



Raw Water Enterprise Newsletter

2nd Quarter 2018 Newsletter

San Jacinto River Authority

Lake Conroe & Highlands Division

An Ounce of Prevention

Operating and maintaining the Lake Conroe dam and reservoir is one of the core functions of SJRA and the most critical aspect of this function is related to dam safety. The consequences of failure for a dam and reservoir of this size would be catastrophic, resulting in a flood far exceeding the magnitude of the Hurricane Harvey event and causing property damages correspondingly higher. But more importantly, dam failure would potentially cause the loss of many lives; consequently, it is of paramount importance that the operation and maintenance of the Lake Conroe dam facilities adhere to rigorous safety standards at all times.

Earthen dams may appear to be simple structures, but in reality, dams of this size are highly engineered systems with many components designed to meet specific safety functions. Keeping these engineered systems in top condition requires regular monitoring and maintenance activities to be conducted on a strict schedule as a part of the Divisions' dam safety program. Over the past five years, expenditures for major rehabilitation and repair to the Lake Conroe dam have exceeded a capital cost of over \$5,000,000 and additional projects are currently underway to maintain the facility's safety.



Above: Division staff de-watered plunge pool following Hurricane Harvey.

Many aspects of dam safety will be presented in forthcoming Newsletter articles, including 1) Instrumentation and Monitoring, 2) Gate Operations, and 3) Flood Early Warning Systems. This particular article focuses on State of Texas safety regulations and required safety inspections.

O&M Regulations - The Texas Commission on Environmental Quality (TCEQ) is the state agency charged with governing dam safety in Texas and it has established detailed rules covering all aspects of dam design, ownership, and operation. The rules specifically address the responsibilities of dam owners regarding operation and maintenance (O&M) activities in the Texas Administrative Code, Title 30, Part 1, Chapter 299, Subchapter D, including a requirement to create a detailed O&M Manual for all large high-hazard facilities. This manual must address and provide detailed guidance for conducting required preventative maintenance and for conducting appropriate monitoring activities to reduce the risks associated with dam safety issues.



Above: Division staff de-water primary spillway plunge pool for inspection following Hurricane

The Lake Conroe Dam O&M Manual was developed by the design engineer during the construction of the Lake Conroe Dam. As a part of the Division safety program, an annual training review of this Manual is conducted to remind staff that any time they are working on or around the dam, they are expected to be monitoring for changes or abnormalities in any of the various components that make up the dam system. All periodic and recurring maintenance items are placed in SJRA's Asset Management Software for automatic issuance as a "work order" and subsequent confirmation of completion. Further monitoring of dam safety conditions also occurs during routine maintenance activities such as during mowing of the embankment slopes, conducting repairs, or during routine operational activities.



Above: Staff check gearbox oil level in mechanical gate hoist equipment.

Required Inspections - An additional requirement of TCEQ's rules for dam owners involves periodic formal inspections of the dam's structures and appurtenances. In general, the rules identify two types of inspections that

must be performed. The first type are deemed Owner inspections and are required to be conducted on a regular basis or following significant events. An example of a significant event would include a major storm such as Hurricane Harvey. Owner inspections often result in identification of areas which require immediate repairs (such as may follow major storm events) or issues that must be further studied by engineering specialists in the future.

The second type of inspections that must occur are referred to as engineering inspections. These inspections are more thorough and methodical in nature and are done in conjunction with TCEQ dam safety staff every five years regardless of regular owner inspection findings. In the Lake Conroe Division, a consulting engineering firm specializing in dam safety is generally engaged to assist with this type of comprehensive inspection.

The most recent engineering inspection of the Lake Conroe Dam was in a report entitled, *“Comprehensive Dam Safety Inspection Report for Lake Conroe Dam”* in April, 2016. The Report

included twenty-three recommendations for consideration and/or follow-up by the Lake Conroe Division staff. Most of the items on the list were relatively small items that have already been completed; however, there are currently several recommended major projects that are still in progress. Two of the largest projects ongoing in FY 2018 are the rehabilitation of the west-embankment relief well system and the refurbishment of the primary spillway gate operating equipment. These two projects are expected to cost approximately \$550,000 and to be completed by the end of FY 2018. Although the current systems are operational, they are reaching the end of their normal life expectancy, have begun to exhibit signs of potential failure, and, because of their critical importance to dam safety, and are now being replaced or refurbished to avoid any potential reduction in the overall safety of the facilities. This aggressive refurbishment and rehabilitation schedule is typical for a dam considered to be a large and high-hazard facility.



Above: Staff and Consulting Engineer inspect a relief well.

South Canal Transfer Pump Station Rehabilitation Project



Above: Aerial of the existing South Canal Transfer Pump Station.

Under a contract with SJRA executed in the early 1970s, the Coastal Water Authority (CWA) constructed and now operates and maintains the South Canal Transfer Pump Station (SCTPS) located in the Highlands. This contractual agreement allows for the conveyance via the CWA canal of the SJRA's Trinity River raw water supplies from the Trinity River to the SJRA's system in the Highlands area. The SCTPS is located near the corner of Jones Road and Thompson Road near the crossing location of the two authorities' existing canals.

The SCTPS uses two small pumps with a firm pumping capacity of approximately 14-25 million gallons per day (MGD), depending on the impeller selection, to lift water from the CWA canal into the SJRA Highlands South Canal. Minor modifications were performed to the pumps, motors and electrical system in 1999; otherwise, the pump station has required no substantial changes since its original

construction. Due to recent increases in the raw water demand by Highlands' South Canal customers, SJRA has initiated a rehabilitation project to increase capacity by switching to the larger impellers and to extend the useful life of the pumps and SCTPS by conducting significant refurbishment. This rehabilitation project will provide a more reliable and a firm capacity of 25 MGD for downstream customers and will add to the existing delivery capacity of San Jacinto water supplies to this area from the Highlands System.



Above: Contractors remove the pump for rehabilitation at the South Canal Transfer Station.

