

MINUTES

Gunnison Basin & Grand Valley Selenium Task Force & Selenium Management Program Work Group

Note: STF and SMP staffs do their best to take accurate meeting minutes. Please report any major errors or omissions to Sonja Chavez de Baca (STF coordinator) or Terry Stroh (USBR)) at: info@seleniumtaskforce.org or tstroh@usbr.gov

DATE: August 2nd, 2012

TIME: 10am to 4:15pm

LOCATION: Delta USDA Service Center, NRCS Conference Room

Attendees: Dave Noe (CGS), Emma Rogers (CGS), Denis Reich (CSU Extension), Ken Leib (USGS), Josh (USGS), Jedd Sondergaard (BLM), Ralph D'Allesandro (DCD), Anna Santo (AmeriCorps/Vista), Dave Dearstyne (NRCS), John McMurdy (Farm Bureau), Allen Distal (Bostwick Park Conservancy District), John Sottolare (USBR), Theresa McGovern (NRCS), Terry Stroh (USBR), Ed Suppes (UVWUA), Steve Fletcher (UVWUA), Steve Miller (CWCB), Ron Godin (CSU Extension), Sonja Chavez de Baca (STF Coordinator)

A. SELENIUM TASK FORCE (10am-12pm)

- I. **Coordinator Updates** (10-10:45)(Sonja Chavez de Baca)
 - a) Grants closed: Water Conservation Field Service Program Grant and Colorado Health River Fund Grant
No further comment.
 - b) Grants in the process of closing: State of Co 319 NPS Grant – EF Lateral Piping (September 2012)
No further comment.
 - c) Grants submitted: Western Sustainable Agriculture and Research Education (WSARE) – On Farm BMP Monitoring in Mancos shale soils
No further comment given. Coordinator Update (8/23) – project proposal failed. Further input being sought from WSARE to find out why.
 - d) Grants in progress: State of Co 319 NPS Grant – On-farm BMP Monitoring in Mancos shale soils; potential piping or lining project
Sonja indicated that if the WSARE grant proposal failed, she wanted to put forth the project to the State of Colorado NPS Program.

Another piping or lining project may be proposed to the NPS program by the Uncompahgre Valley Water Users Association (UVWUA).
 - e) Selenium Update to the Upper Gunnison Water Conservancy District (UGRWCD)
Sonja spoke briefly to the UGRWCD and updated them on recent activities of the STF and SMP and thanked them again for their continued support of selenium reduction activities.
No further comment given.
 - f) Water-quality monitoring: Hannah's email; having USGS take over sites Anna Santo was doing; other?
USGS likely to be on conference call with Hannah (CMU – Water Center) to be able to provide feedback about water-quality sampling sites in the Grand Valley.

Action Item: It was suggested that Sonja call the Uncompahgre Watershed Partnership (UWP) to see if the STF can contribute to their AmeriCorps/Vista position and get water-quality sampling assistance.

Update: Sonja spoke to Agnieszka Przeszlowska (UWP coordinator) about the idea of a shared Vista position. She was receptive to the idea and indicated that they would be in the process of developing a new work plan for their second 3-year cycle. She indicated she would need to speak to her steering committee in September and then could report back to us.

g) **Mancos shale soil study:** Dave D. has started field work, Shavano supporting intern position up-front, \$5K Species Conservation Trust Funds committed, other?

Dave Dearstyne (NRCS) is doing soil sampling in the study. They have already sampled 7 sites in 3 different geologic members of shale. Samples are taken from 4 horizons on average and sent to the NRCS lab. They are sampling some Mancos on the west side (big difference in the members based upon the predominant member). Doing non-irrigated soils at this time and will get irrigated soils later. Trying to match up geology with common soil sites. They hope to do 10-15 sites.

Samples are also being collected for Alisa (USGS) for the core and column study.

NRCS/Shavano has an intern, Ethan, that has been working on the project for about 9 days now. Shavano is supporting the intern's salary up-front and will get reimbursement from the Species Conservation Trust Fund (SCTF) (Steve Miller). The STF thanks Steve for his support.

The soil study is looking at a whole suite of elements, permeability, bulk densities, speciation (total, soluble, etc.). Dave D. indicated that we need to talk about what we want to look for in regard to the geochemistry work-up or trace elements.

Action Item: It was suggested that a sub-committee be put together to guide the development and coordination between soil, geology, and water-quality projects so that the selenium interpretation corresponds with the desired geochemistry work-up or trace elements. The committee should consist of at a minimum: Dave Dearstyne (NRCS), Dave Noe (CGS), Ken & Alisa (USGS), Jason Peel (USGS), etc. DD free until 1st of Sept. Sonja will work with Dave D. on an email and "doodle poll" ASAP.

