**BRAZOS VALLEY GROUNDWATER CONSERVATION DISTRICT**

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 **2015 ANNUAL REPORT**

 **TO**

 **BVGCD BOARD OF DIRECTORS**

 **ON**

 **ATTAINMENT OF MANAGEMENT PLAN OBJECTIVES**

**1. Implement Strategies Providing For the Most Efficient Use of Groundwater:**

 **1a.** **Objective –** Require all existing and new non-exempt wells constructed within the boundaries of the District to be permitted by the District and operated in accordance with District Rules. In addition, the District will encourage all exempt wells constructed within the District boundaries to be registered with the District.

 **1a. Performance Standard** – The number of exempt and permitted wells registered within the District will be reported annually in the District’s Annual Report submitted to the Board of Directors of the District.

 **1a. Performance Measurement – A total of 54 new non-exempt wells were permitted during 2015. The District registered 510 exempt wells (34 in Brazos County, 32 in Robertson County, 444 oil and gas rig supply) in both counties combined. Totals for all wells ending 2015:**

 **Domestic/Livestock (Exempt) – 1321**

 **Gas & Oil (Exempt) – 1050**

 **Historic Use (Permitted) – 647**

 **Operating (Permitted) – 218**

 **Drilling/Operating (Permitted) - 134**

 **1b. Objective –** Regulate the production of groundwater by permitting wells within the District’s boundaries based on beneficial use and in accordance with District Rules. Each year the District will accept and process applications for the permitted use of groundwater in the District, in accordance with the permitting process established by District Rules. The District will regulate the production of groundwater from permitted wells by verification of pumpage volumes using meters.

 **1b. Performance Standard –**The number and type of applications made for permitted use of groundwater in the District, number and type of permits issued by the District, and amount of groundwater permitted will be included in the Annual Report given to the Board of Directors.

 **1b. Performance Measurement –**

Number of applications for permitted use: 54

 **Type of applications made/permits issued**

* **Agricultural Irrigation – 9/9**
* **Industrial – 43/43**
* **Municipal – 0/0**
* **Rural Public Water Supply – 2/2**
* **Steam Electric – 0/0**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Agricultural** | **Industrial** | **Municipal** | **Rural Water** | **Steam Electric** | **Transported** | **Total Permitted** |
| **BRA** | 334.00 | 1,508.00 |  |  |  |  | 1,842.00 |
| **Hooper** |  |  |  | 145.51 |  |  | 145.51 |
| **Simsboro** | 105.00 | 25.00 |  |  |  |  | 130.00 |
| **Calvert Bluff** |  | 52.60 |  |  |  |  | 52.60 |
| **Carizzo** |  | 1.78 |  |  |  |  | 1.78 |
| **Queen City** | 140.00 | 307.90 |  |  |  |  | 447.90 |
| **Sparta** |  | 777.00 |  | 1.00 |  |  | 778.00 |
| **Yegua-Jackson** |  | 205.00 |  |  |  |  | 205.00 |
| **Gulf Coast** |  |  |  |  |  |  | 0.00 |
|  | 579.00 | 2,877.28 | 0.00 | 146.51 | 0.00 | 0.00 | 3,602.79 |

**2015 Permitted Water Production in Acre Feet by Aquifer/User Group**

 **1b. Performance Standard – A**ctual annual pumpage from each metered well within the District will be reported annually and compared to the amount permitted for that well. This information will be included in the District’s Annual Report submitted to the Board of Directors of the District.

 **1b. Performance Measurement – A spreadsheet detailing the 2015 actual water production, permitted allowance, and fees for each metered well in the District are shown below:**















 **1c. Objective –** Conduct ongoing monitoring of the aquifers underlying the District and the current groundwater production within the District, and then assess the available groundwater that can be produced from each aquifer within the District after sufficient data are collected and evaluated. Using this data and information developed for GMA-12 the District will re-evaluate availability goals as necessary and will permit wells in accordance with the appropriate production goals.