The SCTPS Rehabilitation Project is being performed by C3 Constructors and includes the following:

- complete rehabilitation of the two existing pumps and motors,
- addition of new suction intake devices to accommodate the additional capacity improvements,

- recoating and refurbishment of all metal appurtenances including piping and intake screens,
- addition of improved safety and operational components to the station,
- replacement and improvements to the existing electrical system, including new variable frequency drives and other minor improvements to the electrical building exterior, and
- removal of over 40 years of accumulated silt and debris from the pump station forebay, pump sumps, and discharge distribution chamber.

Sufficient standby bypass pumping has been provided during the construction to ensure that

adequate flow continues to SJRA's South Canal, even if the SCTPS has to be shut down during construction, or even if the sole operating pump fails while the other pump is being refurbished. Currently, the SJRA is expecting for CWA to transfer the ownership and operation of the pump station to SJRA in FY 2019. Careful planning and coordination has taken place throughout the course of construction between SJRA and CWA to ensure that normal operations have not been interrupted and that adequate flow is maintained for the industrial demands in this part of the system. The construction project is on schedule and is expected to reach substantial completion in spring of 2018.



Above: Bypass pumps during rehab of pumps at the South Canal Transfer Pump Station.

Raw Water Irrigation on Lake Conroe

Lake Conroe is a water supply reservoir and is permitted for the three primary types of water use; Municipal, Industrial, and Agriculture (irrigation). The reservoir provides shoreline property owners access to a viable, low-cost source of untreated water for irrigation. Although Lake Conroe has a limited supply of water available for sale, SJRA has historically been able to issue contracts to meet the irrigation needs for all surrounding property owners that choose to purchase supplies from the reservoir to help maintain their landscape investments. This policy is considered to be environmentally friendly and desirable for conservation of our groundwater resources and the SJRA hopes to continue this policy in the future.

As a reminder, the State of Texas owns all surface water in Texas and anyone that wishes to use that surface water must either own a water right (a permit granted from the State) or a enter into a contract with an entity holding such a water right. In the case of Lake Conroe, anyone who desires to use the lake as an irrigation source must contract with SJRA for a residential irrigation permit or must enter into a commercial water usage contract. Anyone that uses water from the lake without such a permit or contract is guilty of committing theft of state property and is subject to related penalties and enforcement actions. Each year, the SJRA is required to submit total usage data to the Texas Commission on Environmental Quality for each

category of use and show that the Authority has not exceeded its permitted quantities of use.

Commercial accounts such as for golf courses, land developments, green areas around condominiums or townhomes, may enter into long-term contracts with SJRA which enable property-owner investments for the pumping facilities and meters required for irrigation infrastructure. Lake Conroe is currently serving 14 commercial properties around the lake for their irrigation needs. These contracts establish the maximum amount of allowed usage each month and require the owners to submit monthly meter readings and to implement appropriate water conservation practices. The amount of water available under these contracts can be curtailed by SJRA to reduce demands during drought periods.



*Above: Golf Course Irrigation underway.
Picture courtesy of: <http://www.spes.co/Rain/wp-content/uploads/2014/05/RainTreeGolf-Sustainable-Golf-Course-Water-Usage-2.jpg>.*

Over 700 private single-family lots that have access to Lake Conroe shoreline frontage have also been issued annual permits by SJRA for limited landscape irrigation. No meters are currently required for these individual lots, but SJRA estimates the usage from these permits based on rainfall amounts and GIS data regarding the acreage of irrigation for each lot and reports that data annually to the TCEQ and to the City of Houston. For each private property, the permit fees must be paid annually in advance and cannot be renewed during severe drought periods; therefore, alternative irrigation sources should be retained by the owners. Any lot owner who irrigates from Lake Conroe without a current valid permit is subject to fines, penalties for back-pay, and under severe cases, can have their pumping system removed from the lake and be denied any future

permit for use of the lake for irrigation and/or for dock facilities.



Above: Raw Water Intake Pump.

Picture courtesy of:

<http://www.precisiondocksystems.com>.

County Road Widening Spurs Siphon Improvements

SJRA's Highlands Division Wallisville Road Siphon is located along the East Canal and crosses under East Wallisville Road in Baytown, Texas. In October 2017, Harris County approached SJRA with a request to relocate and/or modify the existing siphon under East Wallisville Road in order to accommodate their proposed road widening. Harris County's widening proposal requires additional right-of-way along both the northern and southern sides of the road which interferes with the existing siphon inlet and outlet. Harris County is also constructing a storm sewer where its proposed

location interferes with the vertical position of SJRA's existing 48-inch siphon pipe.



Above: Upstream view of the Wallisville Road Siphon.

In response to the County’s request, SJRA’s In-House Design Team with assistance from Texas Water Engineering, PLLC prepared preliminary design layouts for proposed siphon improvements to accommodate the proposed road widening. SJRA’s standard East Canal siphon improvements design is to install dual 48-inch diameter pipes. This standard was used as the basis for design for improvements to the Wallisville Road Siphon. The preliminary design of the improvements also proposes concrete headwalls, control gates, stop logs, and riprap at the inlets and outlets.

Harris County currently plans to begin construction for the road widening in 2019 pending utility relocations and ROW acquisition.

SJRA and Harris County are continuously coordinating on project designs and each project requires development of an inter-local agreement to formally address all design and construction requirements and financial responsibilities, along with any potential operation and maintenance responsibilities for the new structure. The photos in this article show that the existing facility is all below water level and located very close to the existing roadway. As a result, the expansion of the roadway will increase the safety concerns and the proposed new siphon headwall structures will need to be moved further away from the roadway to allow to allow for pedestrian and vehicular safety.



Above: Aerial view of the Wallisville Road Siphon location.

Future Water Supplies Require Major Investment of Money and Time

An earlier edition of the SJRA Raw Water Enterprise Newsletter provided an update on the development of SJRA’s Raw Water Supply Master Plan (Master Plan). The Master Plan is designed to identify SJRA’s preferred options for meeting long-range water supply needs in Montgomery County and in the Highlands area of East Harris County. One of the significant water supply options that has been previously selected is the transfer of raw water from Lake Livingston to Lake Conroe, which could provide up to 50,000 acre-feet per year of additional water supply for Montgomery County but could cost in excess of several hundred million dollars. The SJRA previously entered into an option agreement with the Trinity River Authority to reserve supplies from Lake Livingston for future population growth in Montgomery County, and this strategy represents one of the largest supplies and most economical options for the future growth of the region.

