



Environmental Advisory Committee (EAC) Meeting Agenda

September 27, 2017 from 10 a.m. to 2 p.m.

Connally Memorial Medical Center, Hospital Conference Room

499 10th Street, Floresville, TX 78114

Wilson County

Welcome & Introductions:

- **Rebecca Wilson**
 - Introductions and Q2 Meeting Preparation
- **New member acknowledgement**
- **Q2 meeting goals**
 - EAC review and feedback for San Antonio River Authority (SARA) FY 17/18 Strategic Plan .
 - EAC review and feedback for projects within SARA Natural Resource Protection Program, Sustainable Watersheds Implementation Program, and Watershed Modeling Studies and Planning Program.
 - Feedback and questions requested via e-mail by Nov. 22, 2017.
 - Discussion to take place at Q2 meeting.

NO FORMAL ACTION WAS REQUIRED NOR TAKEN BY THE EAC FOR THIS ITEM.

- **Co-Chair**
 - Introductions
- **MEETING NOTES FOR AGENDA ITEM 1:**
- **A copy of the sign-in sheet is posted to webpage.**

NO FORMAL ACTION WAS REQUIRED NOR TAKEN BY THE EAC FOR THIS ITEM.

Presentations Topics:

- **Wayne Tschirhart**
 - National Climate Assessment
- **Presentation of data predominantly based on 2010 National Climate Assessment**
- **Climate is long-term averages of weather & environmental parameters, calculated for 30 years every decade. Latest period is 1981-2010. Next period is 1991-2020. Common climate study baselines: 1931-1960, 1951-1980, and 1961-1990.**
- **Natural cycles affecting climate:**
 - El Niño/La Niña
 - Volcanic greenhouse gas emission



- Solar cycles
- Human activities affecting climate:
 - Urbanization
 - Ecosystem changes
 - Industrial greenhouse gas emission
- Benchmark climate indicators include air temperature, water vapor, glaciers and ice sheets, snow cover, temperature over land, sea level, ocean heat content, temperature over oceans, sea surface temperature, and sea ice.
- On a global scale, the Global Historical Climate Network benchmark observations have recorded an increase in temperatures and CO2 concentration. Solar radiation levels have been fairly flat, but global surface temperature has had a fairly steady rise. Precipitation has seen a rise. Sea level on rising trend. Cooling and heating demand is increasing.
- Climate scientists model the cause through natural and human causes.
- Following current observed trends, we can expect warmer days and warmer nights, as well as impacts on water supply for the state of Texas. Sea level will also continue to rise if conditions continue according to current trends, though models are uncertain of height of sea level change.
- EAC expressed interest in learning more about groundwater and surface water interactions to consider basin impacts and planning needs.

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- **Chuck Lorea and Karen Sablan**
 - Clean Rivers Program (CRP) Overview, Goals, and Objectives
- CRP initiated by Texas Commission on Environmental Quality (TCEQ). Purpose is to provide known and quality data to decision-makers. Quality control/assurance is vital. In 1992, SARA started with about 25 water quality monitoring stations and now have about 108 stations within basin. SARA and TCEQ resources contribute to funding and staffing continued monitoring.
- Current (FY18/19) budget has not changed. CRP works in two-year budgets. FY18 and 19 funded \$197,770.00 per year (\$395,540.00 for two-year term).
- Changes for monitoring:
 - Systematic monitoring has moved from Westside Creeks to Cabeza Creek.
 - Stations added:
 - SARA - 12789 SAR @ US 77 and 12698 Walzem Creek @ Holbrook Rd
 - BCRA GD - one station 15736 W Prong Medina River upstream of Coalkiln Rd



- Sub-participant change:
 - City of Boerne will no longer participate.
- SARA's biological monitoring is more extensive than any other river authority in Texas. Biological monitoring measures water quality through chemistry and habitat assessments (including in-stream and bank).
- CRP 2018 report will be five-year Basin Summary Report (expected May 31, 2018):
 - Comprehensive review of water quality data and discussion of data analysis findings.
 - Develop a greater understanding of basin water quality conditions, identify trends and changes.
 - Aids in making decisions regarding water quality issues in each river and coastal basin in Texas.

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- **Shaun Donovan**
 - Natural Resources Update
- Program purpose:
 - Designed to identify concerns and communicate information about water quality, physical processes and riverine communities, including aquatic and riparian habitats, so they may be protected, conserved and/or restored.
 - The information gathered will be used to preserve and protect the aquatic health in the San Antonio River Watershed, estuaries and bays, and influence management decisions.
- CRP 2015 project cycle - sampling completed August 31 with only one missed biological sample related to Hurricane Harvey (SAR at Southern Pacific RR Bridge) due to high flows.
- Environmental Flows Validation draft document completed and sent to Texas Water Development Board (TWDB). Baylor is conducting riparian surveys; Texas State University is conducting aquatic sampling.
- Mid/Lower Cibolo Creek Watershed Protection Program (WPP) - SARA monitors stormwater runoff through field sampling to manage water quality.
- Holistic Freshwater Mussel Project to survey population diversity and abundance in San Antonio River.
- Mission Reach Avian Study - Information Technology, Environmental Sciences, and Watershed Park and Operations staff work together to monitor and report findings.
- Feral Hog Management funds used for active hog management with Wildlife Services. 1,904 feral hogs removed since 2015.