 **1c. Performance Standard –** The District will conduct the appropriate studies to identify the issues and criteria needed to address groundwater management needs within the District’s boundaries. Groundwater availability goals will take into

consideration the GMA-12 planning and research of the hydrogeological and geologic characteristics of the aquifers, which may include, but not necessarily be limited to, the amount of water use, water quality, and water level declines.

 **1c.** **Performance Measurement – 180 wells are now being monitored across the District encompassing all aquifers. Of that number, 101 lie over the Carrizo-Wilcox group, 79 over the Brazos River Alluvium, Queen City, Sparta, and Yegua-Jackson. The total number of readings for all monitoring wells was 1,048. A comparison with previous years shows the well monitoring program remains robust and the most effective method to ascertain aquifer levels in relationship to the desired future conditions.**

* **2014 – 166 wells in the network – 1,344 measurements**
* **2013 – 166 wells in the network – 1,278 measurements**
* **2012 – 151 wells in the network – 816 measurements**
* **2011 – 114 wells in the network – 404 measurements**

**During the September 10, 2015 board meeting, the Districts’ hydrologist, John Seifert, updated the Board on the average artesian head change for each aquifer and comparison of the average artesian head change for each aquifer with the DFC for each aquifer.**

**The report indicated positive relationship between average water levels within the aquifers and the DFC’s.**

**Groundwater Management Area 12 (GMA 12) DFCs were adopted in April, 2010 and are currently being re-evaluated for adoption not later than May, 2016. GMA 12 is meeting on a regular basis to establish DFCs for each of the aquifers managed by the respective districts represented. Several groundwater availability model runs have been performed during the GMA 12 planning process to assess current and predicted future impact of production from each of the aquifers. The BVGCD database of readings being used to assist in verifying how well the current Groundwater Availability Model (GAM) predicts the drawdown of the aquifers. District data will also help improve prediction of the modeled available groundwater, if in fact drawdown levels are not what the model has predicted. Assessment of the past three years of monitoring well data compared to the GAM projected drawdown of the aquifers indicates the aquifers are responding more favorably than the GAM estimates. This is a positive development, but no assessment can be made at this time as to how relative the model is in predicting the drawdown as it relates to the DFC’s of the regulated aquifers.**

 **All hydrologists for the GMA-12 districts were instructed to analyze the current model, data developed within the respective groundwater districts, and determine if an update of the model is warranted and costs associated with the update. That meeting occurred December 9, 2013 resulting in GMA-12 instructing the hydrologists to contact the Texas Water Development Board (TWDB) about updating the model and a possible partnering with TWDB on the update. In November, 2014, TWDB published a Request for Qualifications (RFQ) for the aforementioned GAM update. Work on the update should begin in 2016.**

**BVGCD has committed $130,000.00 to the improvement of the Central Queen City-Sparta/Carrizo-Wilcox Groundwater Availability Model (GAM). The update will focus on better defining faults and their impacts, surface/groundwater interaction along the Brazos and Colorado River basins, and improved definition of interaction between aquifers. This is a joint effort involving financial or in-kind service from Post Oak Savannah GCD, Mid-East Texas, GCD, Lost Pines GCD, and the Texas Water Development Board. The GAM will likely be available for use by the districts within GMA 12 by late 2017.**

 **The Board declared the Brazos River Alluvium relevant for this round of DFC determination. The Alluvium was declared non-relevant but self-regulating in 2010 leading to no designation of a DFC. With relevancy declared, a DFC will be required to be set for the aquifer.**

 **The TWDB is currently working to establish a GAM for the Brazos River Alluvium. It is not known at this time when to expect the completed product, but once completed, it should aid in a more accurate determination of future DFCs for the aquifer.**

 **1c. Performance Standard –** A progress report on the work of the District regarding the groundwater availability will be written annually, as substantial additional data are developed. The progress report will be included in the annual report to the District Board of Directors.

