

## Appendix J: 2020 Integrated Report Comments and Responses

DEQ received feedback about the Draft 2020 Integrated Report from six commenters during the public comment period. Comments were accepted from July 27<sup>th</sup> - September 27<sup>th</sup>, 2020. The comments are parsed into individual topics with responses in this appendix.

**Comment 1:** Some streams have had a great deal of remediation and/or restoration work in 2 years, and it would be good to know when DEQ plans to assess these streams again – notably Ninemile Creek and Flat Creek at Superior.

**DEQ Response:** In response to this comment, DEQ searched for readily available data in the national water quality portal for these waters and determined that, at this time, there is not sufficient data to complete initial beneficial use assessments, or to update existing assessments. For data to be considered by DEQ for beneficial use assessment and inclusion into the Integrated Report, it must be submitted according to guidance during future biennial Integrated Report call for data during the beginning of odd numbered years ([https://deq.mt.gov/Portals/112/Water/Forms/MT-eWQX\\_GuidanceManual-CallForData\\_v1.9.pdf](https://deq.mt.gov/Portals/112/Water/Forms/MT-eWQX_GuidanceManual-CallForData_v1.9.pdf)). DEQ prioritizes monitoring projects through coordination with conservation districts, watershed groups, Statewide TMDL Advisory Committee, and other government programs that complete activities to protect and improve water quality. DEQ's Water Quality Volunteer Monitoring Support Program can also assist local volunteer monitoring efforts through lab analysis, equipment lending and giving technical advice to organizations that share the objective of protecting and improving water quality conditions (<https://deq.mt.gov/water/surfacewater/monitoring>). Please continue to work with our water quality programs for support, to provide guidance toward future projects, or to provide data. You may sign up for automatic notifications announcing DEQ's call for IR data at <https://public.govdelivery.com/accounts/MTDEQ/subscriber/new>.

**Comment 2:** Stakeholders were puzzled to learn that O'Keefe Creek is not on the impaired list, given that it runs through the pulp mill superfund site. Stakeholders suggested that O'Keefe Creek should be assessed and probably should be placed on the impaired list. The Missoula Water Quality District has begun collecting some water quality data on O'Keefe Creek.

**DEQ Response:** Please see response to comment 1.

**Comment 3:** Grant Creek is on the impaired list, and many of the recommendations in the Central Clark Fork Tributary TMDL for needed actions on Grant Creek address the farmland in the lower watershed. However, Missoula City/County are currently moving forward with a plan to convert almost all of that farmland to high density residential and commercial development. Hence Grant Creek's situation is likely to change drastically in the near future. Grant Creek should be a priority for reassessment.

**DEQ Response:** Please see response to comment 1.

**Comment 4:** Here's another suggestion for a creek to reassess – Deep Creek near Frenchtown (enters the Clark Fork at Harpers Bridge).

**DEQ Response:** Please see response to comment 1.

**Comment 5:** The dam removal and wetland restoration on Rattlesnake Creek should warrant reassessment soon.

**DEQ Response:** DEQ has already considered and prioritized this effort.

**Comment 6:** Given that the Integrated Reports are intended both to assess current conditions and guide future planning, providing some reference to such drastic changes likely to occur in the near future seems appropriate. Perhaps the reports could have a section on proposed major changes in watersheds – whether big restoration plans or big development plans.

**DEQ Response:** This may prove difficult at a statewide scale but could be a useful addition. DEQ will consider this comment for future Integrated Reports.

**Comment 7:** This report provides an interesting overview of the state's water quality conditions and actions. However, it is difficult to get much information on a particular stream or basin. Plowing through the huge appendices requires more time than most citizens can manage.

**DEQ Response:** DEQ understands that the amount of statewide information covered in the IR and the appendices may be daunting for the public to review. However, DEQ strives to provide detailed information for the public as well as all the information necessary for the state to meet its national reporting requirements. In addition to the IR document, DEQ provides an online searchable database that contains analysis and planning decisions at a waterbody scale (<http://svc.mt.gov/deq/dst/#/app/cwaic>). DEQ will add a link to a newly developed, location searchable EPA summary website in the final IR (<https://www.epa.gov/waterdata/how-my-waterway>).

**Comment 8:** Big Sky Water and Sewer Waste Water Recovery Facility is not listed as a source of nitrogen to the West Fork of the Gallatin. Please include the facility as a source of nitrogen pollution on the final 303(d) list.

**DEQ Response:** The IR describes the condition of waterbodies under the state's jurisdiction. The purpose of the IR is not to list specific sources of pollutants within each watershed. However, the IR may provide general source categories from a national pick list. Once a water body is identified as threatened or impaired for a pollutant, DEQ establishes a priority ranking for Total Maximum Daily Load (TMDL) development. A TMDL is developed in accordance with the priority ranking and waste load and load allocations may be established to address specific sources that contribute pollutants to a threatened or impaired water. The West Fork Gallatin River Watershed Total Maximum Daily Loads (TMDLs) and Framework Watershed Water Quality Improvement Plan contains a detailed nutrient source assessment in section 6.5.2.2.