Initial suggestions included:

- 1) Start by identifying the goals of each agency/entity involved in soil studies so that opportunities for collaboration and cooperation can more easily be identified and carried out;
- 2) Make the speciation the same as what is being done on the sequential studies that Alisa is doing;
- 3) Consider making a request to the SCTF (Steve Miller) for additional funding if we run out and we really need data/info;
- 4) Dave Dearstyne has developed a sampling plan/map. He does have room to add sampling to it (not unlimited though);
- 5) Need to develop a scoping document with intersecting studies identified, where they overlap, how mutual objectives will be met, expected results and outcomes, etc.. The hope is that the coordination committee can do this and could be lead by a project manager or "go to" person – i.d. Data collection, data analysis, and data archiving;
- 6) Suzanne Paschke of the USGS said they have some match that they might be able to put together a document like this (i.e. study plan). Would be more of a work plan or sampling and analysis plan that contains all pieces of work and how we tie them

together. The question was asked about how much funding would have to be brought to the table to allow USGS to use their matching funds? Suzanne didn't think it would be much. Dave Kanzer indicated that since they already have CGS as a partner it could count as part of match.

Update: A meeting was scheduled for August 30th (2pm-4pm). Unfortunately, there was some miscommunication and a couple of folks never made it. The meeting will be rescheduled as a future conference call.

Further discussion about soil and geology studies can be found in Discussion Item II below.

h) **WWUC: Next Mtg Aug 13th; 3-4:30 at Tri-County Water.**

Update: The August meeting was rescheduled for **Tuesday, Sept. 11** from 3-4:30 at Tri-County Water.

II. **Discussion Item: Soils, geology, and water-quality study coordination (10:45-11:15)(CGS, USGS, NRCS, STF)**

Dave Noe (Co Geological Survey or CGS) has been having some discussion with other CGS staff about how they can share the geologic expertise they gain when they're out in the field to help support STF and SMP efforts. As an example, he suggested that they may be able to bring field instrumentation such as the portable X-ray fluorescent (XRF) instrument. The XRF can be calibrated with soil samples being taken in the field by Dave Dearstyne to give surface or sub-surface selenium values.

Action Item: Discuss using the XRF to do sampling in the lower Gunnison at the selenium soils, geology and water-quality coordination meeting.

Question: Can the XRF provide a Total Selenium value?

Dave Noe indicated that it could, but that it would be important to use the same sample as the sample being taken to NRCS lab. Product would be a calibration model. This sets up the instrument for future efforts in our area.

The instrument can also provide surface sample values or below surface values if we want to dig a hole. The result would be a characterization of source material and how this might affect down-gradient hydrology (e.g. building a hydro-geologic model). The model could look at regional permeability, could fill in the gaps whether solid or dissolved phases, etc. The STF thought that this would greatly assist us in targeting areas for remediation.

Question: How can we coordinate the soil and geology studies more closely with water-quality?

Dave Noe indicated that the XRF instrument can be used to coordinate with what's being read from water-quality samples. It would require the development of an algorithm. Dave Noe would need funding to do something like this.

The XRF could test up-stream to see if you are picking up selenium concentrations such that one unit is contributing more selenium than others. CGS could also provide geologic expertise such as interpretation of data sets, scoping for future studies, etc. The STF commented that they would gladly accept any help/input CGS could provide.

Dave Noe will be doing his mapping in the area until the 1st of September. Over the next three years, Dave will be working in the N. Fork Valley near populated areas. He mentioned that Cedaredge and Roubideaux are in his work plan. Dave indicated that if there are compelling reasons to map other areas, it is somewhat flexible, but he would need to be put forth ideas to CGS planning/mapping committee.

Action Item: Dave Dearstyne needs to know from Ken what wetland site he wants him to sample so he can determine if it fits their parameters. Discuss at upcoming meeting to be scheduled.

Question: Steve Miller asked about how much science do we really need about how much selenium is present if the only fund we have to address selenium comes from the salinity program?

Dave Dearstyne indicated that having the involvement and interest of NRCS at this time was very important and that right now NRCS is paying for about 75% of the cost of the lab analysis which he thought the STF should consider. Dave also pointed out that his samples will also be analyzed for salts which is another benefit of the project not only to the STF, but the Colorado River Basin Salinity Program. We could try to id soils with high salts and selenium. Dave indicated there are multiple benefits associated with the data being acquired under the study.

Question: Ed Suppes of the Uncompahgre Valley Water Users Association (UVWUA) asked if Dave Dearstyne wanted to sample for selenium and salinity in areas where the UVWUA will be working this winter on piping projects. They'll have a hole dug.