**1c. Performance Measurement – The Brazos Valley Groundwater Conservation District (BVGCD) has inventoried pumping of permit holders for several years. Obtaining accurate data regarding the quantity of groundwater pumped is an important effort with data collected on a monthly or annual basis.**

**Water-level data are collected from a water-level monitoring network to evaluate water-level changes that occur through the year or over a number of years in response to changes in groundwater pumping. The data will continue to be collected and utilized as overall groundwater availability within the BVGCD is evaluated. Data being collected will be utilized in current round of GMA-12 planning scheduled to be completed by May, 2016. At that time, revised estimates of groundwater availability will be developed based on the review of the groundwater pumping and well water-level data being collected and**

**evaluated. Results from the BVGCD’s efforts also will provide data for the Texas Water Development Board (TWDB) regional groundwater availability model used as a water resources planning tool.**

**From 2007 through 2015, GMA-12, composed of five groundwater districts, participated in the process of developing desired future conditions (DFCs). During that time the BVGCD was enhancing its inventory of groundwater pumping and also initiating a program of water-level monitoring to provide data for continuing evaluation of groundwater resources. The collection of water-level monitoring data by the BVGCD began during the latter part of 2010, with data before that time for a limited number of wells collected by the TWDB.**

**As part of the GMA-12 effort, estimates of Modeled Available Groundwater (MAG) were developed by the TWDB in the latter part of 2010 based on the DFCs. The estimates of MAG within the BVGCD are given in Table 1. The Brazos Alluvium Aquifer was declared non-relevant and self-regulating during the 2010 round of DFC determination. The Board declared the Alluvium relevant for the 2016 DFC planning process.**

**Table 1. Estimates of Groundwater Availability**

|  |  |
| --- | --- |
| Aquifer | Modeled Available Groundwater, ac-ft/yr |
| Carrizo | **5,496** |
| Queen City | **529** |
| Simsboro | **96,185** |
| Calvert Bluff | **1,755** |
| Hooper | **316** |
| Sparta | **7,923** |
| Yegua-Jackson | **7,071** |

**Table 2. Metered Groundwater Pumping, ac-ft/yr**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Aquifer | 2012 | 2013 | 2014 | 2015 |
| Carrizo | **1,056.30** | **806.43** | **852.28** | **665.50** |
| Queen City | **105.78** | **64.40** | **496.57** | **189.78** |
| Simsboro | **53,498.77** | **64,106.92** | **62,946.34** | **56,638.46** |
| Calvert Bluff | **124.99** | **81.77** | **183.50** | **160.07** |
| Hooper | **714.21** | **794.24** | **1,065.07** | **1,084.25** |
| Sparta | **3,099.50** | **3,402.06** | **5,358.33** | **4,122.06** |
| Yegua-Jackson | **1,418.33** | **1,438.37** | **2,533.23** | **1,664.27** |

**Water-Level Monitoring Data for 2011-2015**

**As groundwater pumping occurs within the BVGCD, water levels are measured in wells screening the aquifers to evaluate their response to continuing pumping. The TWDB has had a program of measuring water levels in certain wells within the BVGCD for decades. With that program, water levels were measured in about 21 wells on an annual basis. Beginning in 2009, the BVGCD also began measuring water levels in 5 additional wells screening sands of the Simsboro Aquifer.**

**The BVGCD expanded its water-level measuring program in the latter part of 2010 to include an additional 34 wells. The water-level was measured at least once in each of the wells and for some of the wells at least two times during the year. This water-level monitoring effort was in addition to the 21 wells that are a part of the TWDB water-level measuring network.**

**In 2011, the well water-level monitoring program was expanded further with water levels measured in additional wells that screened sands of the various aquifers providing water within the BVGCD. 114 wells were monitored at least once during the course of the year. Monitoring was done across all aquifers with most having at least 2 monitoring wells.**

**During 2012, 151 wells were monitored in the network. Several of these wells were not monitored during 2012 because steel tape measurements were ceased. This was in response to a report of possible damage done to one well.**

**The well monitoring program grew to 166 wells covering all eight of the relevant District aquifers during 2013. A minimum of two monitor wells are used in each of the aquifers. The City of Bryan Well #18 has been equipped with a well bubbling unit which allows the District and the city continuous to receive static water level measurements in real time.**

**In 2014, the well monitoring network was comprised of 164 wells covering all eight aquifers in the District. At least two wells were measured in each of these aquifers. Hydrographs were presented at each Board meeting reflecting an average of water level measurements taken each month.**

