Socorro SWCD

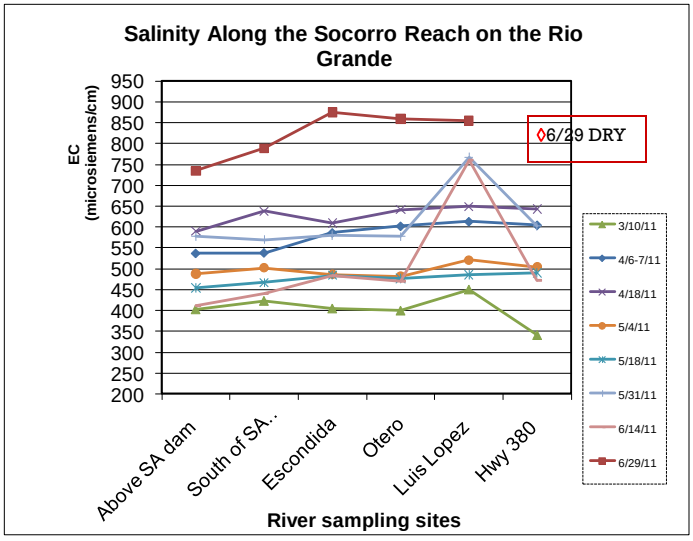
Summer 2011 Newsletter

To many of you who have been reading the quarterly Socorro SWCD newsletter, you know that the topic of water, the issues and application of, is constantly being addressed. Whether in regard to home (domestic) water use, municipal or agricultural use, there's not a part of our lives where water doesn't play an important role. In previous issues I've discussed the actions and programs available to agriculture producers and homeowners to help conserve water and its savings associated with incorporating conservation measures. This issue will begin to discuss current quality issues, in particular salinity, as it is relates to agriculture in the valley. Later issues will be devoted to results and discussion of salinity data that was collected over the 2011 irrigation season in our reach of the river.

Socorro SWCD has supported a project to begin a salinity monitoring program that collects bi-weekly surface water salinity of the Rio Grande, low flow conveyance canal (LFCC), irrigation and drain hydrologic systems. Samples of water and salinity data are taken every two weeks from San Acacia Dam to San Antonio, near Highway 380 at 5 different locations along the river and its associated canals. The total stretch encompasses approximately 26 miles . Our hope is to understand our stretch of the river system and its associated solute fluxes and disseminate this information out to you. Our intent is to evaluate the growing concern regarding use & quality of irrigation water reuse from the upriver allotment from the MRGCD Unit 7 drain, and as a means of communicating those changes to local & regional policy leaders and affected growers as they prepare and adjust for such things as plant needs and quality agricultural irrigation use, up river human use & refuse, consumption and return, impacts from climate change and other policies relating to the qualitative and quantitative aspects of our water.

Here in the lower middle Rio Grande we have dynamic processes that naturally will increase salinization. Salinity concentrations typically increase in levels as you go downstream and with streamflow fluctuations. Though some may be attributed to irrigated agriculture, salinity concentration increases when water is evaporated from large open water areas (think rivers, lakes, etc.) as well as from transpiration from riparian & ag vegetation. Salinization can occur from geologic weathering, atmospheric deposition, subsurface upwelling's and from various human causes & effects. You may ask yourself, "why is this important?" Well, within our little reach of the Rio Grande, agricultural is one of our main economically viable businesses. Impacts of diverted water (meaning irrigation and also water that is sold or transferred out our area) and depletions to the shallow groundwater (whether due to natural causes or anthropogenic demand) alter chemical attributes of the water. Compounding salinity issues affect the economic viability in the ag sector as well as municipal & industry populations. Soils that are higher in salts reduce the productivity of plants, impairing growth, leaf tissue, photosynthetic processes and crop yield. This in turn affects the economics of doing business in ag and this affects our local economy.

Salinity increases as you travel down river, drains & LFCC have higher concentrations than the river, as well as the irrigation water. Increase of solutes may be due to possible geologic conditions, shallow ground water upwellings, water reuse, and/or other human influences. The accompanying graph shows how salinity concentrations, measured as electrical conductivity (EC) have varied over the recent 4 months along the Rio Grande. In future newsletters we'll investigate how this relates & compares to past levels and associated streamflows. We'll look at trends and the comparison of historical Socorro regional flows of the Rio Grande and its associated LFCC and drain system in regard to salinity levels and how its management of future needs impacts agriculture and municipal stakeholders.



Congratulations to Chris & Paula Sichler who have been selected & recognized as the New Mexico Assoc. of Conservation Districts (NMACD) **2011 Outstanding Land Stewards** for their dedication to the conservation of natural resources!

Save Water and Money! Cost share applications for the 2011-2012 fiscal year are ready. New guidelines and applications are available on the website, as well as in the office at 103 Francisco de Avondo.

Socorro SWCD board meetings are open to the public. Meetings take place on the second Tuesday of every month, 5:30 p.m. at the district office.

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Winners of the Socorro SWCD 2011 Stewardship Week Poster Contest

The theme for the National Association of Conservation Districts (NACD) 2011 Stewardship Program : *"Forests For People – More Than You Can Imagine".* Students from schools in the Socorro SWCD were invited to participate in creating posters that reflect the conservation message of understanding benefits, function and importance of trees and forests as natural resources. This year's winners were from Mrs. Vinson's class at Zimmerly Elementary School:

Elementary: 1st place: Alondra Mijares, 2nd place: Leo Malone, 3rd place: Charmaine Aguilar, Honorable Mention: Ambriel Mauldin,

High School (not shown): Victoria Esquibel, 9th grade, Socorro High School, teacher- Laurie Heintz