

Meeting Summary
Bonita Peak Community Advisory Group
Dec. 1, 2022, 6:30—8:15 PM
Via Computer Conferencing and
In Person at Durango Reclamation Facility
Santa Rita Park

CAG members in attendance: Peter Butler, Chara Ragland, Parker Newby, Justin Elkins Ty Churchwell, Terry Morris, Helen Mary Johnson, and Susan Livenick. Online: Anthony Edwards, Marcel Gatzambide, and Russ Anderson.

Also in attendance: In Person: Melissa May, Scott Roberts, Kirstin Brown, Sarah Burch, Mark Rudolph, Emiliano McClean, Marjorie. Online: Jessica Dugan, Tom Schillaci, Christina Progress, Jan Morris, David Heinze, Clair Smith, Andy Jones, Athena Jones, Lisa Merrill, Ryan Bennett, Michael Cl?, Jim Morris, Tyler Corley, and Alyssa Richmond.

Introductions and Announcements

Thanks to Justin for providing the space at the Durango Reclamation facility

CAG Animas Canyon Sampling

Parker and Peter sampled a couple of locations around Cascade today. There were only a few inches of snow on the ground at the beginning of the trail and none low down. We will probably start train rides into Cascade next month as the snow gets deeper.

Peter did a short presentation on Animas Canyon sampling. The canyon is EPA's top priority for improving water quality. The CAG has been collecting monthly samples for 3.5 years and will likely stop collecting at the end of 2023. That will provide an adequate baseline. Collection may again occur once there has been significant remediation upstream that could change water quality. Sampling occurs below each of the three largest tributaries in the Canyon to the Animas, Elk Creek, Needle Creek and Cascade Creek, although below Needle Creek is not accessible January - March. Between the gage at A72 below Silverton to the gage below Cascade Creek, the flow volume of the Animas more than doubles because of the tributaries coming in to the Canyon which significantly dilutes metal concentrations.

Peter focused on Hazard Quotients (HQs) in the Canyon which equal the metal concentration of a single sample divided by the Table Value Standard (TVS) for that particular sample. If the HQ is greater than 1.0, then standard is exceeded. It is essentially a way to show risk to metal sensitive aquatic life like cutthroat trout.

In the presentation, Peter showed a graph of the HQs for the samples for zinc at all three sampling sites. TVS for zinc varies with the hardness of the sample. Not surprisingly, HQs for the site below Elk Creek are generally higher than the downstream sites. The HQs are above 1.0 year round, whereas at downstream sites, they drop below one from mid-summer to early fall. The lowest HQs coincide with when EPA does much of their sampling in September. Generally, the zinc concentrations are most toxic in April and May, during the rising limb of the hydrograph.

Peter posits that mine remediation might get zinc concentrations to meet TVS at Cascade during much of the year, but that TVS will be unattainable in March – June. During these higher flows, the amount of zinc is too high to effectively remove and hardness is lower resulting in low TVS values.

In March and early April, a significant about of zinc loading comes from the stretch of the Animas River in the vicinity of the Mayflower Tailings, especially pond #4. There is a lot of snow melt during this time on the south facing slope above the tailings. Sunnyside Gold spent \$15 million in investigations of the tailings over the past five years in conjunction with EPA and did not find conclusive evidence that the tailings were the main source of metals. They did not identify what they thought the main source is.

CAG and audience members asked a number of questions. Mark asked Peter if he has ever looked at a background Zn. Peter answered that no, because it is too hard to identify what is truly background and what might be mining-related but not directly identifiable. Somewhere around half of the loading can be identified as coming from mine sites during low flow. The percentage identifiable from mining-related sources is much lower during higher flows.

Susan asks if we have data from just below Silverton. There is about thirty years of monthly data at A72 which is also a gaging station. This is easily the most sampled site in the entire basin. She also asked if TVS is the default standard. It is and if someone proposes a less stringent standard, they need to show why TVS is unattainable.

Scott asks if Peter has put the existing hydrograph on the graph. Peter responds no but that could be useful. The hydrograph peaks would be a little later than the peak HQ's. The high HQs in the spring are likely the result of an initial flush of metals as the flows come up during the same time as hardness drops because of the dilution of higher flows.

