNR does not have enforcement mechanisms for entities that withdraw surface water without a CEA or for those who do not report or pay for water withdrawals according to CEA

stipulations. If DNR discovers that an entity is withdrawing surface water without a CEA, it will notify the Attorney General.

DNR’s process for developing CEAs and maintaining data should be strengthened. We found that DNR entered into some CEAs for more than what entities applied for. We

reviewed 89 CEAs and found that for nine (10.1%), the total volume of water approved was incorrect based on the CEA application. For example, one application requested 302.4 million gallons of water; however, the signed CEA read 302.4 billion gallons of water. Exhibit 4 shows the discrepancies between what companies requested and the total volume

Exhibit 4 Total Volume Requested in Application and CEA CEAs Active During Fiscal Years 2020 through 2021	
Document	Total Volume Requested (gallons)
CEA Application	29,369,244,468
Signed CEA	1,537,060,278,468
Difference	1,507,691,034,000
Source: Prepared by legislative auditor’s staff using information provided by DNR.	

authorized by the final CEAs. According to DNR staff, the nine errors were due to staff mistakes, such as calculating water volume incorrectly, and errors in companies’ original applications. To address this, DNR should consider another level of review prior to signing CEAs to ensure that the total water volume approved matches what was approved internally. It is important that CEAs be accurate because DNR’s hydrologist, CPRA, DEQ, LDWF, and other entities provide feedback based on their review of the CEA application. Based on this feedback, DNR will add modifications to the CEAs. According to DNR, it has added an additional level of review to the CEA process. Whether or not the Surface Water Management Program remains voluntary or becomes required in the future, DNR should improve its process to ensure accuracy and compliance. Exhibit 5 shows the nine CEA errors by waterbody.

Exhibit 5 CEA Errors in Total Volume Requested CEAs Active during Fiscal Years 2020 through 2021					
Reported Water Use	Waterbody	CEAs with Errors	Total Volume Requested - Application (gal)	Total Volume Requested – Signed CEA (gal)	Difference (gal)
None	Cane River Lake	1	1,204,000,000	1,204,000,000,000	1,202,796,000,000
	Clear Lake-Smithport Lake	1	315,000,000	3,150,000,000	2,835,000,000
	Mill Creek Reservoir	1	306,600,000	420,000,000	113,400,000
	Bayou Pierre	1	63,000,000	1,470,000	(61,530,000)
	Red Chute Bayou	1	92,736,000	14,700,000	(78,036,000)
Reported Water Use	Red River	1	302,400,000	302,400,000,000	302,097,600,000
	Lake Bistineau	1	1,029,000,000	1,100,000,000	71,000,000
	Loggy Bayou	2	388,800,000	306,400,000	(82,400,000)
Total		9	3,701,536,000	1,511,392,570,000	1,507,691,034,000
Source: Prepared by legislative auditor’s staff using information provided by DNR.					

DNR has limited staff and funds to administer the program and does not monitor compliance with all terms of the CEAs. The Surface Water Management Program is an unfunded mandate, as DNR cannot keep any of the funds that it collects from CEAs. Currently, DNR has two staff, a Coastal Resource Scientist and an attorney, who work on the Surface Water Management Program, in addition to their primary job duties. As a result, according to DNR, it is not able to enforce all specific CEA requirements. Surface water CEAs authorize DNR to monitor companies' compliance with CEA requirements (*see text box*); however, DNR currently relies on self-reported information from entities with CEAs and does not verify information companies submit. According to DNR, it monitors stream conditions using available gages, which could indicate whether entities are withdrawing too much surface water.