Dave indicated that yes it's possible if it meets NRCS study criteria. If they know where it is and what it is. Because you have a hole dug, you can use the XRF and take a sample.

III. **Discussion Item: Potential development of a Bostwick Park (BP) Focus Area for targeted selenium, salinity, irrigation system improvement and efficiency activities (11:15-12) (BP Conservancy District, USGS, BLM, NPS, etc.)**

A. BLM Discussion:

Background: The National Park Service (NPS) has been collecting water-quality samples at the top and bottom of Red Rock Canyon. There have been discussions with the NPS regarding the fate of the water coming off Bostwick as tail-water and going into the Loutzenhizer. The problems include junior water-rights for the tail-water and the fact that Red Rock Canyon is already 303(d) listed for selenium.

Jedd Sondergaard of the BLM has met with NPS in terms of dealing with BLM water rights acquired with the Nicholas property exchange (Note: In the Gunnison gorge NCA area, 2.3. cfs gets diverted from Bostwick park into Loutzenhizer Arroyo). There exists an option to divert this 2.3 cfs water right, down red rock canyon, but the NPS is not in support of this idea at this time of because it would increase their load. Any diversion down Red Rock Canyon would require a very high level of decision making by both agencies.

Right now, the BLM is asking the STF and SMP Work Group:

Question: What benefit would we gain by diverting water versus our current situation and issue with water mgt?"

Before the BLM would pursue any action, they need to have loads and process quantified (e.g. they want hard facts) to say with some assurance that diverting the water would be an overall benefit.

Action Item: Sonja will incorporate this as an agenda item in the future Bostwick Park focus area meeting.

B. Other Bostwick Park discussion items: Reclamation is funding a water budget assessment for Bostwick Park. There are opportunities for salinity control under the current FOA for implementing water-efficiency improvements. If Bostwick Park water users can understand the water issue and take advantage of economic opportunities to become more efficient and minimize tailwater so that we don't have to worry about where to turn-out the water, it might be a win-win situation for us all. Allan Distal and Jedd Sondergaard of the Bostwick Park Conservancy District (BPWCD) were able to attend the meeting to discuss the above issues.

Question: Where is the BPWCD with putting in a salinity proposal?

BPWCD is willing to consider putting in a FOA proposal to the salt program, but Allan had some questions prior to moving forward.

Question: Allen asked, "How much salt loading are the canals or ditches contributing?"

Depends upon where exactly we are talking about. Based upon NRCS field observations, systems higher up in elevation might not be contributing to salt load as much just due to precipitation amounts and corresponding natural leaching. At lower elevations you are going to potentially contribute greater amounts of salt and selenium.

Question: Does USBR have salt loading numbers for Vernal Mesa Canal?

Yes. Allan just has to submit a worksheet as required under the FOA announcement. Vernal Mesa Canal is 11 miles long, from the top of Cerro Summit to Bostwick Park. If it could be engineered, the number of miles could be cut in half. Vernal Mesa would be a high priority for BPWCD and he has support for improving his delivery system from his members. Delta Conservation District should be able to help Allan with preparation of a salt worksheet. If he falls in the selenium area, he may be eligible for additional funding for engineering under the SCTF. There is salt in this area.

Question: What is the current design status of the irrigation system?

Open ditch and flood irrigation for 10% of all the acreage with 5,000 total irrigated acres. In the Cimmaron area there's probably 500 acres (10%), with the remainder on the west side. USBR does have info on this.

It was noted that there may be multiple avenues for funding to improve certain pieces of the BPWCD delivery system: MOA, FOA, etc. East and west laterals in the park might be opportunity for this FOA.

Action Item: Sonja will coordinate a Bostwick Park Focus Group meeting date, time, location and agenda. The group should focus on short-term and long-term planning efforts, priority areas for projects, integrating off-farm and on-farm, buy in from shareholders, getting an understanding of legal issues for sources of funding for different areas/facilities of the project, up-dating the BP conservation plan, education and ultimately a bigger picture/long-term plan.

Question: Steve Miller (CWCB) asked if we have the support of the STF to expand planning and implementation efforts in the Loutzenhizer and Bostwick Park area?

There was group consensus that we should do some focused planning and implementation efforts in the Bostwick Park and Loutzenhizer Arroyo sub-basins.

IV. **Next Meeting Date:** October 25, 2012 (Joint meeting with SMP Work Group)

LUNCH ON YOUR OWN (12pm-1pm)

B. SELENIUM MANAGEMENT PROGRAM (1pm - 3pm)

V. **Annual SMP report to the Fish & Wildlife Service (1pm-1:30pm)** (Terry Stroh, USBR)

Terry went over updates to Appendix C, Program Action Plan, with the group.