Charlie asks if there is data on HQs on Bakers Bridge or further downstream. Are they below 1? Peter says that TVS for zinc is not met at Bakers Bridge, which has very low hardness. Because of the low hardness, it is possible that Cascade might meet TVS even when TVS may not be met downstream at Bakers Bridge. TVS is met at Trimble Lane.

Peter shows a graph of iron HQs. TVS for iron does not vary with hardness; it is 1000 micrograms per liter. The highest HQs are earlier in the year than for zinc, typically February through April.

Prioritization of Mines Sites for EPA Goals 2 & 3 (Stabilizing Mine Waste and Minimizing Unplanned Releases)

Jessica from EPA began the presentation in conjunction with Kirstin.

EPA is trying to numerically prioritize which sites should be addressed first under Goals 2 & 3. Jessica and Kirstin, with input from others, have drafted spreadsheets with various characteristics of each of forty some sites within the BPMD. The data is based mostly on Kirstin's surveys of all the sites in 2021. Characteristics are weighted and given a score with which to prioritize. The characteristics and weighting are different for Goal 2 and Goal 3.

Characteristics for Goal 2 include site location (steep slopes, next to streams, etc.), presence of settling ponds, leachability of metals (SPLP), concentrations of leached metals in the mine waste and sediments, metals present (arsenic, lead, cadmium, copper, zinc, manganese, aluminum, and iron are metals of concern), etc. Some of the characteristics for Goal 3 are same, but there are others such as: previous releases, chemical conditions of the adit discharge, portal blockage with debris, control structures in or around the adit, piping, the extent of lateral mine workings, etc. The weights applied to different characteristics is subjective, and there was a lot discussion during the meeting over what those weights should be.

Several sites rose to the top in terms of scoring for Goal 2 with Gold King at top, followed by Tom Moore, Natalie/Occidental, Silver Ledge, Frisco/Bagley, Anglo Saxon, Porcupine, and Brooklyn. For Goal 3 the top sites are Frisco/Bagley Tunnel, Silver Wing, Natalie/Occidental, Brooklyn, Anglo Saxon, and Porcupine.

Charlie asked about the Bandora and why doesn't it rank high for Goal 3. Jessica responds that these rankings are for natural releases without human interaction. There are some sites not listed that may not release naturally, but would take only a little effort for a person to cause a release.

There is further discussion about the top sites and what should or shouldn't be addressed. For example, some Goal 3 sites might cause a discolorization of streams, but cause little environmental damage. The public generally links an orange visual image as bad environmentally. Should that factor into the ranking? Overall, it appears that only a small number of sites rise to the top and perhaps should be addressed. EPA says that the spreadsheets are simply a first step in trying to evaluate where and if certain sites need work.

Administrative Items

- ✓ Meeting Summaries- Motion to approve July minutes from Russ. Ty seconds. All hands raised. Meeting notes for October were moved for approval by Susan with Brian seconding. All in favor.
- ✓ CAG Appointments in January – It appears that all CAG members who are up for re-appointment are interested in staying on. But we still have two vacancies to fill. We will publicize the openings in early January.
- ✓ CAG Discussion Time – None planned with the holidays.
- ✓ Long-Range Schedule – Mid-February to talk about Gladstone.

Chara asks if we will spend more time on the discussion from tonight, Peter says probably not but we will talk a bit about prioritizing goals. Christine asks people to weigh in as you see fit but wait for technical memo. Russ asks about the technical memo on the prioritization scheme. This will not be a decision tool. It is help inform decisions to be made. Jessica does not have a timeline on technical memo draft. They will share draft. Charlie asks about prioritization and costs regarding these goals. Christine says they look at entire district, and they have no cost estimates for actions that might be taken at this time. Charlie comments that Silverton is always impatient to see more movement.

Christine says that a sensitivity analysis on Goals 2 & 3 and what moves the needle would be important to see, and that they will try to think about that. Peter says that might be helpful but it might be useful after the Gladstone discussion because financially all the goals are tied together.

- ✓ Future Agenda Items? *Macroinvertebrate Data, 2023 Activities, Remedial Actions for Gladstone, etc.*

8:32 PM Adjourn