

Basin Environmental Improvement Project Commission  
Meeting Summary Minutes  
August 17, 2022, 9:30 AM – 5:00 PM  
Kellogg Panhandle District Office  
35 Wildcat Way, Kellogg, ID

*These minutes are summary notes of the reports and presentations and are intended to capture key topics and issues, conclusions, and next steps and not every detail of discussion or individual quotes*

**Attendees included the following:**

Terry Harwood (BEIPC Executive Director)

Commissioners and Alternates present:

Brook Beeler (Washington State), Jess Byrne (IDEQ), Michael McCurdy (IDEQ), Leslie Duncan (Kootenai County), Calvin Terada (EPA), Peter Mahoney (CDA Tribe),

Staff present:

Gail Yost (BEIPC, Assistant to E.D., Note taker), Kim Prestbo for Ed Moreen (EPA), Andy Helkey (IDEQ), Dan McCracken (IDEQ), Sandra Treccani (Washington State), Rebecca Stevens (CDA Tribe), Dana Swift (IDEQ), Jamie Sturgess (Kootenai County), Jeri DeLange (Kootenai County), Jerry Boyd (CCC), Jamie Brunner (IDEQ)

**Call to Order**

Terry Harwood announced the resignation of Chair Mike Fitzgerald so Vice-Chair Brook Beeler called the meeting to order at 9:33 a.m. She mentioned that the State of Washington hires kids ages 14-17 every summer to pick up litter, and there are several here joining the meeting today.

**Approve Minutes from the May 18, 2022 Meeting (Action Item)**

Brook asked for any edits to the minutes from May 18<sup>th</sup> – having none a motion was made by Jess to approve the minutes, Peter seconded, all approved M/S/C

**Discussion of Institutional Controls Program IDEQ Statute Process – Andy Helkey, IDEQ**

Andy gave a brief overview of the Institutional Controls Program (ICP) Statute Process – House Bill 316, which was passed during the 2021 Legislative Session, made changes in Idaho’s Public Health Districts status as a governmental entity – they are no longer considered state agencies and not allowed to have Idaho Administrative Procedures Act (IDAPA) rules. Currently, there is a temporary rule 41.01.01. in which there is a section for the Box and one for the Basin. We are looking to streamline these sections and combine them together in a draft statute to be presented during the 2023 Legislative Session. There have been two public meetings – one back on July 12<sup>th</sup> and one yesterday August 16<sup>th</sup>. No public comments have been made at this time, only comments have been made by Terry Harwood. Any questions or comments can be made up until August 26, 2022, and can be sent to Andy Helkey, 1005 McKinley Avenue, Kellogg, ID 83837, or email at [Andy.Helkey@deq.idaho.gov](mailto:Andy.Helkey@deq.idaho.gov), his phone number is (208)783-5781. The IDEQ website has the draft statute and presentation in addition to the letters of support that have been submitted. Expected and existing letters include the CDA Tribe, Hecla Mining, Bunker Hill Mine, Silver Valley Chambers, Shoshone Medical Center, Silver Mountain, Kootenai County Realtors Association, Shoshone County Commissioners, and soon to be Kootenai County Commissioners and Panhandle Health District upon approvals.

Jess wanted to clarify that the changes from the rule to a statute, there will be no administrative changes on how the ICP is run – and Andy stated that IDEQ would be the lead on the statute but Panhandle Health District (PHD) will still cover the day-to-day activities and permitting as they do currently.

### **Lower Basin WCA Discussion – Patrick Hickey, EPA**

Ed Moreen stepped in for Patrick who was not able to attend today. EPA is going to alter their course a little bit before selecting a WCA site in the Lower Basin. They have received some feedback and are currently selecting a Project Focus Team (PFT) as has been done in the past – working with the CDA Tribe, State of Idaho, BEIPC, EPA agency representatives and the Citizens Coordinating Council (CCC) – so that we can move forward with some analyses and alternatives for waste disposal before we proceed. This will result in scheduling impacts for the Lower Basin pilot project and the design process, as the waste disposal is an integral part of the design. We will get thru this as quickly as possible and hope to wrap up in six months, scheduling frequent meetings and moving very rapidly through this process.

