

## Selenium Management Program Technical Work Group Meeting #2

December 7, 2009 (12pm-3:45pm)

**Attendees:** Steve McCall (USBR), Mike Baker(USBR), David Kanzer (CRWCD), Adam Rosette (SGM), Cooper Best (SGM), Sarah Sauter (UWPP, STF), Grady Harper (NFRIA), Tom Grett (Shavano CD), Rick Krueger (USFWS), Dave Stiller (NFRIA), Pete Jacobson (CSSAGA), Denis Reich (CSU CE), David Brown (USGS), Ken Leib (USGS), Peter Kearl (United Co. GJ), John Butler (Mesa CD), Barb Osmundson (USWFS), Joe McBurney (Sen. Salazar's Office), Marc Catlin (UVWUA)

### 1. Introductions

### 2. Review Agenda – Agenda reviewed.

- Addition to agenda proposed (see 2.5 below)

2.5 Summary of events leading up to the need for the development of a Selenium Management Program (Steve McCall): The USFWS prepared flow recommendations for the Aspinall Unit as one of the specific recovery actions identified in the Recovery Implementation Program Recover Action Plan (RIPRAP) for the Gunnison River. Water users within the Gunnison Basin wanted the USBR to expand the focus of the Environmental Impact Study (EIS) to receive Endangered Species Act (ESA) compliance for all water users (including public and private uses) through the Programmatic Biological Opinion (PBO) to cover existing water uses and some future uses. The flows proposed in the PBO benefit the endangered river fishes while still maintaining operational purposes of the reservoir. The USBR and FWS reached consensus on how to operate the reservoir to maintain base flows and peak flows based upon weather forecast. The PBO also concluded that water quality, selenium, also affected the fish and that there is a "take". The PBO has two significant commitments including reoperation of the Aspinall Unit and to develop a Selenium Management Program. The water users in the basin will reduce selenium with the initial goal of meeting the State of Colorado chronic water-quality standard for the protection of aquatic wildlife (4.6 ppb). (Note: A USGS report done for the Water Quality Control Division serves as the basis of the draft Gunnison River TMDL. The draft TMDL indicates that in order to meet the standard, 8,640 lbs/year of selenium ( or 53% of the selenium load) needs to be reduced at Gunnison River at Whitewater). The draft TMDL document also includes a 10% safety factor which puts the final load reduction at 9,300 lbs/year of Se.

The USBR emphasized that the SMP is an effort that requires the full involvement of all the waters users and cannot be accomplished by the USBR alone. Of specific importance is the role of local decision makers (city, county, etc.) in helping meet selenium reduction goals.

### 3.0 Review and Update on the Status of:

#### A. Schedule, Goals, and Limitations of the SMP

*Why should Gunnison Basin water users care about selenium, the PBO, or the SMP? If the SMP is successfully developed and implemented, it gives ESA protection to all water users in the basin. If*

water users have future dealings with Federal government agencies (e.g. need for federal government permits, use of federal funds for projects, etc.), it avoids a jeopardy opinion.

#### **SCHEDULE:**

*SMP Managers Meeting, December 14<sup>th</sup>, 2009:* The USBR has invited the affected agency managers and some of the key non-governmental entities involved in the implementation of the SMP to a meeting to discuss roles and responsibilities and to ensure that all major stakeholders are on the “same page” as we start to develop the SMP.

*MOU Deadline, August 4<sup>th</sup>, 2009:* All stakeholders will be asked to sign an MOU and to commit to working on the SMP together. MOU’s should be signed within 8 months of the PBO release date (December 4<sup>th</sup>, 2009).

*SMP Technical Work Group Meeting, February 8, 2010:* The goal of the meeting is to discuss elements of MOU, SMP, Gunnison TMDL, and load reduction targets, etc.

*SMP Technical Work Group Committee Members:* The SMP TWG will likely to be meeting once a month. At this time, the TWG is composed of David Dearstynne (Soil Scientist, NRCS), David Kanzer (Water Resources Engineer, CRWCD), Sonja Chavez de Baca (Selenium Task Force Watershed Coordinator/Facilitator, USBR Selenium Studies and SMP Coordination Assistance, Water-Quality Specialist), Ken Leib (Studies Chief, USGS), David Brown (USGS, Western Slope Chief, Water Sciences Center), Steve Fletcher (Water Master, Uncompahgre Valley Water Users Association), Eileen List (Wastewater Industrial Pre-treatment Supervisor, City of GJ), Denis Reich (Water Resource Mgt. Specialist, CSU CE), Tom Grett (Shavano CD Board President, Farmer), Denis Murphy (Hydrologist, BLM), Barb Osmundson (Fisheries Biologist, USFWS) and Rick Krueger (Contaminants Specialist, USFWS), Pete Jacobson, CSSAGA) and Mike Baker (USBR Planning Team Leader). It was noted that we still need to work on getting involvement from City and County planning-type organizations. Historically, it has been difficult, but is necessary.

*Draft SMP Plan, June 4<sup>th</sup>, 2011:* A draft of the SMP Plan is due to the USFWS 18 months after the PBO release date (12/4/09)

*Final SMP Plan, December 4<sup>th</sup>, 2011:* A final SMP Plan is due to the USFWS 24 months after the PBO release date (12/4/09).