**During 2015, the monitoring wells network grew to 179 wells with heavy emphasis on adding wells in the unconfined portions of the aquifers. A high level of importance was placed on locating unconfined wells in the Hooper and Simsboro aquifers. Several were also located in both the Calvert Bluff and Queen City aquifers. District staff continues to search for wells, both confined and unconfined, in the Sparta and Carrizo aquifers. Some wells were taken out of the monitoring network do to their close proximity to other monitoring wells in the same aquifer with more measurement data.**

**Board members at each permit hearing and board meeting are provided a table listing the modeled available groundwater assessed for each aquifer, the amount of water permitted in each aquifer or aquifer subdivision, and the amount of water pumped from each aquifer during 2009 through 2015.**

**2. Implement Strategies to Control and Prevent Waste of Groundwater:**

**2a.** **Objective –** Apply a water use fee to the permitted use of groundwater in the District to encourage conservation-oriented use of the groundwater resources to eliminate or reduce waste.

 **2a. Performance Standard –** Each year the District will apply a water use fee to the non-exempt permitted use of groundwater produced within the District pursuant to District rules. The amount of fees generated and the amount of water produced for each type of permitted use will be a part of the Annual Report presented to the District Board of Directors.

 **2a. Performance Measurement – In 2015, the District generated a gross total of $585,386.12 through water production fees. Rebates to Public Water Supply permit holders were given at a rate of $0.01/1000 gallons applying to the first 100,000,000 gallons produced. The net total water production fees generated for 2015 was $573,933.34. The amount generated and actual water productions for each permit type are listed below.**

 **Type of Permit Fees Generated Water Used**

 Agricultural (metered) $2,173.62 17,388.92 ac ft.

 Agricultural (non-metered) $11,389.07 \*89,284.50 ac ft.

 Industrial $46,074.10 3,326.97 ac ft.

 Municipal Water Supply $458,588.65 33,114.28 ac ft.

 Rural Water Supply $65,745.30 4,747.41 ac ft.

 Steam Electric $1,415.38 5,661.50 ac ft.

 Water Transported $0.00 0.00 ac ft.

 **Total Fees Generated** $585,386.12

 **Total Fees Collected\*\* $573,933.34**

\*Unmetered agricultural irrigation permits are charged fees for the full permitted

 amount. No metered production is reported in the Brazos River Alluvium Aquifer.

\*\* - 8 Rural Water Supply entities received at total of $4,567.48 in rebates.

\*\* - 7 Municipal Water Supply entities received at total of $5,885.30 in rebates.

 **2b. Objective –** Evaluate District rules annually to determine whether any amendments are necessary to decrease the amount of waste within the District.

 **2b. Performance Standard –** The District will include a discussion of the annual evaluation of the District rules, and the determination of whether any amendments to the rules are necessary to prevent the waste of groundwater in the Annual Report of the District provided to the Board of Directors.

 **2b. Performance Measurement – The Board of Directors worked throughout 2015 to formulate and adopt a rules to enforce the desired future conditions of all aquifers managed by the District and create a Conservation Credit Plan. Rules Subcommittee meetings were held on January 5th, February 19th, March 26th, April 30th, May 28th, June 11th, September 15th and December 18th. An All Board Rules Workshop was held on November 8th for full Board discussion on the proposed draft language. During the November 12th Board meeting, the directors voted to move the finalized language to a Public Rules Hearing on January 14, 2016. Only the rule pertaining to the enforcement of the desired future conditions was placed of the January 14th hearing agenda. More work will be done to complete the Conservation Credit Plan portion of the rule during 2016.**

 **2c. Objective** – Provide information to the public and the schools within the District on the wise use of water to eliminate and reduce wasteful practices.

 **2c. Performance Standard** – The District will include a page on the District’s website devoted to the wise use of water and providing tips to help eliminate and reduce wasteful use of groundwater. The District will provide information to local school districts including Texas Education Agency approved water curriculum and in-school presentations to encourage wise use of water and understanding of the significance of aquifers to District residents.