Terry further explained that the PFT operate under the auspices of our Technical Leadership Group (TLG) which is one of the two organizations that support the BEIPC – the other group being the CCC. These focus teams are organized to work on specific issues. Jerry Boyd wondered if they could have a CCC meeting as they get closer to the selection of the WCA – and Terry agreed.

### **CDA Lake and NAS update – Jamie Brunner, IDEQ**

Jamie’s presentation will provide updates for CDA Lake and the NAS Study. She started with a refresher on what they have asked the National Academy of Science (NAS) to cover in their third-party review of the Lake: evaluate current water quality; impacts of anoxia on fate of nutrients and metals; impacts of reduced zinc levels on algal growth; will metals be released if current trends continue; and relevance of metals release to human/ecological health risks. The NAS final report should be out to the public by the end of September or first part of October. You can follow this information on the following link <https://www.nationalacademies.org/our-work/the-future-of-water-quality-in-coeur-dalene-lake>. Jamie mentioned that they are hoping to hold another Our Gem Symposium in November and have the NAS there to present their report to the public.

Leading Idaho – Jamie reported that all sub-award agreements are in place for the \$2 million from the Governor’s office for phosphorus-reducing projects. There is another \$20 million from ARPA Leading Idaho for CDA Lake that will need to be allocated by end of calendar year 2024 and spent by the end of calendar year 2026. Solicitations for applications are open until September 15, 2022, and can be found at <https://www.deq.idaho.gov/coeur-dalene-lake-advisory-committee-notice-of-solicitation>. Rebecca Stevens asked if this process would be similar to last time where the CDA Lake Advisory Committee (CLAC) meets and the advisory group would take their recommendations – and Jamie answered yes, the CLAC agreed that they wanted to repeat this process. They are asking for a little more information in the application this time just to expedite the processing.

Jamie Sturgess asked if the NAS allowed the project sponsors to get a review of their draft report – Jamie Brunner stated that they have not seen a draft report yet. She said they were told they would have one seven days before the report went public but not to offer edits as it is a third-party review, so it would just be a heads up for the sponsors to look at before it goes public. Those sponsors would be IDEQ, Kootenai County and EPA.

## **Migratory Waterfowl Update for Lower Basin – Kim Prestbo, EPA**

Kim Prestbo EPA and Brittany Morlin F&WS will talk about their monitoring program with the swans and the work they are doing in the Lower Basin to better understand and measure how the swans are doing. Some of the recent research has been conducted by Mark Jankowski from EPA who has shared many of the slides used today. The Upper Panhandle of Idaho and the banks of the CDA River are along the migratory route of the tundra swans. USFWS data collected since 2000 shows that there is a regular passage route that goes through the CDA Basin - this pathway from California to Alaska has been used as their feeding ground for years. The area of focus starts at the confluence of the North Fork and South Fork of the CDA River all the way down to Harrison. Every February to April, approximately 10,000 tundra swans feed in the Lower Basin of the Bunker Hill Superfund Site (BHSS). These very attractive wetlands are unfortunately the recipients of over 100 years of mining waste that was discharged directly to creeks and rivers, with most tailings piles located adjacent to or in our streams. It is estimated that over 100 million tons of mine waste was discharged during this time with the primary metal being lead – 2.4 billion pounds of lead dispersed over 10,000 acres. Much of the mining has stopped and we have improved our laws and mining practices, so this direct deposition no longer occurs. The lower CDA River still acts as a secondary source of this mine waste. Because the river is interconnected with all these wetlands and during times of high flow, the water exceeds the banks of the river and goes out into these wetland areas and ultimately Lake CDA. This is problematic for waterfowl as they feed and forage in the mud on vegetation which exposes them to the lead which is very toxic. Last year was a particularly lethal year for the swans which brought out a lot of concern throughout the community.