- USGS Oil & Gas Constituents Phase II completed project sampling in August. Data analysis, interpretation and publication remaining.
- LIMS replacement upgrade to v6.7 underway.
- Watershed Wise River Discovery project to redesign SARA website for educational modules.
- Water Quality Data Analytics project to review and compile thorough water quality trends for CRP Basin Summary Report.
- Mission Reach Mussel Survivability Study to determine whether mussels can live in the Mission Reach. Equipment installed in August. Study implementation expected in Q2.

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- **Karen Sablan**

- Zebra Mussels
- Invasive mussel. Native to the Caspian and Black Sea drainages. Theorized to have been brought to and spread around Texas by boats and other watercraft. Indigenous to lakes, found in rivers and streams. Turbid water minimizes zebra mussel populations.
- Microscopic larvae, known as Veligers, grow to ~1.5 inches, triangularly-shaped, color ranges from tan to cream to dark brown with light and dark bands. Veligers float freely for several weeks and settle onto underwater objects where they grow. Adult females release up to a million eggs in a year and lives 2-5 years.
- Infested lakes:
 - Belton, Bridgeport, Canyon, Dean Gilbert, Eagle Mountain, Lewisville, Ray Roberts, Randall, Stillhouse Hollow, Texoma, Travis
- Positive for zebra mussels:
 - Austin, Lavon, Livingston, Waco, Worth, Fishing Hole Lake
- Biological impacts: can attach to and kill native mussel; water filtration resulting in higher clarity, higher temperatures, and depletion of nutrients; overtake resources impacting of ecosystem and diversity of other species.
- Recreational impacts: damage of boats and boat trailers; species impact and equipment damage for fishing; sharp shells covering ramps and marinas can break skin and cause injuries.
- Economic impacts: damage to utilities equipment, recreational use impacted, biological effects.
- Public can clean, drain, and dry water vehicles according to Texas Parks and Wildlife guidelines to prevent spread of zebra mussels.



- Next steps for SARA include meeting with other agencies to coordinate response, posting educational signage, and monitoring water for signs of zebra mussels.

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- **Jake Aalfs**
 - Watershed Wise Rebate and Grant
- SARA's Low Impact Development (LID) Program began in 2011 with outreach. Over the next few years, the LID Program developed an implementation report, design competition, LID Design Guidance Manual, training program, and options for the Unified Development Code (EDC). In 2015, SARA initiated the Watershed Wise School Grant. In 2016, SARA began the Watershed Wise Rebate Program.
- Goals of the Rebate and Grant Program:
 - Provide funds for pilot projects
 - Educate the public
 - Provide design education
 - Provide construction education
 - Get LID in the ground
- Watershed Wise School Grant
 - Multiple grants each year
 - K-12 public schools eligible
 - Maximum of \$25,000 per school
 - Funds for design and construction of a combination rain gardens, cisterns and bioswales.
 - Grant agreement required
 - 10 years operations and maintenance
 - Educational lessons
 - Half of funds distributed at initial selection; final funds distributed at completion
 - Results summary
 - 10 school grants complete
 - 2 school grants in progress
 - Applications accepted starting in October
- Watershed Wise Rebate
 - \$15,000 - \$100,000
 - Budget \$300,000 - \$500,000 per fiscal year
 - Based on unit volume treated or area
 - UDC standard applies



- Construction documents and construction inspection must be approved by SARA
- Agreement required
- Entire rebate paid upon completion:
 - Written approval of construction documents
 - Written approval of construction inspection
- Results summary
 - \$1,295,000 total budget over 3-years
 - 14 projects
 - 4 rebate projects complete
 - Accepting applications now
- Lessons Summary
 - Request as-builts from previous construction
 - Protect excavations from rain
 - Complete as quickly as possible
 - Set inspection expectations
 - Stay organized
 - Pre-construction meetings are useful
 - Emphasize operation and maintenance
 - Ask for and review itemized costs for grant projects
- Benefits Summary
 - Educational for all involved
 - Identify materials suppliers
 - Familiarize community with construction methods
 - Identify costs
 - Learn by doing
 - Stormwater treatment
 - Public awareness of stormwater

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- **Open Discussion**
- Next meeting planned for early December in Goliad County.