**2c. Performance Measurement – A major reconstruction of the District website was launched early in December, 2012. One page is dedicated solely to water conservation tips for the home and homeowner landscape. The other is “Just for Kids”, an area that targets water conservation education at elementary school students.**

**The Palmer Drought Severity Index and the latest U.S. Drought Monitor is displayed, and refreshed weekly on the homepage. News articles relating to water and conservation are also easily accessed from the homepage. Visitors can download an application for a $25 rebate on the purchase of a rain barrel for conservation purposes using one of the tabs. Well owners also have access to information relating to the cost share well plugging program bolstered by the District is 2014. The District now shares in the cost of plugging the well at a level of 75% of the total cost up to $1000/well.**

**The “Major Rivers” water curriculum was distributed to all 5th students in Robertson County. This includes Mumford, Hearne, Calvert, Franklin, and Bremond ISD’s. This same curriculum was distributed to 8 of the 15 Bryan ISD 4th grade classes, 6 of the 9 College Station ISD 4th grade classes, and every College Station ISD 5th grade class. The curriculum includes sections covering water conservation and the ways to wisely use water. A total of approximately 2,700 were exposed to the water curriculum in 2015.**

**Many of the above mentioned school districts were also provided in-class demonstrations of aquifer characteristics, the water cycle and its importance to the aquifers, and instruction on water conservation and its effect on the longevity of District aquifers. Approximately 3,000 students were exposed to the 45-60 minute teaching session. This included approximately 450 7th grade students in College Station.**

**1400 4th grade students from Bryan, College Station, and Caldwell ISDs were taught the importance of water conservation during the Brazos County Texas AgriLife Extension Service “Pizza Ranch” event held during September, 2015. The District was asked to be a part of the event and to focus on the importance of water and the conservation of the natural resource. This will be a yearly activity for the District.**

**The District annually organizes and conducts a “Water Conservation Field Days” for all the 5th grade students in Robertson County school districts. This included Hearne, Mumford, Calvert, Bremond, and Franklin ISD’s. The event, held at the Franklin Community Park focuses on the importance of water, water quality, how aquifers work, and water conservation. The students rotate through ten 15-minute sessions teaching the above mentioned subject matter. A total of approximately 250 students annually attend the field day. Due to torrential rainfall, the event scheduled for October 23, 2015 was cancelled but rescheduled for May 19, 2016.**

**The District has implemented the BVWaterSmart Irrigation Network for the use by homeowners in the District offering irrigation rates throughout the lawn growing season. This effort is a partnership between the City of Bryan, City of College Station, Wickson Creek SUD, and Wellborn SUD using funds awarded by the District for the purchase of weather stations, wireless rain gauges, establishment of a website, and a contract to gather information for homeowner use. The District had a presence at both the BCS Home & Garden Show and Earth Day events to push the service to homeowners. The project is initially funded for three years and will be evaluated for effectiveness at the end of the period.**

**3. Implement Strategies to Address Conjunctive Surface Water Management Issues:**

**3a. Objective** – Encourage the use of surface water supplies where available, to meet the needs of specific user groups within the District.

**3a. Performance Standard** – The District will participate in the Region G Regional Water Planning process by attending at least one BGRWPG meeting annually and will encourage the development of surface water supplies where appropriate. This activity will be noted in the Annual Report presented to the District Board of Directors.

**3a. Performance Measurement – The District was actively engaged in the Regional G Water Planning process during 2014. The General Manager attended the January 7th, March 4th, April 15th and August 5th meetings.**

**4. Implement Strategies to Address Natural Resource Issues which Impact the Use and Availability of groundwater, and which are impacted by the Use of Groundwater:**

**4a. Objective** – Determine if there are any natural spring flows within the District that may be impacted by increased groundwater pumping.

**4a. Performance Standard –** Annually monitor water levels in at least 2 wells near natural spring flows, if found, for potential impact from groundwater production. Prepare an annual assessment statement and include in annual report to the District Board of Directors.