Surface Water CEA Monitoring Provision

“At all times the Secretary, his agents or representatives, shall have access to Water User's operations and records, for purposes including **auditing payment, inspecting the meters, ascertaining use to which water is being put and verifying economic benefit of operations to the State**, for the limited purpose of **ensuring compliance with this Agreement.**”

Source: Surface Water CEA

In addition, while DNR verifies that the reported water volumes and payments are consistent with the agreement, it does not ensure that companies report water usage or that they have installed specific meters on water pumps as required by CEAs. While the Surface Water Management Program is currently a voluntary program, once DNR enters into a CEA, it is a legal agreement. DNR should ensure that companies abide by the terms of the CEAs. It is also important for DNR to monitor the CEA requirements because other agencies, such as DEQ and LDWF, may have suggested modifications to ensure water quality or protect ecosystems. According to DNR, it does not enforce CEAs because the program is voluntary and it did not receive additional funds to administer the program, nor can it keep any money collected from CEAs. The legislature may wish to consider allocating funds for DNR to administer the Surface Water Management Program, which could include allowing DNR to retain a percentage of revenue it collects through the CEAs or placing all funds collected into the State General Fund and allocating funding through the appropriations process.

Recommendation 1: DNR should improve its process for approving surface water CEAs to ensure that the CEAs do not include errors.

Summary of Management's Response: DNR agreed with this recommendation and stated that it has added a new layer of review of CEAs specifically focused on ensuring correct CEA figures. See Appendix A for DNR's full response.

Recommendation 2: DNR should improve its monitoring of compliance with the terms of the CEAs.

Summary of Management's Response: DNR agreed with this recommendation and stated that while it does not have the authority to make the surface water program mandatory for users, it plans to request additional funding to better manage the program. See Appendix A for DNR's full response.

Matter for Legislative Consideration 5: The legislature may wish to allocate funds for DNR to administer the Surface Water Management Program, which could include allowing DNR to retain a percentage of revenue it collects through the CEAs or placing all funds collected into the State General Fund and allocating funding through the appropriations process.

State law caps fair market value at 15 cents per 1,000 gallons, which does not allow for increases based on inflation and market demands. During fiscal years 2020 through 2021, DNR collected \$302,004 from surface water CEAs, which went into the Aquatic Plant Control Fund. The CEA payments made up only 11% of the Aquatic Plant Control Fund revenue and 3.5% of LDWF's overall Aquatic Plant Control Program.

In our 2020 performance audit, we recommended that the legislature consider directing a person or entity to develop a valuation model for determining the fair market value of Louisiana's water resources and revaluations over time. Fair market value can be difficult to determine because states vary in how they value and manage surface water.

State law caps fair market value of surface water at 15 cents per 1,000 gallons, which limits the state's ability to increase the amount for inflation and market demand. Act 556 of the 2014 Regular Legislative Session amended state law to cap fair market value based on what the Sabine River Authority (SRA) charged at the time, which was 15 cents per 1,000 gallons. Currently, SRA charges 18 cents per 1,000 gallons for Toledo Bend water for long-term industrial contracts and charges \$1.80 per 1,000 gallons for short-term contracts, which may include hydraulic fracturing. In July 2021, on the Texas side of Toledo Bend, Texas charged \$4.50 per 1,000 gallons for hydraulic fracturing water use. The legislature has not yet passed a bill to remove the 15 cents per 1,000 gallons cap on fair market value. Doing so would allow the state to adjust fair market value based on changes in the economy, inflation, and market demand. Factors that drive fair market value include anticipated use of the water, the quality and reliability of the water, whether there are alternative sources of water, and the geographical location of the water.

A comprehensive statewide water management plan and water code would help the state determine fair market value, as it would identify how much water Louisiana needs and how much it can sell. According to multiple stakeholders, determining fair market value is challenging because states vary in how they manage water. For example, states west of the Mississippi River typically have highly-regulated water management processes, and they charge higher prices for the use of surface water. In contrast, many states east of the Mississippi River do not charge for the use of water at all. Many of these states have permitting processes that include charging permit fees, but they do not charge to withdraw water. For example, Arkansas and Mississippi require an annual registration fee of \$10 for surface water withdrawals, and in Arkansas, non-riparian withdrawals also require permits, costing \$500 for the initial permit and

an annual \$100 fee. Alabama does not require any fees for registration, but requires annual use reporting.