*Limitations of the SMP:* Any future depletion through trans-basin diversion to the east slope is an impact which is not covered under the PBO.

#### **B. Scope of Work for Developing SMP**

Two handouts were distributed by USBR staff: 1) Draft of the tasks required for developing an “Initial Gunnison Basin Se Mgt Plan” (Tasks were developed cooperatively by the SMP Technical Work Group), and 2) a plan for irrigation system efficiency improvements, “Lower Gunnison Basin - Comprehensive Plan for Irrigation Efficiency Improvements,” was presented to Technical Work

Group. The draft plan addresses the east side of the Uncompahgre Project Area as a demonstration area with the goal being to transfer techniques throughout the entire Gunnison Basin.

One important component of the plan is the coordination and encouragement of landowner EQIP/Basin States Program participation (A.4). This element involves hiring a liaison to coordinate on-farm and off-farm programs, conducting landowner interest surveys, evaluating the economics of sprinklers to provide to individual landowners, and identifying/providing non-salinity program incentives.

#### **4. Preliminary Montrose Arroyo Data – Causes of New Loading and Effects on SMP Planning.**

The purpose of the Montrose Arroyo Demonstration Project was to determine the effects of typical salinity type projects (e.g. piping of unlined open earthen ditches) on selenium loading. The demonstration project, documented a 27% reduction in selenium loading. Two handouts presented: 1) Satellite photos showing a significant amount of development occurring in the area between 1993 and 2007, and 2) water-quality data showing selenium loads pre-project and post project. There was an almost instantaneous drop in loads and concentrations following the project and until mid 2002 when monitoring ceased.

The purpose of the second study in the Montrose Arroyo demonstration project area was to look at the effect of urbanization/development on salinity specifically, but some selenium sampling has also been incorporated. The handouts with the graphs also show selenium concentration and loading data beginning in 2008 (to present) which shows an increase in selenium concentrations and loads back to pre-Montrose Arroyo Demo Project levels. It is unclear at this point exactly what is going on and if it should be of concern. Members of the SMP Workgroup indicated that it would be of critical importance to the SMP Planning efforts and the Selenium Task Force to look into funding to figure out what's going on here and whether what we are seeing is of concern. Members indicated that many ponds were constructed on the Black Canyon Golf Course (constructed around 2006-2007, post monitoring). If the ponds are the issue, it would be interesting to see if the ponds could be sealed to study the effect. Another point was that we don't know if the ponds are/are not perched or partially above the water table when full., The Golf Course is using Montrose Arroyo water and holding it year round in the ponds. It was noted that there was probably a significant amount of dirt moved when they built the course and the development around the area which could provide new sources of selenium and salinity loading.

Members of the Se Task Force present at the meeting noted that the Black Canyon group was very helpful and cooperative during the Land Use and Ponds tour in 2006? The SMP Technical Work Group recommended that Sonja talk with golf course staff again in order to explain:

1. That the Salinity Program is doing a land use study there;
2. That we are interested in how the ponds were built; and
3. That we are interested in the effectiveness they've seen with the BMP's, if any were used.

Sonja will also go back to the Selenium Land Use tour to see what information or handouts were given and if we still have contact information:

#### **5. Science/Research Needs During the 18 month SMP Plan Development and Beyond**

- A. A draft proposal was distributed which outlined a USGS study proposal under the SMP to collect land use data, and project the effects of population growth on selenium and salinity loading. The study would use County land use projections for areas of growth. The study area would be the

entire lower Gunnison. The study would look mainly at selenium, but will incorporate some salinity loading. Idea is to take what we've learned from other studies such as Devil's Thumb, Montrose Arroyo Demo, and Deep Perc Urban study and apply it to projected land uses in the Lower Gunnison to project future selenium loading with land use change.

- B. Farm scale monitoring – The SMP Technical Work Group will consider the need and value of such an effort. Assistance from CSU CE may be offered. Dennis will write a concept paper for this. We need to get an idea of what info the NRCS has on effectiveness of different irrigation technologies C. Se Loading from tail water (Loutzenhizer Arroyo).
- C. Roots and explanation of Montrose Arroyo data which shows increasing concentrations and loads.
- D. Understand spatial trends throughout the entire lower Gunnison Basin by major sub-basin. For example, the Salinity Forum is looking at trends in salinity between Uncompahgre and Whitewater.
- E. Expand wise water use council into the lower Gunnison Basin

*\*The USGS land use study will be funded by Reclamation. After that, the other priorities are:*

Priorities identified by the SMP Technical Workgroup were research/study needs C and D above:

- C. Montrose Arroyo Data Analysis
- D. Look at each sub-basin in terms of trends and then rank the areas which should be a priority for study (USGS). In other words re-do the Butler map of loading by sub-basin. To be able to understand the spatial trends in selenium loading, we need more funding. Ken Leib will write-up what we need to do and identify how much it will cost for Phase II of the ranking model in regard to selenium.

*\*Priority Note: We need to remain flexible about priorities depending upon for example, the availability of outside funding sources for specific work and the amount of additional funding needed to implement a project, etc.*