**4a.** **Performance Measurement** - **An active search for flowing springs within the District is an ongoing effort. During 2012, three naturally flowing springs were initially identified in mid-November on the Mose Moody Heirs/Lafayette Moody Heirs property just north of Hearne, Texas in Robertson County. The springs were identified as water of Carrizo origin by the District hydrologist. Three Carrizo monitoring wells were identified and static water level measurement taken throughout the year to note the effect, if any, of pumping on spring flow.**

**Current Status: During the late spring of 2014, the property on which the springs manifested was leased. The lessee asked that the District neither check spring flows nor the two monitoring wells on the Moody property. The District respected the wishes of both the property owner and the lessee.**

 **District staff continues to search for and attempt to identify possible**

 **springs within the District boundaries.**

**5. Implement Strategies to Address Drought Conditions:**

**5a. Objective** – A District staff member will download at least one Palmer Drought Severity Index (PDSI) map monthly. The Palmer Drought Severity Index map will be used to monitor drought conditions and will be used by the Board to determine trigger conditions provided by the District’s Drought Contingency Plan.

**5a. Performance Standard** –The District will make an assessment of drought conditions in the District and will brief the District Board at each regularly scheduled Board meeting.

 **5a. Performance Measurement – District staff provided multiple drought assessment documents to the Board members at all 10 regular Board meetings. These included the most recent Palmer Drought Severity Index, Crop Moisture Index, U.S. Drought Monitor for Texas, and U.S. Seasonal Drought Outlook. Board members also are shown maps at each board meeting addressing current departure from normal precipitation. These slides show the 30-day, 60-day, and 90-day departure from the norm. There were no regular Board meetings held during July and December, 2015.**

 **5b. Objective** – Require 100 percent of entities that are mandated by the State of Texas to have drought contingency plans, to submit those plans to the District or follow the District’s plan when applying for a permit from the District for water production.

**5b. Performance Standard** – Review 100 percent of the drought contingency plans submitted as a result of permitting, whenever permit applications for water production are received. The number of drought contingency plans required to be submitted by permitted entities to the District as part of the well permitting process and the number of drought contingency plans actually submitted to the District will be described in the Annual Report to the District Board.

**5b. Performance Measurement – 54 permit applications were received during 2015 requiring a drought contingency plan. One of these permits was from an entity that already had an approved drought contingency plan on file with the District. This permit was submitted by a rural water supply. The drought contingency plan was subjected to review. 53 applications were received that agreed to abide by the District Water Conservation Plan (DWCP) revised and adopted December 2, 2010.**

**All applicants for permitted wells are required to sign the application attesting to the submission of their own drought contingency plan or the agreement to abide by the District Plan.**

 **5c. Objective** – The District drought contingency plan will be reviewed for effectiveness and needed updates once annually.

**5c. Performance Standard –** A report summarizing the findings of the annual review of the District drought contingency plan will be included in the Annual Report of the District Board of Directors.

**5c. Performance Measurement – A District Drought Contingency Plan was developed and adopted November 4, 2010. The DDCP was reviewed by the Education/Conservation Committee on September 15, 2015. Following the annual review, the committee reported to the entire Board on October 8, 2015 there were no recommended amendments. This document will be annually reviewed by the subcommittee during September or October. A report will be presented to the Board by the committee regarding any recommendations for updates, changes, or additions needed.**

**6. Implement Strategies to Promote Water Conservation:**

**6a. Objective -** Require 100 percent of the water applicants requesting a permit for water production within the District to submit a water conservation plan, unless one is already on file with the District at the time of the permit application, or agree to comply with the District’s adopted Water Conservation Plan.

**6a. Performance Standard** – Review 100 percent of the water conservation plans submitted as a result of permit requirements to ensure compliance with permit conditions. The number of water conservation plans required to be submitted by water permittees to the District that year as part of the well permitting process and the number of water conservation plans actually submitted to the District will be reported in the Annual Report to the District Board of Directors. If the permittee chooses to agree to follow the District’s adopted Water Conservation Plan in lieu of submitting a water conservation plan, then that number will be indicated in the Annual Report to the District Board.