Brittany reported on the monitoring program – Fish and Wildlife Service have been conducting waterfowl surveys under the BEMP (Basin Environmental Monitoring Plan) since 2005 from Harrison Slough to Whiteman’s Slough. It consists of 12 weekly surveys from February to April in the peak of the spring migration. The 10 wetlands highlighted on her slide in this monitoring area are the top waterfowl use areas and over time have remained relatively consistent. Waterfowl use is highly dependent on weather variables and monitoring the shift in use between years helps them to inform remediation and restoration opportunities and strategies, as well as a metric to evaluate the success of providing clean feeding habitat. Tundra swan mortality is another indicator to evaluate the effectiveness of the remedy and restoration. Why the swans – they provide a good indicator of exposure because they are large, white, and highly visible, and their feeding strategies - they could be differentially exposed because of feeding in the mud and ingesting sediment while eating. How does this relate to 2022 – in February there was high, thick ice coverage and Harrison Slough already had over 500 swans compared to other years on average where there would be 11 swans. In March, there was some warmer temps, rain on snow, but no real flooding - there was still shallow habitat available which resulted in peak waterfowl use, over 500 swans for over 8 weeks. 2022 was the highest season total waterfowl observations – 24,515 swans out of 153,470 total – these were just overall observations, so the same individual could be counted on multiple surveys, on average there would be 11,00 observations. Similar numbers were reported at Hepton Lake, which is at the mouth of the St. Joe – 10,000 swans compared to their average of 1,000. Roughly from their vantage points, they counted 390 dead swans – average is 52/year – 77% were near Harrison. Some of the questions they are trying to answer – are they less fit because they did arrive early; are there other factors like drought on their wintering grounds in California; why are more using this flyway – just an increase in numbers; or different routes taken this year. F&WS are talking to folks at other stopover sites on the wintering and breeding grounds to answer some of these questions. What can be done to bring clean feeding habitat online - Schlepp is a 400-acre wetland cleanup and restoration project in which there is high waterfowl abundance and diversity. Since it came online in 2008,

two-thirds of the time it has been number one in terms of overall waterfowl observations and diversity but has inconsistent swan use. In years 2014-15 & 2017-18, there was high swan usage due to water level management which provided some of the only shallow feeding habitat. Lesson to be learned as we are moving into Grays Meadow – making this an attractive wetland for clean feeding. Other mortality preventions -in 2019 Tim Kiser piloted using a handheld laser as the swans landed in Harrison Slough on the ice margins, they would perceive this as a threat and fly off, then monitoring where they would land and if this an early season technique they can use. With the waterfowl surveys, they are looking at strategies for effectiveness of the habitat being used and hopefully over time reduce tundra swan mortalities. She stated that EPA is also working on a non-evasive monitoring metric to help evaluate remedy effectiveness. Some of this data should be helpful in finding out what is attracting the tours of waterfowl from using certain wetlands.

Kim restated how difficult it is to understand the swan mortality, why they move to different wetlands, and how to come up with the tools to measure the effectiveness of their strategy. Three areas of focus remain:

*Human health* – protect people where they live, play, and recreate.

*Source control* – the primary and secondary source of the sediment that continues to recontaminate these wetlands is the CDA River.

*Ecological perspective* – to protect waterfowl where they are most exposed and prioritize these wetlands to incrementally create more clean feeding habitat.

There are so many variables that impact the swans. EPA is looking into other tools besides just the monitoring work that is happening to measure the effect of lead exposure now and into the future. It is unclear how the changes in sediment Pb concentrations by just increasing the clean feeding habitat will affect aggregate swan exposures over time. They believe the feeding habits differ with vegetation type, which can vary across the site, making sediment sampling protocols an uncertain representation of swan exposures. They are also looking for a simple and efficient sampling technique that directly indicates waterfowl exposure.