The group discussed the possibility of requesting that the annual report due date be changed to better accommodate fiscal funding timelines. This could, however, create an issue with the reporting of finalized water-quality sample results from the USGS. Terry will discuss with FWS.

Action Item: It was requested that each agency submit a short, narrative summary of what they've accomplished to improve selenium reduction from January 1 through June 30, 2012.

VI. Loutzenhizer water-quality monitoring report (1:30pm – 2pm) (Ken Leib, USGS)

The results of the study were not what were expected. Measured selenium concentrations increased during the study period (Note: A decrease of 3.1 to 3.9 % was expected). Several possibilities that may have contributed to the unexpected results were discussed by the group, including: 1) the influence of land use changes, 2) additional selenium loading from an upstream spring, and/or 3) a lag-time or delay between the completion of the piping project and groundwater movement through the soils which could affect the observations in actual selenium reduction.

Since a possible delay in observation of results could occur after completion of the study, there was discussion of reactivating the site and collecting more samples.

Additional reasons to support continued monitoring include the on-going piping and lining activity occurring in the sub-basin, as well as the fact that the Loutzenhizer is the highest selenium loading sub-basin known at this time.

The study results were published as an administrative report. The advantage of this type of report is lower cost, however, the report is unpublished and usually can't be cited.

Action Item: Terry will pursue/look into adding the Loutzenhizer at the mouth site (LZA1) to the JFA with USGS so that we can continue to monitor this important site.

VII. Wetland/Groundwater Study : Refinement of study scope, where/how are the wells to be located, and how does the study fit within the related studies. Reclamation crew will drill wells and collect cores for the USGS Wetlands Study. The exact location of drill sites have yet to be determined, but the plan is to drill on BLM land near the East Canal, just north of the Meeker Farm. The target date to begin drilling is October 2012. Funding for the project is provided by the Species Conservation Trust Fund (\$99.5K)

VIII. Status of System Optimization Study Funding w/Cal Poly; Sketch out schedule for suggested initial mtg date. Steve Miller reported that he is still waiting for State Controller to sign the contract. He is hoping it will happen in the next week or two. Funding for the project is \$280K and is coming from the 2011-12 SCTF (\$500K was available in 2011). Dave Kanzer reported that he has an official agreement with Cal Poly to start work, so we can at least start some initial meeting planning.

Action Item: Sonja will help by working with the group to identify a meeting date and time for the project kick-off meeting.

Update: Project kick-off meeting held on 8/14/02.

**IV. Species Conservation Trust Fund Status
2011-12 (\$500K)**

Wetland Study: \$99.5K (JFA with USGS)

Delta Conservation District (FOA Technical Assistance for applicants): \$85K

Update: 14 applications received. All approved. Total award \$60K.

System Optimization Study: \$280K

Shavano Conservation District (Intern to help carry-out NRCS Mancos soil study): \$5K

Se Task Force (Planning and Implementation: Bostwick Park and Loutzenhizer): \$5K

Legacy Groundwater Study: \$50K

*Over appropriated at this point. Steve checking to see if he can mix years of funding or if he'll have to partially fund a project (e.g. wetland study).

2012-2013 (\$200K)

Due to limited funding, the SMP Work Group will need to identify and prioritize projects for funding.

A) The Soil Health BMP Project is still an outstanding issue: It's uncertain whether CSU has the staff resources to carry-out the project. We may need to find someone who has the time to devote to the project. Ideally this person would be a graduate student or Ph.D. Steve Miller asked what amount of funding would it take to do Meeker's place? At this point, Steve would like the SOW to be specific to Meeker's place only if he funds it from SCTF.

There were discussions about hiring a Ph.D. or graduate student to do the project with the oversight of a committee composed of Ron, Denis, Ken, Dave Dearstyne, etc. The STF would likely do the Project Management.

Action Item: Sonja needs to meet with Dave Dearstyne and Ron Godin about the future of the project and CSU's ability to do the project under current work priorities.

B) There were also discussions about the Uncompahgre Valley Water Users Association applying for another NPS grant for a piping project. This funding would be used to effectively "buy-down" the cost of the project under a future Salinity FOA proposal as well as help to leverage costs among entities. A financial contribution from the SCTF would allow UVWUA to further leverage the project to maximize salinity, selenium, and water conservation benefits for all entities.

Action Item: UVWUA should send Steve an email saying that they are working on a 319 NPS project proposal and that a contribution of \$X would help our proposal and would the CWCB through the SCTF be willing to help?

Other Notes: Next sign-up for EQIP (e.g. sprinkler systems). July of 2013.

V. **Next SMP Meeting Date:** October 25th (Joint meeting with the STF).