 **6a. Performance Measurement - 54 permit applications were received during 2015. No water conservation plans were received as a result of permitting requirements. All 54 applicants agreed to abide by the District Water Conservation Plan revised and adopted December 2, 2010.**

* **Plans requiring Water Conservation Plans - 54**
* **Water Conservation Plans submitted – 0**
* **Water Conservation Plans reviewed – 0**
* **Applicants to abide by the District Water Conservation Plan – 54**

**6b. Objective** – Develop a system for measurement and evaluation of groundwater supplies.

**6b. Performance Standard** – Water level monitoring wells will be identified for Brazos River Alluvium, Yegua-Jackson, Sparta, Queen City, Carrizo, Calvert Bluff, Simsboro and Hooper aquifers. At least two (2) wells per aquifer will be monitored on an annual basis to track changes in static water levels.

**6b. Performance Measurement – At this time 179 wells are in the monitoring network. The Brazos River Alluvium, Simsboro, Hooper, Sparta, Yegua Jackson, Queen City, Carrizo, and Calvert Bluff aquifers all have at least 2 monitoring wells. The District staff is working to cultivate monitoring wells in all of the aquifers. A total of 1,048 readings were taken during 2015. A report on well monitoring was given each month during the Board of Directors meeting. Below is a listing of monitored readings by aquifer.**

|  |  |  |
| --- | --- | --- |
| **Aquifer** | **Readings** | **# Monitor****Wells** |
|  |  |  |
| **Hooper** | **131** | **21** |
| **Simsboro** | **374** | **65** |
| **Calvert Bluff** | **55** |  **10** |
| **Carrizo** | **22** |  **5** |
| **Queen City** | **47** |  **6** |
| **Sparta** | **144** | **21** |
| **Yegua Jackson** | **67** | **13** |
| **Brazos River Alluvium** | **208** | **38** |
| **Total** | **1,048** | **179** |

 **6c. Objective** *–* Assist in obtaining grant funds for the implementation of water conservation methods.Work with the appropriate state and federal agencies to facilitate bringing grant funds to various groups within the District boundaries to develop and implement water conservation methods. Work with local entities to help develop and implement water conservation methods. The District will meet with at least one state or federal agency annually in order to discuss bringing water conservation methods grant funds into the District.

**6c. Performance Standard** – Number of meetings held annually with at least one state or federal agency and the number of grants for water conservation methods applied for and obtained will be included in the annual report to the District Board of Directors.

**6c. Performance Measurement –A meeting was held with Natural Resources Conservation Service to determine if any grant money was available and, if so, what categories would be eligible. This was done to facilitate bringing grant funds into the District for development of implementation of water conservation methods. The meeting was held in Franklin June 15, 2015. A discussion was held about grant money available for the purchase of a flow metering device that would assist farmers with knowing flow rate of non-metered wells in the Brazos River alluvium. Also discussed was cost share funding that might become available for underground pivot systems. Local farmers are directed to Natural Resources Conservation Service (NRCS) if the district is aware of their need.**

**The General Manager attended a TWDB webinar February 3, 2015 concerning agricultural grant money available to groundwater conservation districts and projects eligible for grant consideration.**

**6c. Performance Standard** – Once annually, the District will conduct a meeting to address potential District grant funding for water conservation projects. Following proposal submission, applications will be reviewed for possible District Board approval. The number of water conservation projects submitted and the number of projects approved for grant funding by the District will be reported in the Annual Report to the District Board.

**Request for Proposals for granting opportunities was sent out to interested entities in early December, 2015 asking that proposals be submitted no later than December 31, 2015. The District received 9 proposals for consideration by the deadline.**

**The Grant Committee met on December 18, 2015 to discuss and formulate recommendations on the establishment the grant program parameters including initial funding available, sources of replenishment of grant funding, and acceptable levels of indirect costs associated with certain proposals. Recommendations were formulated and are to be presented to the District Board in January, 2016 for consideration and possible approval.**

**The District continued to fulfill grant obligations to The City of College Station, Wickson SUD, and Wellborn SUD. This is in respect to the BVWaterSmart Irrigation Network and its ongoing operations.**

**2015 was the first year for of grant contracts associated with water well plugging. There were 5 entities that signed grant contracts with the District to engage in the plugging of a water well. One of those contracts was fulfilled during 2015. The others should occur in early 2016.**

**7. Implement Strategies to Protect Water Quality:**

**7a. Objective** - Develop baseline water quality data and a system for continued evaluation of groundwater quality.

**7a. Performance Standard** – Develop general understanding of water quality within aquifers in the District based on TCEQ and TWDB data. Coordinate with TCEQ on water quality issues.