In 2021, their first test case was to sample sediment and fecal samples – why fecal sampling? It represents the swan's exposure directly, it is faster and easier to collect than sediment, and provides information about influence of diet on Pb exposure. EPA followed up on a study conducted in 1994 where data was collected showing the relationship between increased lead in the sediment and lead in fecal samples. Preliminary results from 2021 showed this very strong relationship in sampling completed in four different wetlands – Hepton, Robinson, Schlepp and Strobl's – with varying concentrations of lead sediment. For the 2022 sampling program, there was a huge collaboration between EPA, IDF&G, USFWS, CDA Tribe and WSU. They went out in March; the swans had been in the Basin for a bit of time which turned out to be a good thing as they were already seeing the impacts to the swans and were able to collect a good amount of data. Key data gaps and questions being addressed so far by this project include:

1. Does fecal Pb mimic sediment Pb concentration, bioavailability, and origin?
2. Is fecal lead and blood lead in swans primarily associated with Bunker Hill mine waste?
3. Does plant species influence Pb exposure?
4. How do swans use the site?

A study was designed and developed using controls in low, medium, and high sediment Pb sites; to collect a total of 40 birds (test blood, feces, bone by XRF, and physiology measurements); collect 40 wetland fecal samples, 12 sediment samples, and pore water; then track the birds. Airboats were used to collect the swans – Kim showed several pictures of their progress through capture, sampling, banding and release.

What they achieved:

- 17 captured out of 40 targeted
- At Hepton, 2 captured – 1 collared and is reporting data
- Low exposure at Schlepp, 7 captured – 2 collared – 1 is reporting data, 1 bird died
- High exposure at Thompson, 8 captured – 2 collared – both birds have since died (Necropsy of one bird showed Pb toxicosis, tissues will be recovered and analyzed for Pb)
- Fecal, sediment, and pore water collected from these 3 locations

The data from the juvenile female swan captured at Schlepp shows she spent 22 days at different contaminated sites after capture, then made it to Alaska. They will continue to monitor her and collect data from the collar. Another study from the fecal samples shows all the different types of vegetation eaten at each of the different wetlands. They are starting to correlate how much of the vegetation was in each sample and how much lead was consumed. Certain vegetation will be associated with a high intake of lead and as they restore other wetland vegetation, they can maybe be more protective or deter the swans from eating. Another important data set collected was how to tell if the lead was from Bunker Hill – lead has four naturally occurring stable isotopes and ratios of these different Pb isotopes can be used to distinguish between sources of lead. The Galena lead from Bunker Hill has a unique isotopic signature and they found that 90% of the lead in 14 of 17 swans was from Bunker Hill.

We have discovered that fecal sampling is a promising metric for evaluating both wetland specific and population-wide swan health. The swan diet is very diverse, and some plants may be riskier than others for Pb exposure, maybe nudge the abundance of safe plants species over others as we clean up the site. Terry asked if they had done any work to see if different plants take up lead differently and Kim replied that their evidence strongly suggest that the lead they are taking in is associated with the sediment and not the plants – they are exposed as they forage thru the mud. Kim said they will continue to nail down the correlation between Bunker Hill blood lead, feces, and sediment as they do not have enough information yet. Hopefully they can get out again next year and attach some more collars, and possibly design a fecal sampling monitoring program. Models may determine how reducing lead concentrations increases the health of the Lower Basin swan population. EPA's Office of Research and Development is helping to fund this program and related research along with the collaboration efforts stated before between several agencies, and they hope to have another successful field program in 2023.

Peter Mahoney asked if they could monitor the swans that are getting sick here then dying in other places and Kim answered if they have a GPS monitored collar on, they could track them if they pass away. Peter also wanted to know if they track the age class on the birds that are passing away, does repeated exposure have anything to do with it – Kim asked Brittany and she replied that you age them from what their feathers look like, once they no longer have juvenile feathers it is harder to age them. If we can get more of the GPS collars out, we could maybe track age better with their back-and-forth travels. Kim stated the costs of the collars were about \$1300 and was also very labor intensive, a lot of collaboration from the Tribe and F&W Service.

Jerry Boyd asked if there was something the swans could ingest to reduce the lead in their system, and Kim said they are definitely looking at vegetation that would either deter them or be safer. The closest thing they are looking at in reducing the bioavailability is placing biochar into the sediment but have had mixed results with this. Terry said there are some animals that if you feed them other types of material, it will dissipate the stuff in their systems.