In order to transfer this annual volume of water from Lake Livingston to Lake Conroe, a pumping station and large-diameter pipeline would have to be constructed. In the draft Master Plan, six potential alternative routes were defined and evaluated using multiple criteria, including length, supply to be created, the need for booster pump stations, environmental constraints, archaeological constraints, permitting requirements, and of course, total and annual costs of both construction and operation. Environmental and permitting considerations create some of the largest potential hurdles for the project. The issues involve potential

impacts to protected/endangered species and wetlands, potential impacts to the Sam Houston National Forest (through which a large portion of the potential alignments travel), permitting required from the Texas Commission on Environmental Quality for the inter-basin transfer of water, and permitting requirements with the U.S. Army Corps of Engineers, the Texas Parks and Wildlife Department, and other natural resource and regulatory agencies.

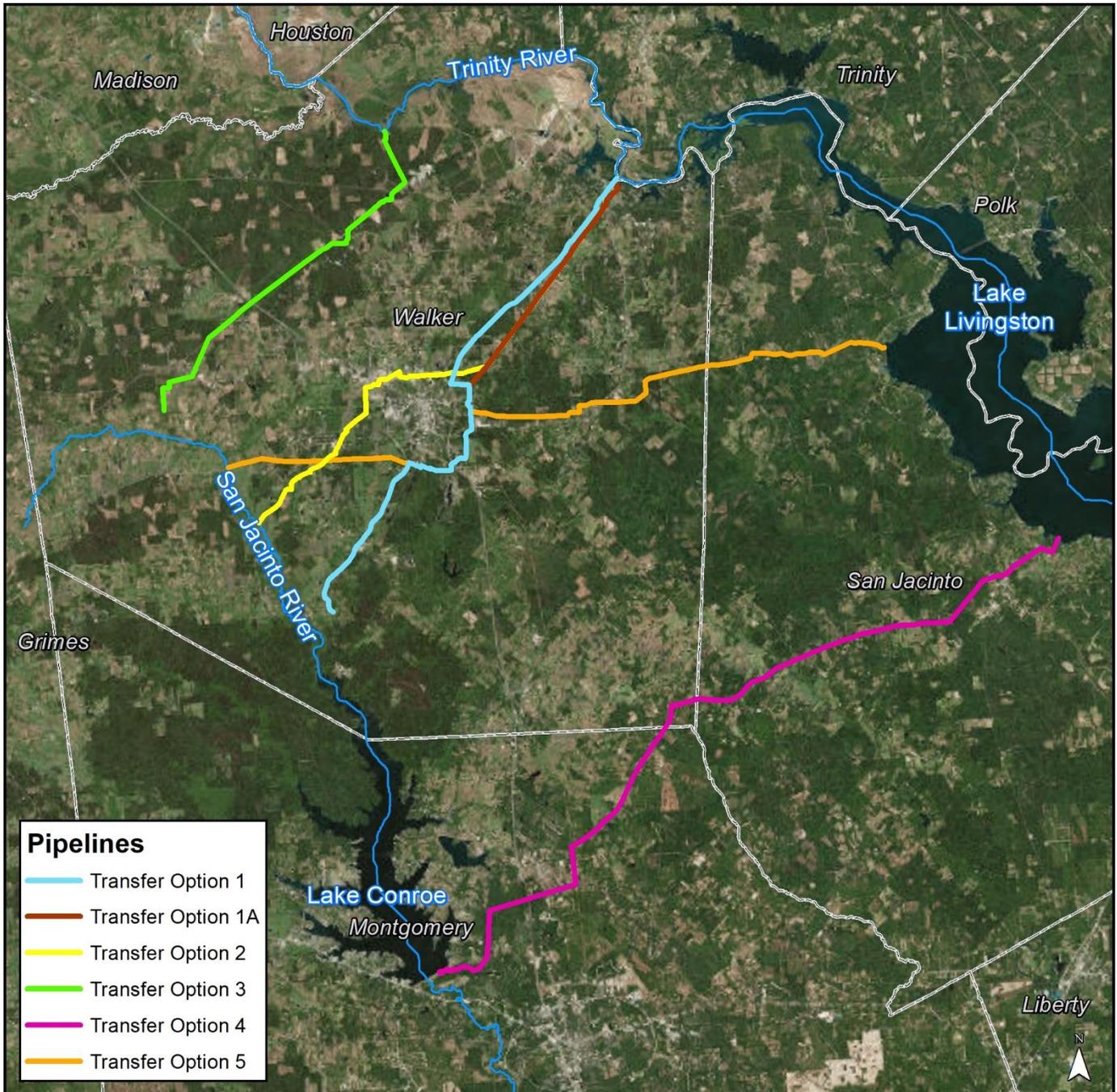
The evaluated routes range in length from 18 to 39 miles in length and cover a wide range of estimated unit (per acre-foot) costs, and each route presents unique challenges and opportunities. For all routes, a 60-inch diameter pipeline and an intake pump station is required at a minimum. As shown in the figure at right, the routes vary significantly in their intake and discharge locations, as well as their general paths. Some routes include intake of water directly from Lake Livingston, while others include intake upstream of the main reservoir. Similarly, one of the evaluated routes assumes that discharges will occur directly into Lake Conroe, while the others assume discharge at various points upstream

Transmission Route Option	Pipeline Length Feet/[Miles]	Booster Pump Station
1	143,415/ [27]	1
1a	135,552/ [26]	1
2	129,928/ [25]	1
3	97,124/ [18]	None
4	204,575/ [39]	1
5	184,860/ [35]	1

Above: Example of infrastructure required for different alternatives (from DRAFT Master Plan)

of the reservoir into the West Fork San Jacinto River or one of its various tributaries. The potential route that discharges directly into Lake Conroe includes the option of also discharging directly into the SJRA GRP Division Surface Water Plant as opposed to the reservoir. The routes all traverse a variety of terrain, ranging from rural farmland and forested land to areas along major highways.