During fiscal years 2020 through 2021, DNR collected \$302,004 from surface water CEAs, which went into the Aquatic Plant Control Fund. The CEA payments made up only 11% of the Aquatic Plant Control Fund revenue and 3.5% of LDWF’s overall Aquatic Plant Control Program. The primary purpose of the Aquatic Plant Control Fund is to fund the aquatic plant control program and to fund cooperative research and public education efforts by LDWF. This fund is made up of revenue from surface water CEA payments, as well as boat fees and boat trailer license taxes. Within the Aquatic Plant Control Fund, revenue collected from surface water CEAs made up only \$302,004 (11%) of the \$2.8 million in fund revenues. Act 356 of the 2021 Regular Legislative Session raised boat fees and specifies that the first \$5 million of these fees will go to the Aquatic Plant Control Fund. Exhibit 6 shows the fund revenues for the Aquatic Plant Control Fund for fiscal years 2020 through 2021.

Exhibit 6				
Aquatic Plant Control Fund Revenue				
Fiscal Years 2020 through 2021				
Fund Source	FY20	FY21	Total	Percent
Motor Boat Fees	\$973,203	\$986,171	\$1,959,374	71.3%
Boat Trailer Plates	232,076	244,283	476,359	17.4%
Surface Water Program	179,168	122,836	302,004	11.0%
Investment Income	8,627	153	8,780	0.3%
IAT Transfer In	-	\$185	185	0.0%
Total	\$1,393,074	\$1,353,628	\$2,746,702	100.0%
Source: Prepared by legislative auditor’s staff using information provided by LDWF.				

In fiscal years 2020 through 2021, the Aquatic Plant Control Fund made up \$2.5 million (28.3%) of LDWF’s \$8.6 million Aquatic Plant Control Program expenditures, which is also funded through a federal grant and the Conservation Fund. Of the \$8.6 million going towards the Aquatic Plant Control Program, surface water CEAs made up 3.5%. See Appendix D for expenditure sources for the Aquatic Plant Control Program.

According to LDWF, invasive aquatic vegetation, such as giant salvinia and water hyacinth, are in all the state’s publicly-owned waterbodies. Invasive aquatic vegetation is easily spread from one body of water to another through boats and birds. Invasive aquatic vegetation can affect the health of a waterbody’s ecosystem as it can reduce fish populations, and it affects recreational opportunities such as boating, fishing, and water skiing. See Exhibit 7 for images of giant salvinia in Iatt Lake. Because of their rapid growth, it is unlikely that invasive aquatic vegetation will be eradicated; therefore, LDWF focuses on continual management of the vegetation in each waterbody. There are several ways that LDWF manages invasive aquatic plants, including spraying herbicide and annual drawdowns (lowering the water level of the waterbody). LDWF also uses biological methods, such as giant salvinia weevils, that eat salvinia; however, these insects are not cold tolerant and do not always survive winters. During fiscal years 2020 through 2021, LDWF spent \$2 million on contracts to spray waterbodies for invasive aquatic vegetation. According to LDWF, it is more effective to use a combination of these methods to manage invasive species.

Exhibit 7
Giant Salvinia Covering Iatt Lake
April 2021



Source: Photographs taken by legislative auditor’s staff.

Matter for Legislative Consideration 6: The legislature may wish to consider directing a person or entity to develop a valuation model for determining the fair market value of Louisiana’s water resources and reevaluations over time.

APPENDIX A: MANAGEMENT'S RESPONSE



State of Louisiana
DEPARTMENT OF NATURAL RESOURCES
OFFICE OF THE SECRETARY

June 20, 2022

Mr. Michael J. "Mike" Waguespack, CPA
Louisiana Legislative Auditor
P.O. Box 94397
Baton Rouge, LA 70804-9397

Dear Mr. Waguespack:

I would first like to thank the audit team and staff members of the Office of the Legislative Auditor for their work in providing an unbiased look at our previous operations in the Surface Water Program, for helping highlight some of the issues DNR has faced in maintaining an unfunded and voluntary program, and for making concrete suggestions of ways the program could be improved. Our experience has been that Legislative Auditor's reports, acting as an outside set of eyes on an agency's procedures, are an invaluable tool for correcting potential weaknesses and improving processes in ways that lead to greater efficiencies in carrying out agency duties.