Rebecca reminded us that the Natural Resource Damage Assessment Trustees did also prove the tie between the swans and the Bunker Hill Site. She told Peter she will look back at the assessment to see if there was an age of the tundra swans they were seeing because that is telling. The vegetation information was great and will help them on where they can focus some of their restoration efforts.

### **Summary of August 2022 Blood Lead Screening Event – Mary Rehnborg, PHD**

Mary gave a summary on the Blood Lead screening which just concluded last week. Out of 351 total participants, 216 were of the demographic age they were looking for – 6 months to 6 years – and 135 non-eligible participated. The results are still being looked at and follow-ups are currently taking place. She does not have any averages right now but should have more information at the BEIPC meeting in November. As a reminder, blood lead testing is done all year long thru Shoshone Medical Center as a free service. When this program was first started in 1974, the Center for Disease Control (CDC) recommendation for lead levels were at 25 µg/dL, and over the years as we have learned more about lead exposure and human health, has dropped to its current level of 3.5 µg/dL. The most at-risk populations are those who recreate in contaminated areas that have yet to be remediated. Her follow-ups and assessments are always interesting, and identifies where these exposures are coming from, as they could also be occupation related or lead based paint in the home.

Jerry asked if there were any high results and Mary said yes, they were some related to camping in the Lower Basin. Sandra Treccani asked if they resolved the issues with the lead testing equipment recall and Mary said the company was able to fix the problem, but the machine used still didn't have the high detection limit and only detects to a 3.3. More venous draws were done this year because of that and will give us a more accurate analysis.

Calvin Terada from EPA made an announcement that they selected Ed Moreen to replace Jeff Philip who retired in July and will still oversee Bunker Hill work as well as other sites within our region.

### **Public Input**

Terry announced that at the next BEIPC meeting in November he will present the annual and 5-year work plans for the coming year 2023.

Ed Moreen introduced new EPA members Jocelyn Carver, Remedial Project Manager on the Bunker Hill team and attorney, Barbara Gutierrez. He also gave an overview of the Central Treatment Plant (CTP) before our tour today. The work at the CTP went through a long operate design build/operate contract that was completed in October 2021. The keys were turned over to IDEQ to begin operation at this time. It treats the Bunker Hill mine water as well as the Ground Water Collection System which was also constructed under the same contract. It is treating water efficiently and IDEQ is doing a wonderful job managing – for the first time in 20 years EPA is not operating the treatment plant!

Jerry Boyd asked if anyone sees the need for a CCC meeting? Terry explained that we streamlined when we hold CCC meetings – from quarterly meetings now held when we have a topic or project to discuss. If anyone is interested, they can contact either Jerry or Terry.

Jamie Sturgess asked about the WCA location in the Lower Basin and wondered what volume are they looking for as they look at sites, what criteria? Ed explained they are looking at different disposal options and have received feedback from the public and the CDA Tribe. The volumes for the Lower Basin that need to be housed are yet to be determined and it is going to be an evolving

process. The pilot project will be a pretty small quantity, as it is one project focusing on less than a mile segment. It will be a process to figure all this out as they want to minimize the volume removed over the 38 river miles, and to reduce the transport of contaminated materials downstream. Terry thought they came up with an estimated volume and Ed replied that their coring results indicate we may have 10M cu/yd in the riverbed and banks, not looking at any off-bank areas. There is a lot of uncertainty in this number, but it is the number they work with. This would compare to the area of the Central Impoundment Area which holds 26M cu/yd and is 220 acres.

Jeri DeLange introduced herself as a representative for the TLG for Kootenai County.

Meeting was adjourned – loading of the bus will start at 11:15 am.

### **Tour of Projects**

CTP Overlook and Discussion of Central Treatment Plant Operations – Ed Moreen, EPA, Keri St John, IDEQ

Day Rock Mine and Lower East Fork Ninemile Canyon for Project Discussion – Ed Moreen, EPA

E. Fork Ninemile WCA and Discussion – Tamara Langton, EPA

Canyon Creek WCA/Repository Site for Discussion – Bonnie Arthur, EPA

Upper Canyon Creek/Burke and Discussion of the Star Remedial Project – Bonnie Arthur, EPA