If this water supply option is eventually selected for inclusion in the Master Plan, a more detailed feasibility study will be necessary and would be performed by a combination of SJRA staff and consultant(s) in order to further refine the potential route(s) for the project. In all, this project is anticipated to take a minimum of at least ten years to fully develop.



Above: Evaluation routed (from DRAFT Master Plan).

TMDL and Implementation Planning for Improved Water Quality on the East and West Fork of the San Jacinto River

The Texas Commission on Environmental Quality (TCEQ) under rules promulgated by the EPA has begun a lengthy process for improving water quality within Lake Houston, the East Fork and West Fork San Jacinto, and Crystal Creek Watersheds of the San Jacinto River Basin. This process is defined as a “TMDL project” (which is further explained below) and was initiated through a contract between Houston-Galveston Area Council (HGAC), the TCEQ, and Texas Institute for Applied Environmental Research. The TCEQ first identified the “bacteria impairments” within the West Fork San Jacinto River in 2002, and within East Fork San Jacinto River, Crystal Creek, and Lake Houston in 2006, and for each subsequent edition through the 2012 Texas Water Quality Integrated Report for Clean Water Sections 305(b) and 303(d). Bacteria impairment means these streams were identified as failing to meet current standards for bacteria quality levels. The bacteria stream standard set by the TCEQ is currently 126 MPN/100 ML for E-Coli bacteria.

This article summarizes the program which has been completed to-date and the goals of that improvement program. The HGAC and the SJRA have partnered in monitoring the water quality in Lake Conroe and other waters of the San Jacinto River basin since the 1970’s under the Clean Rivers Program (CRP).

The CRP is a state water quality program that monitors waterways for exceedances in water quality standards and is administered by TCEQ. The CRP provides for water quality testing and monitoring in order to identify streams that frequently violate stream standards, which results in that stream being declared “impaired”. These identified streams segments are then studied in more detail to define a recommended Total Maximum Daily Load (TMDL), which is the maximum amount of a pollutant that a body of water can receive while still meeting water quality standards. Based on the sources of that pollutant and the TMDL, an appropriate plan (Implementation Plan) for restoring the impaired waters can then be developed for the area.



Above: Public Meeting of the TMDL and implementation planning for the East and West Fork San Jacinto River

HGAC manages the CRP for the entire Houston region as seen in Figure 1. This region has many impaired streams and various stream segments have been under evaluation by TCEQ and the EPA for decades, especially for bacteria level violations. Almost all stream segments which are heavily urbanized in the region suffer from elevated bacteria levels especially during storm events. A single Implementation Plan has already been completed for most of these stream segments and the TCEQ is monitoring how well the Implementation Plan is reducing the bacteria levels in these streams. At the time of development of the Implementation Plan, the East and West Forks of the San Jacinto were marginally meeting the standards for bacteria and were not included in the Plan. The streams are located within the Lake Houston watershed of the San Jacinto River Basin.

The watershed includes several different large municipalities including the City of Conroe and The Woodlands. Other smaller municipalities located in the watershed include Cut and Shoot, Magnolia, New Waverly, Pinehurst, Splendor, Tomball, and Waller. The northern part of the watershed is relatively rural, and includes portions of the Sam Houston National Forest, but is more urbanized throughout the southern portion closer to the City of Houston.

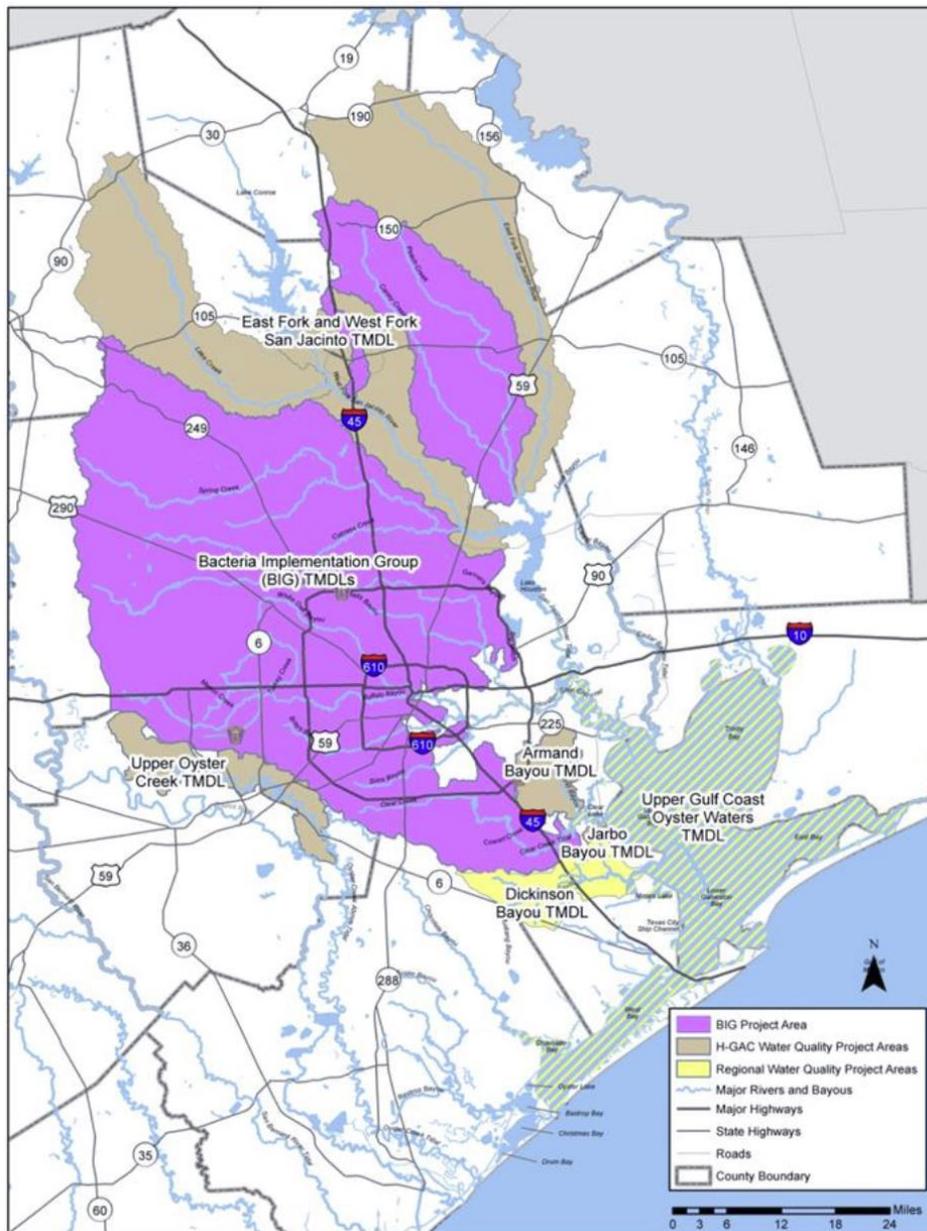
The TCEQ entered into a contract with HGAC to conduct TMDL studies and to work with local agencies and stakeholders in the region to determine how the region might proceed. In addition to technical studies, multiple public meetings and Work Groups were scheduled, all