**7a. Long term water quality reports taken by the TWDB over many years have been compiled by LBG-Guyton and made available to the directors. The material will be summarized for Board member use. The data will also be incorporated into the District website accessible to the general public.**

**Water samples are accepted at the District Office in an effort to help facilitate water sampling. Samples are delivered to the Texas A&M University Soil, Forage, and Water Laboraties. Copies of the results are obtained by the District for future reference.**

**7b. Objective –** Require all water permittees that are required by the TCEQ to have well vulnerability studies prior to constructing a well, to provide evidence of the study to the District prior to construction of a well within the District.

**7b. Performance Standard** – Review all vulnerability studies submitted as a result of permit requirements to help ensure water quality protection.

**7b. Performance Measurement – There were no wells submitted for permitting or construction that required well vulnerability studies. No well vulnerability studies were reviewed.**

**7c. Objective** – Provide information to the general public and the schools within the District on the importance of protecting water quality.

**7c. Performance Standard** – The District will include a page on the Districts web-site devoted to water quality issues and will provide information to water permittees on wellhead protection programs.

**7c. Performance Measurement – A water quality page was added to the District website during the major reconstruction throughout the month of December, 2012. Several pages deal with water quality protection including a well plugging page and well head protection through proper capping of unused wells.**

**All new wells drilled or existing wells within the District that were registered or permitted (excluding rig supply and fracturing supply wells) were provided two brochures addressing protection of the wellhead and proper well construction.**

**Approximately 3,000 4th, 5th, and 7th grade students in the College Station, Bryan, and all Robertson County ISDs were taught about protecting aquifers from contaminants and the importance of protecting the wellhead. This was done in conjunction with a teaching session that included aquifer characteristics, the water cycle, and water conservation.**

**8. Implement Strategies to Assess Adopted Desired Future Conditions**

**8a. Objective –** At least once every three years, the District will evaluate well water level monitoring data and determine whether the change in water levels is in general conformance with the DFCs adopted by the District. The District will estimate total annual groundwater production for each aquifer based on the water use reports, estimated exempted use and other relevant information, and compare these production estimates to the MAGs.

**8a. Performance Standard** – At least once every three years, the General Manager will report to the District the water level data obtained from the monitoring wells in each aquifer, the average artesian head change for each aquifer calculated from the water levels of the monitoring wells in each aquifer, a comparison of the average artesian head change for each aquifer with the DFCs for each aquifer, and the District progress in conforming with the DFCs.

 **During the September 10, 2015 Board meeting, John Seifert gave a presentation**

 **summarizing the data obtained from each of the wells monitored in all aquifers**

 **managed by the District. The presentation included the average head change in**

 **each of the aquifers calculated from data obtained from the monitoring wells**

 **within each respective aquifer, and how the artesian head calculated compared**

 **with the DFC established for each aquifer.**

 **The presentation clearly indicated that the water production within the District**

**is having a lesser effect than the current groundwater availability model predicts. The District is currently expanding the well monitoring effort is several of the minor aquifers that are not as heavily used but need more monitoring data. Unconfined wells are also being developed in each of the aquifers for incorporation into the average artesian reduction calculations.**

**8a. Performance Standard** – At least once every year, the General Manager will report to the District Board the total permitted groundwater production and the estimated annual groundwater production for each aquifer and compare these amounts to the MAGs.

**During each Permit Hearing, Board members are provided an informational sheet detailing the MAG, total permitted (to date) water production, and annual water production for the past year for each aquifer. The sheet for 2015 detailed water production (updated each February) for 2009-2014.**