



Protecting Lake Conroe's Water Quality

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Lake Conroe is one of our region's most valuable natural resources. As a primary recreation destination, the lake attracts thousands of boating enthusiasts from all over the Houston metropolitan area. Additionally, it will soon be included in the county's drinking water supply portfolio to help augment existing groundwater supplies. It is vital that we do everything we can to help preserve the quality of this resource.

The San Jacinto River Authority (SJRA) has been tracking the quality of the water in Lake Conroe for decades. Fortunately, we have some of the highest quality water in the entire region. In fact, the Houston-Galveston Area Councils' 2015 Basin Highlights Report lists Lake Conroe as a "five-frog" source, which is the highest rating they assign. See Figure 1.

However, as our population continues to grow, urban development and ever-increasing



Figure 2. Stormwater outfall – what lands on the street may end up in Lake Conroe.

ing recreational use will present significant challenges to maintaining the existing excel-

lent water quality. As a result, SJRA has developed a watershed protection plan (WPP) for Lake Conroe. The WPP includes a comprehensive study of the watershed, describes stakeholder involvement in the development of the WPP, and details implementation and management measures aimed at maintaining the existing water quality of Lake Conroe and its watershed.

The first step in developing the WPP was to "characterize" the watershed. The characterization process involved collecting data about the watershed like water quality, potential sources of pollution, soil types, and the location of onsite sewage facilities (septic systems). This characterization process provided an opportunity to understand the history of the watershed and its water quality as well as to examine any potential pollution sources, such as waste water treatment facilities, on-site sewage facilities, storm water drains, and even bridges. Knowing the current and historical water quality is advantageous because it provides a baseline and the ability to recognize any problems in the water quality if it was to change suddenly. Identifying potential pollution sources makes it easier to identify potential problem areas and develop strategies to prevent pollution.

Following the characterization process, SJRA met with stakeholders to get guidance

Basin	Watershed	Segment	DO	Bact	Chlor	Nut	PCB	Other*	Frogs
Trinity-San Jacinto Coastal	Cedar Bayou Tidal	0901	100	100	100		100		🐸
	Cedar Bayou Above Tidal	0902	100						🐸🐸🐸
San Jacinto River	Buffalo Bayou Above Tidal	1014	10.8	79.4		70.7		2.2	🐸🐸🐸
	Buffalo Bayou Tidal	1013	30.8	63.3		36.4		27.0	🐸🐸🐸
	Caney Creek	1010	16.1	34.6					🐸🐸🐸🐸
	Cypress Creek	1009	41.0	84.6		84.6		10.4	🐸🐸🐸
	East Fork San Jacinto River	1003		100					🐸🐸
	Greens Bayou Above Tidal	1016	9.0	91.2		80.3			🐸🐸🐸
	Houston Ship Channel	1006	16.5	47.2	7.8	86.5	36.7	36.7	🐸🐸
	Houston Ship Channel Buffalo Bayou Tidal	1007	19.6	72.8		83.9	23.8	23.8	🐸🐸
	Houston Ship Channel/ San Jacinto River Tidal	1005				72.9	100	72.9	🐸🐸
	Lake Conroe	1012	11.0						🐸🐸🐸🐸🐸
	Lake Creek	1015	66.3	11.4				36.8	🐸🐸🐸
	Lake Houston	1002	19.6	6.6	14.1	41.3		0.1	🐸🐸🐸🐸
	Peach Creek	1011		100					🐸🐸🐸
	San Jacinto River Tidal	1001					43.4	43.4	🐸🐸🐸
	Spring Creek	1008	49.8	72.0	1.1	22.3		11.7	🐸🐸🐸
	West Fork San Jacinto River	1004		61.5		18.1			🐸🐸🐸
	White Oak Bayou Above Tidal	1017	11.4	84.6		80.8			🐸🐸

Figure 1. HGAC 2015 Basin Highlights Report. The numbers represent the percent of total segment length that is impaired or of concern for each parameter. Cells without numbers (blanks) represent stream segments that are currently meeting state standards but may be improving or degrading for each parameter. Blue cells indicate that water quality is currently improving, and red cells indicate that water quality is degrading.

on creating the WPP document. The stakeholders played a crucial role in reviewing the WPP as it was being created. The Lake Conroe Watershed Stakeholder Group is comprised of a diverse collection of people who volunteered their time for the wellbeing of Lake Conroe's water quality and made recommendations to the SJRA project team. The stakeholder group consists of representatives of cities, counties, MUDs, local businesses, industries, landowners, agricultural producers, environmental groups, conservationists, and homeowners.

The overarching goal of the WPP is to maintain and, when appropriate, improve the water quality currently present. Through the stakeholder process, SJRA and the stakeholder group created a variety of management activities aimed at preservation of or, if possible, improvement in water quality. The plan takes a phased approach to introducing management activities and, consequently, introduces different activities at different times. Some will occur in the very near future while others are years from being implemented. The list of management activities

Continued on page 24 ⇨



Figure 3. Proper management of pet waste is a common Best Management Practice.



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intended for the near future includes:

- Enhancing septic system regulations to bring them in line with countywide regulations
- Improving storm water controls in new developments
- Improving compliance and enforcement of existing storm water quality permitting, including construction sites
- Continuing public education and outreach with respect to nutrients and the impact of littering

One activity identified for implementation in 2016 involves more stringent regulation of OSSFs within 2,075 feet of the shoreline of Lake Conroe (this is the area of responsibility assigned to SJRA by the Texas Commission on Environmental Quality (TCEQ)). As the Authorized Agent for TCEQ, SJRA is responsible for permitting and inspecting all OSSFs within the prescribed area. SJRA rules do not currently require periodic maintenance beyond the first two years after an aerobic system is installed.

Required periodic maintenance was one of the first measures recommended by the stakeholder group and is seen as being a Best Management Practice. It is also consistent with what Montgomery and Walker counties have been requiring for years. As such, SJRA plans to bring this recommendation to its board of directors for consideration. This management strategy will help reduce the number of failing OSSFs in the watershed and help protect the water quality in Lake Conroe. If approved, required maintenance would be applicable to aerobic systems only and would not affect standard septic systems.

The task of conducting septic system maintenance is usually provided by a professional, licensed septic maintenance provider. These are professionals who will routinely check that systems are working properly and that there aren't any problems. However, for those homeowners that desire to maintain their own systems, opportunities will be provided for them to become trained and certified to do so.

In the years to come, it is SJRA's goal to continue to work with stakeholders from all around the watershed to help implement strategies to protect and preserve the quality of water in Lake Conroe. Those interested in reviewing the entire WPP document can find it on SJRA's home page at www.sjra.net. ♦

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