open to the public and covering a series of topics that focused on different potential sources of bacteria pollution, and the process that might be used to move forward. These workgroups included wastewater infrastructure, monitoring and research, natural resources enforcement, public outreach and education, and residential and commercial development. HGAC eventually presented the stakeholders with two fundamental options for moving forward: 1) join the HGAC Bacteria Implementation Group (BIG) created previously for the region; or 2) create a separate water quality improvement plan for each newly-identified impaired segment. All of the stakeholders decided to request joining the BIG group and to ultimately adopt the Plan approved for the entire region.

The BIG group has historically focused on TMDLs for each impaired segment throughout Houston and the development of detailed action plans to improve water quality. In August 2016, the East and West Fork of the San Jacinto River TMDL and Implementation Plan was approved by the TCEQ Commissioners. The BIG had approved this decision in May 2016. The 2017 Annual Report reflects the addition of the East and West Forks of the San Jacinto River to the BIG project area. The Implementation Plan was initially written for 72 TMDLs. With additional TMDLs completed within the BIG project area and the inclusion of Armand Bayou and the East and West Forks of the San Jacinto River, the I-Plan now covers 102 TMDLs.

Also in 2016, TCEQ supported the watershed groups voluntarily addressing the impaired waters in the East and West Forks of the San Jacinto River through use of a locally-developed Watershed Protection Plan (WPP). The major difference in these two approaches is that the TMDL focuses and creates plans for each segment, while the WPP approach allows the watershed groups to cast a wide net over many

impaired segments and come up with one plan to improve the area. The goal of the WPP approach is to become more efficient in the way we improve impaired waters. The WPP for the East and West Forks of the San Jacinto River will focus on Education and Outreach, Implementing Best Management Practices, and Modeling.



Above: Map of the areas of responsibility for Water Quality projects.

Raw Water Enterprise Next Quarter Calendar

March 2018

- 7th – 9th Texas Water Conservation Association Spring Conference in Bastrop
- 20th Woodlands Township Drainage Task Force Meeting in Woodlands
- 22nd San Jacinto River Authority Board of Directors Monthly Meeting
- 22nd Gulf Coast Water Conservation Symposium in Houston

April 2018

- 17th ASCE Monthly Meeting at HESS in Houston
- 18th Regional Flood Management Council Meeting in Houston
- 18th Galveston Bay Council Meeting at HGCSO in Friendswood
- 26th San Jacinto River Authority Board of Directors Monthly Meeting

May 2018

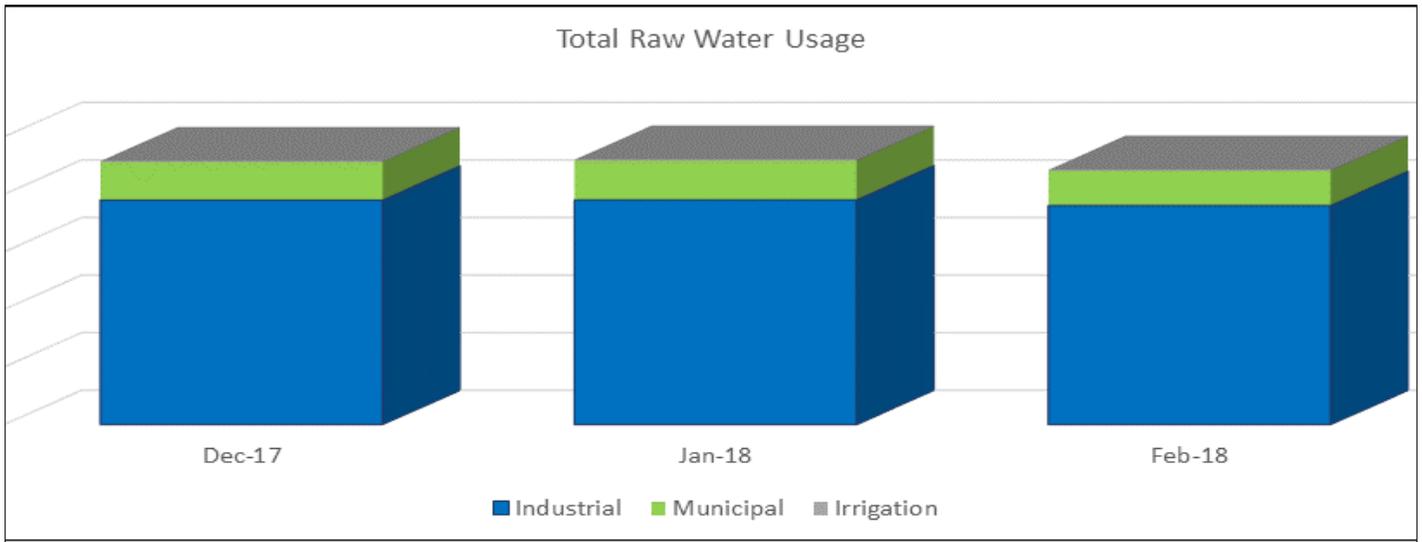
- 3rd HGAC Natural Resource Advisory Committee Meeting in Houston
- 22nd HGAC Bacteria Implementation Group (BIG) Meeting in Houston
- 24th San Jacinto River Authority Board of Directors Monthly Meeting