We especially appreciate the auditing teams recognition of the significant challenges built into the program, in that it is a voluntary process for prospective water users and that it does not have a dedicated funding stream, relying as it does on staff from different parts of the agency taking time from their primary duties to implement it. Our staff have worked to find alternative means to attempt to monitor broad compliance with water usage, such as remote checks of water levels in the surface water sources subject to CEAs – recognizing, as noted in the audit report, that those water-monitoring networks are less robust than they were in previous years.

With that in mind, I would like to address the report recommendations for our agency (audit comments in italics):

Recommendation 1: DNR should improve its process for approving surface water CEAs to ensure that the CEAs do not include errors.

DNR agrees with this recommendation. To address this issue, DNR has added a new layer of review of CEAs specifically focused on ensuring that the figures in the CEA document to be signed/approved match the water volume approved/agreed upon by DNR in the application process.

Recommendation 2: DNR should improve its monitoring of compliance with the terms of the CEAs.

DNR agrees with this recommendation. While DNR does not have the authority to make the surface water program mandatory for users, DNR plans to request additional funding to support a basic staff, to potentially include sufficient employees with appropriate qualifications/training to audit water use by water users under CEAs and field agent(s) with appropriate qualification/training to conduct site visits/inspections to monitor sites in the field, verify appropriate metering equipment/standards and check for compliance with CEA requirements.

Sincerely,

A handwritten signature in blue ink, appearing to read 'T. F. Harris', with a long horizontal flourish extending to the right.

Thomas F. Harris

APPENDIX B: SCOPE AND METHODOLOGY

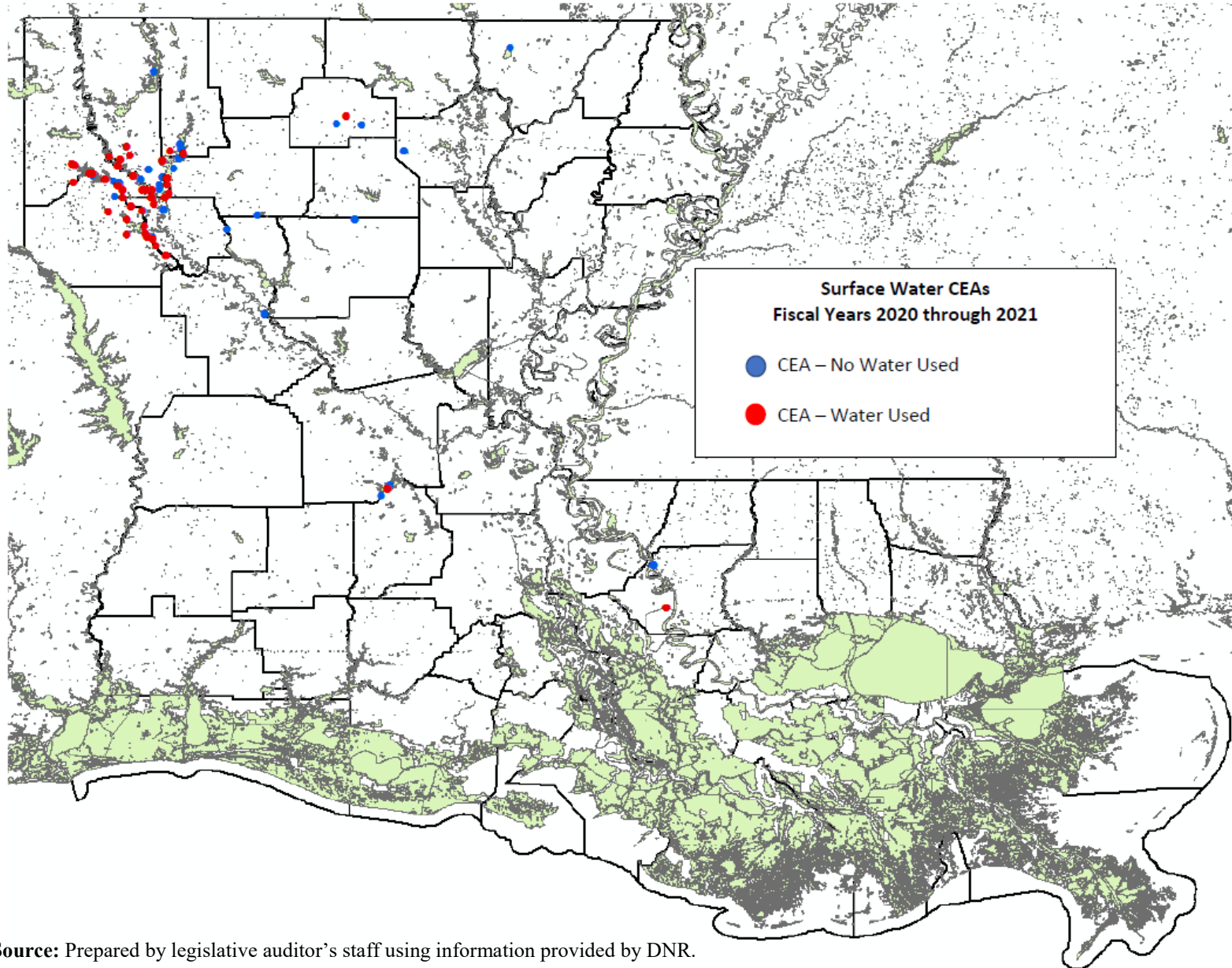
This report provides the results of our follow up to the 2020 audit on Louisiana's management of water resources. We conducted this performance audit under the provisions of Title 24 of the Louisiana Revised Statutes of 1950, as amended. This audit covered fiscal year 2020 through fiscal year 2021. Our audit objective was:

To provide information on the status of Louisiana's progress in regulating and valuing surface water resources.

The scope of our audit was less than that required by *Government Auditing Standards*; however, we used those standards as a guide and believe the evidence obtained provides a reasonable basis for our findings and conclusions. To answer our objective, we reviewed internal controls relevant to the audit objective and performed the following audit steps:

- Reviewed relevant state law regarding the regulation of surface water.
- Interviewed stakeholders regarding the regulation of surface water and a comprehensive statewide water plan, including representatives from DNR, LDWF, DOTD, CPRA, the Governor's Office, DOA, the Watershed Initiative, Sabine River Authority, Tulane Institute on Water Resources Law and Policy, USGS, Louisiana Oil and Gas Association, and Senator Robert Mills.
- Obtained and reviewed CEA documentation from DNR, including CEA agreements, internal tracking spreadsheets, and payment information for fiscal years 2016 through 2021.
- Performed data reliability testing on DNR's CEA tracking spreadsheet and signed CEAs. We tested key fields for a random sample of 10% of the records in our scope. In addition, we tested the total volume requested and payment option for each record in our scope, comparing the signed CEA to the CEA application and tracking spreadsheet.
- Interviewed LDWF officials about the Aquatic Plant Control Fund and toured a lake infested with giant salvinia.
- Obtained and analyzed expenditure information related to the Aquatic Plant Control Fund, as well as contract payments for herbicide spraying.
- Contacted other eastern states regarding surface water regulation, including Arkansas, Alabama, Mississippi, and Missouri.
- Attended the May meeting of the Water Code Committee.
- Provided our results to DNR to review for accuracy and reasonableness.

**APPENDIX C: MAP OF SURFACE WATER CEAS
ACTIVE DURING FISCAL YEARS 2020 THROUGH 2021**



Source: Prepared by legislative auditor’s staff using information provided by DNR.

APPENDIX D: AQUATIC PLANT CONTROL PROGRAM EXPENDITURES BY SOURCE

Aquatic Plant Control Program Expenditures by Source Fiscal Years 2020 through 2021					
Fund Source	Description	FY20	FY21	Total	Percent
Vegetation Management for Boating Access	Annual federal grant which is funded with 75% federal funds and has a required recipient match of 25%.	\$1,779,810	\$1,617,574	\$3,397,384	39.2%
Conservation Fund (Aquatic Plant)	Statutory Dedication. Also contributes to match for federal funding.	2,307,977	510,079	2,818,056	32.5%
Aquatic Plant Control Fund	Statutory Dedication. Also contributes to match for federal funding.	1,395,944	1,062,437	2,458,381	28.3%
Total		\$5,483,731	\$3,190,090	\$8,673,821	100.0%
Source: Prepared by legislative auditor's staff using information provided by LDWF.					