Employee Service and Awards Recognition

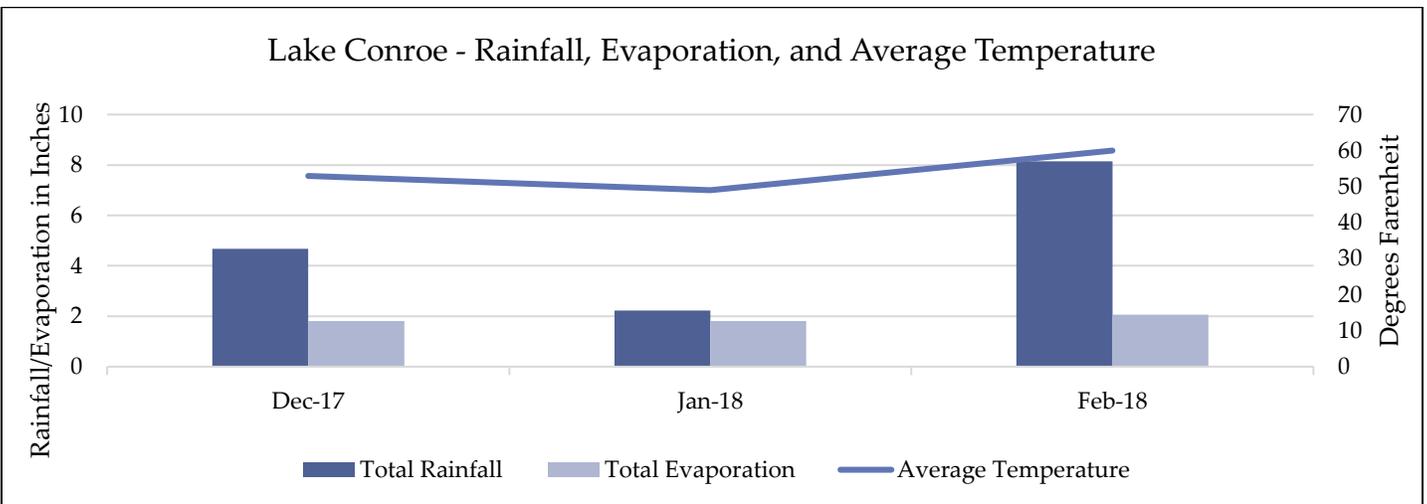
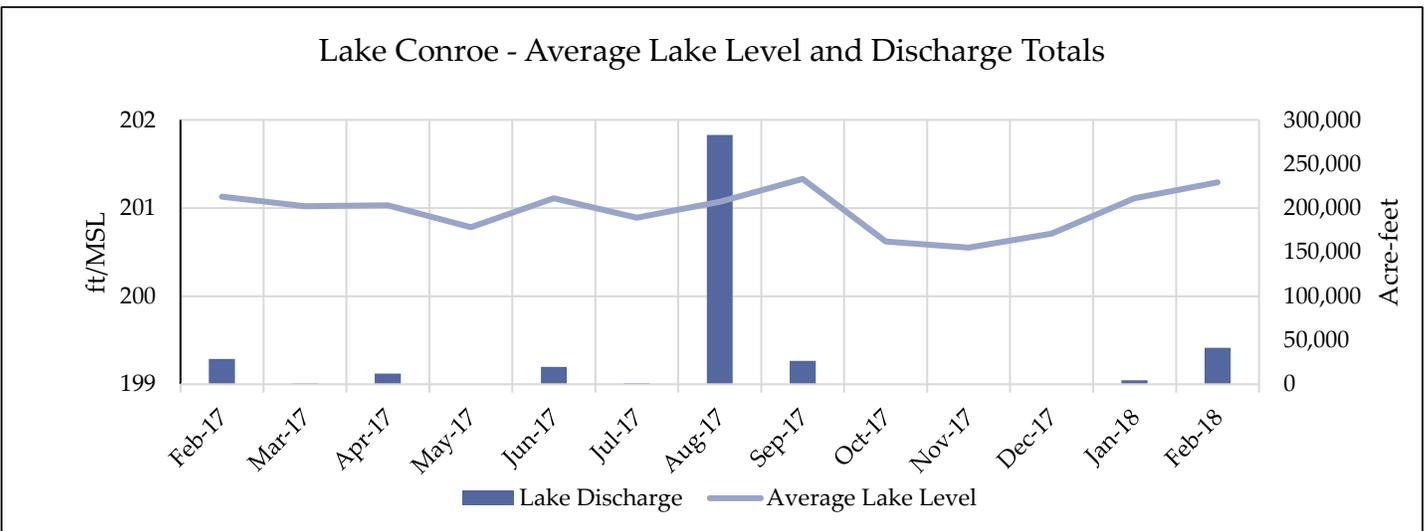
One Year of Service

Tony Hodges – Lake Conroe Division

Raw Water Usage Data



Lake Level Data



**Lake Level Data: USGS Gauge at Dam. Rainfall & Temperature: SIRA Gauge at Dam. Evaporation & Discharge: Internal Calculation

Lake Conroe and Highlands Division Safety Tailgates

Highland Division Tailgates

- Hard Hat Safety – *Lynzey Jett*
- Chainsaw Safety – *Travis Nibert*
- Hearing Safety – *Walter Mosley*
- It's not just about you – *Kim Wright*
- Safety Toe Training – *Tim Thomas*

HR/Safety Coordinated Training Activities

- Confined Space Entry Training

Lake Conroe Division Tailgates

- Roadside Safety – *Brian Foster & Michael Biehle*
- Spillway Plunge Pool Water Safety – *LC Team*
- Spillway Plunge Pool Crane Lift Safety – *LC Team*
- 150 Generator Operation Safety – *Brian Foster*
- Rental Equipment Operation Safety – *Brian Foster*
- Verifying Gate Measurement Safety – *Cody Cockroft*



Raw Water Enterprise First Quarter Financials

San Jacinto River Authority Unaudited Statement of Revenues and Expenses - Raw Water For the Quarter Ending February 28, 2018

	Dec		Jan		Feb		Fiscal Year To Date				Fiscal Budget	
	Actual	Budget	Actual	Budget	Actual	Budget	Actual	Budget	Variance	% Variance	Total Year Budget	Actual YTD % of Total Year Budget
OPERATING REVENUES												
Industrial/Municipal	\$ 1,209,544	\$ 1,245,850	\$ 1,247,835	\$ 1,341,582	\$ 1,531,742	\$ 1,342,284	\$ 7,825,401	\$ 7,906,018	\$ (80,616)	(1%)	\$ 17,007,399	46%
Irrigation	102,735	859	106,057	1,568	(366,824)	1,483	51,939	40,853	11,086	27%	243,926	21%
Reservation fees	41,233	40,508	41,394	49,419	95,246	39,072	242,394	184,611	57,783	31%	273,088	89%
TOTAL OPERATING REVENUES	\$ 1,353,511	\$ 1,287,218	\$ 1,395,287	\$ 1,392,569	\$ 1,260,163	\$ 1,382,839	\$ 8,119,735	\$ 8,131,482	\$ (11,747)	(0%)	\$ 17,524,413	46%
OPERATING EXPENSES												
Payroll & employee benefit expenses	\$ 26,699	\$ 49,900	\$ 21,198	\$ 36,699	\$ 24,478	\$ 36,699	\$ 115,722	\$ 233,397	\$ 117,675	(50%)	\$ 466,794	(25%)
Professional fees	37,274	80,500	13,392	80,500	34,270	80,500	160,753	483,750	322,997	(67%)	967,750	(17%)
Purchased & contracted services	-	213	-	213	-	16,213	-	17,275	17,275	(100%)	18,550	0%
Supplies, materials & utilities	-	100	82	100	-	100	164	600	436	(73%)	1,200	(14%)
General & administration	3,462	6,557	4,344	6,549	3,303	8,071	19,700	42,380	22,679	(54%)	90,750	(22%)
TOTAL OPERATING EXPENSES	\$ 67,435	\$ 137,270	\$ 39,015	\$ 124,061	\$ 62,050	\$ 141,583	\$ 296,339	\$ 777,402	\$ 481,062	(62%)	\$ 1,545,044	(19%)
NON-OPERATING REVENUES & EXPENSES												
Interest expense	\$ (31,685)	\$ (31,685)	\$ (31,685)	\$ (31,685)	\$ (31,685)	\$ (31,685)	\$ (190,113)	\$ (193,896)	\$ 3,783	(2%)	\$ (384,008)	50%
TOTAL NON-OPERATING (EXCLUDING ITEMS NOT BUDGETED)	\$ (31,685)	\$ (190,113)	\$ (193,896)	\$ 3,783	(2%)	\$ (384,008)	50%					
NET INCOME (LOSS) (EXCLUDING ITEMS NOT BUDGETED)	\$ 1,254,391	\$ 1,118,262	\$ 1,324,586	\$ 1,236,823	\$ 1,166,427	\$ 1,209,570	\$ 7,633,283	\$ 7,160,184	\$ 473,098	7%	\$ 15,595,360	49%
NON-OPERATING REVENUES & EXPENSES (NOT BUDGETED)												
Amortized debt issuance expense	\$ 2,719	\$ -	\$ 2,719	\$ -	\$ 2,719	\$ -	\$ 16,312	\$ -	\$ 16,312	0%	\$ -	0%
TOTAL NON-OPERATING (NOT BUDGETED)	\$ 2,719	\$ -	\$ 2,719	\$ -	\$ 2,719	\$ -	\$ 16,312	\$ -	\$ 16,312	0%	\$ -	0%
NET INCOME (LOSS) (BUDGETED AND NOT BUDGETED)	\$ 1,257,110	\$ 1,118,262	\$ 1,327,304	\$ 1,236,823	\$ 1,169,146	\$ 1,209,570	\$ 7,649,595	\$ 7,160,184	\$ 489,410	7%	\$ 15,595,360	49%

Highlands Division First Quarter Financials

San Jacinto River Authority
Unaudited Statement of Revenues and Expenses - Highlands
For the Quarter Ending February 28, 2018

	Dec		Jan		Feb		Fiscal Year To Date				Fiscal Budget	
	Actual	Budget	Actual	Budget	Actual	Budget	Actual	Budget	Variance	% Variance	Total Year Budget	Actual YTD % of Total Year Budget
OPERATING EXPENSES												
Payroll & employee benefit expenses	\$ 289,098	\$ 323,470	\$ 194,289	\$ 238,941	\$ 205,574	\$ 238,941	\$ 1,297,300	\$ 1,518,173	\$ 220,872	(15%)	\$ 3,071,345	(42%)
Professional fees	283	10,667	8,597	11,167	(1,025)	11,537	40,040	67,385	27,345	(41%)	136,615	(29%)
Purchased & contracted services	32,975	32,032	15,415	32,031	8,486	32,031	80,681	192,192	111,511	(58%)	384,380	(21%)
Supplies, materials & utilities	25,920	37,747	24,670	37,746	25,663	37,746	128,514	226,481	97,967	(43%)	467,347	(27%)
Maintenance repairs, parts & rentals	82,576	120,559	23,429	120,559	58,315	120,559	258,390	723,352	464,962	(64%)	1,446,704	(18%)
General & administration	25,713	41,871	27,961	41,818	20,199	51,538	156,369	270,606	114,237	(42%)	579,465	(27%)
TOTAL OPERATING EXPENSES	\$ 456,565	\$ 566,345	\$ 294,361	\$ 482,261	\$ 317,212	\$ 492,352	\$ 1,961,295	\$ 2,998,188	\$ 1,036,894	(35%)	\$ 6,085,856	(32%)
NON-OPERATING REVENUES & EXPENSES												
Interest on investments	\$ 14,447	\$ 1,333	\$ 5,423	\$ 1,333	\$ 11,334	\$ 1,333	\$ 64,714	\$ 8,000	\$ 56,714	709%	\$ 16,000	404%
Interest expense	(186,458)	(186,458)	(186,458)	(186,458)	(186,458)	(186,458)	(1,118,748)	(1,122,935)	4,187	(0%)	(2,241,684)	50%
Capital contributions	449,339	-	-	-	808,811	-	1,258,150	-	1,258,150	0%	1,571,279	80%
TOTAL NON-OPERATING (EXCLUDING ITEMS NOT BUDGETED)	\$ 277,328	\$ (185,125)	\$ (181,035)	\$ (185,125)	\$ 633,686	\$ (185,125)	\$ 204,116	\$ (1,114,935)	\$ 1,319,051	(118%)	\$ (654,405)	(31%)
NET INCOME (LOSS) (EXCLUDING ITEMS NOT BUDGETED)	\$ (179,236)	\$ (751,470)	\$ (475,396)	\$ (667,386)	\$ 316,475	\$ (677,477)	\$ (1,757,179)	\$ (4,113,124)	\$ 2,355,945	(57%)	\$ (6,740,261)	26%
NON-OPERATING REVENUES & EXPENSES (NOT BUDGETED)												
Depreciation	\$ (194,833)	\$ -	\$ (170,549)	\$ -	\$ (170,798)	\$ -	\$ (1,023,542)	\$ -	\$ (1,023,542)	0%	\$ -	0%
Amortized debt issuance expense	1,261	-	1,261	-	1,261	-	7,567	-	7,567	0%	-	0%
TOTAL NON-OPERATING (NOT BUDGETED)	\$ (193,572)	\$ -	\$ (169,288)	\$ -	\$ (169,537)	\$ -	\$ (1,015,976)	\$ -	\$ (1,015,976)	0%	\$ -	0%
NET INCOME (LOSS) (BUDGETED AND NOT BUDGETED)	\$ (372,809)	\$ (751,470)	\$ (644,684)	\$ (667,386)	\$ 146,938	\$ (677,477)	\$ (2,773,155)	\$ (4,113,124)	\$ 1,339,969	(33%)	\$ (6,740,261)	41%

Lake Conroe Division First Quarter Financials

**San Jacinto River Authority
Unaudited Statement of Revenues and Expenses - Lake Conroe
For the Quarter Ending February 28, 2018**

	Dec		Jan		Feb		Fiscal Year To Date				Fiscal Budget	
	Actual	Budget	Actual	Budget	Actual	Budget	Actual	Budget	Variance	% Variance	Total Year Budget	Actual YTD % of Total Year Budget
OPERATING REVENUES												
Permits, licenses & fees	\$ 77,096	\$ 86,669	\$ 75,452	\$ 53,371	\$ 82,928	\$ 101,090	\$ 479,897	\$ 443,600	\$ 36,297	8%	\$ 1,045,000	46%
Cost sharing revenue	239,796	331,265	267,356	286,666	175,211	254,854	1,142,412	1,719,336	(576,923)	(34%)	3,344,068	34%
Grant revenue	(18,894)	53,000	-	53,000	18,894	53,000	-	318,000	(318,000)	(100%)	636,000	0%
TOTAL OPERATING REVENUES	\$ 297,998	\$ 470,934	\$ 342,809	\$ 393,037	\$ 277,033	\$ 408,944	\$ 1,622,309	\$ 2,480,936	\$ (858,626)	(35%)	\$ 5,025,068	32%
OPERATING EXPENSES												
Payroll & employee benefit expenses	\$ 257,153	\$ 294,338	\$ 189,648	\$ 218,054	\$ 191,687	\$ 218,054	\$ 1,183,051	\$ 1,384,614	\$ 201,562	(15%)	\$ 2,834,220	(42%)
Professional fees	7,853	101,638	114,631	101,637	42,058	101,638	226,922	529,829	302,907	(57%)	1,164,650	(19%)
Purchased & contracted services	30,184	31,915	28,123	31,913	16,623	31,913	153,781	191,487	37,706	(20%)	382,966	(40%)
Supplies, materials & utilities	22,843	29,542	16,587	29,538	15,822	29,538	108,401	177,243	68,842	(39%)	354,455	(31%)
Maintenance repairs, parts & rentals	46,907	119,450	67,033	104,448	50,566	104,448	243,117	660,954	417,837	(63%)	1,310,785	(19%)
General & administration	56,034	87,247	62,321	74,178	47,856	74,178	288,277	461,028	172,751	(37%)	924,130	(31%)
TOTAL OPERATING EXPENSES	\$ 420,973	\$ 664,130	\$ 478,341	\$ 559,768	\$ 364,612	\$ 559,768	\$ 2,203,549	\$ 3,405,155	\$ 1,201,606	(35%)	\$ 6,971,205	(32%)
NON-OPERATING REVENUES & EXPENSES												
Interest on investments	\$ 11	\$ -	\$ 13	\$ -	\$ 13	\$ -	\$ 101	\$ -	\$ 101	0%	\$ -	0%
Other revenues	834	-	500	-	-	-	1,834	-	1,834	0%	-	0%
TOTAL NON-OPERATING (EXCLUDING ITEMS NOT BUDGETED)	\$ 844	\$ -	\$ 513	\$ -	\$ 13	\$ -	\$ 1,935	\$ -	\$ 1,935	0%	\$ -	0%
NET INCOME (LOSS) (EXCLUDING ITEMS NOT BUDGETED)	\$ (122,131)	\$ (193,196)	\$ (135,020)	\$ (166,731)	\$ (87,565)	\$ (150,825)	\$ (579,305)	\$ (924,219)	\$ 344,914	(37%)	\$ (1,946,137)	30%
NON-OPERATING REVENUES & EXPENSES (NOT BUDGETED)												
Depreciation	\$ (15,338)	\$ -	\$ (14,968)	\$ -	\$ (14,968)	\$ -	\$ (89,805)	\$ -	\$ (89,805)	0%	\$ -	0%
TOTAL NON-OPERATING (NOT BUDGETED)	\$ (15,338)	\$ -	\$ (14,968)	\$ -	\$ (14,968)	\$ -	\$ (89,805)	\$ -	\$ (89,805)	0%	\$ -	0%
NET INCOME (LOSS) (BUDGETED AND NOT BUDGETED)	\$ (137,468)	\$ (193,196)	\$ (149,988)	\$ (166,731)	\$ (102,533)	\$ (150,825)	\$ (669,110)	\$ (924,219)	\$ 255,109	(28%)	\$ (1,946,137)	34%