**Comment 9:** Sampling by the DNRC and analysis by Bridger Labs shows nitrogen levels contained in the effluent from the waste water holding pond wall [at Big Sky] was ten times the amount of the surface water quality.

**DEQ Response:** The Big Sky Water and Sewer District (BSWSD) collects and diverts ground water from beneath the lagoon liner. This ground water originates from multiple upgradient nutrient sources, which are identified in the West Fork Gallatin River Watershed Total Maximum Daily Loads (TMDLs) and Framework Watershed Water Quality Improvement Plan. The BSWSD post-treated wastewater holding ponds are lined.

**Comment 10:** The Attainment Records MT42K002\_1 10 and MT42K002\_170 do not adequately associate presence or absence of flow with mine-related discharges permitted under MPDES permit MT0023965. This discussion should include the prolonged release by several instream embankments that impound surface water.

**DEQ Response:** DEQ does not typically document this level of detail about sources within our waterbody records. When provided we can cite documents that cover this level of detail.

**Comment 11:** The adjustment made to the endpoints for Attainment Records MT42K002\_110 and MT42K002\_170 should be depicted with a map.

**DEQ Response:** DEQ's online Clean Water Act Information (CWAIC) assessment unit mapping tool is currently dysfunctional. We are working on a replacement assessment unit mapping system. DEQ will provide a GIS layer of our assessment units when requested.

**Comment 12:** Samples and narrative should be qualified or transferred between Attainment Records MT42K002\_110 and MT42K002\_170 as relocation of the endpoints has transferred the pond/water hole (usually referenced as "2 miles above highway 39" or "2 miles above town") and surface water site (SW-55) from MT42K002-170 to MT42K002-110.

**DEQ Response:** Reference to these sites has been transferred from segment MT42K002\_170 to segment MT42K002\_110.

**Comment 13:** There is no reason to list [Lake Koocanusa] as either threatened or impaired for selenium. As the State Representative for House District 1 who has followed issues with the lake's water quality for years, I see no problems with the lake in terms of selenium. I can find no document indicating that the lake does or will exceed the existing Montana standard for selenium. I have looked extensively, but I can find no evidence of actual harm to the fishery in the lake from selenium. As I have repeatedly asked in each meeting I attend, "Where is the evidence of Trout Unlimited's 2 headed trout?" TU continues to allude to the fact that the selenium levels in Lake Koocanusa and the Kootenai river would produce horrible genetic mutations creating 2 headed trout and other deformities. I ask again, "Where

is the evidence of 2 headed trout found in ANY testing, throughout the Kootenai/Koocanusa waterway?”

This mistaken perception of Lake Koocanusa MUST be corrected now. Continued efforts to list Lake Koocanusa as threatened or impaired are wrong and will have a very real, very negative impact on Northwest Montana and if this standard is lowered, ALL of Montana will be ultimately impacted. Please take Lake Koocanusa off the impaired list for selenium and please correct the records to show that it is neither threatened nor impaired for selenium.

**DEQ Response:** Lake Koocanusa was listed as an impaired waterbody due to other causes of impairment that limited aquatic life and fish prior to 2012. The department originally listed selenium as a threat to aquatic life use in Lake Koocanusa in 2012. Lake Koocanusa is currently listed as threatened for selenium (2018 Integrated Report). The source of the selenium is believed to be mining activity in the Elk River Valley in Canada. There is no evidence that real estate values have been or will be impacted by threatened or impaired status of Lake Koocanusa. Additionally, there is no evidence that local mining or other land disturbing activities would be negatively impacted by a change in the impairment status. Lake Koocanusa’s beneficial use assessment record can be accessed via a search on Montana’s Clean Water Act Information Center (<http://svc.mt.gov/deq/dst/#/app/cwaic>). Refer to response to Comment 14 for topics relating to standards development and harm to the aquatic life use.

**Comment 14:** The lack of any of these “selenium caused” mutations materializing can only mean that there is NO threat or impairment to the waters of the Kootenai or the lake. There is NO reason nor evidence to list the lake as threatened or impaired for selenium as DEQ has NO current assessment showing any harm to the lake from selenium. This lack of evidence is pushed further along by the blatant disregard of data that could show that Teck’s multimillion (100’s of Millions) investment in water treatment will remove significant (if not all) selenium from Teck’s discharge to the Elk and Fording rivers North of Lake Koocanusa. The rush to lower the selenium standards is NOT a scientific process.

**DEQ RESPONSE:** Portions of this comment that directly address development of a site-specific selenium standard for Lake Koocanusa are out of scope for comments to the IR document, but the department would like to respond for clarification. The department has made clear that water quality standards are not set once harm occurs, but rather to protect beneficial uses including aquatic life and wildlife. All water quality standards are set for the protection of both aquatic life and human health. For example, the department does not wait for human populations to show neurological harm to establish lead standards to protect human health. Water quality standards are set to protect the beneficial use of the water body. Sufficient evidence has been presented in Presser and Naftz (2020) and DEQ (2020) to establish a protective standard specific for Lake Koocanusa.

The department followed the procedures in EPA (2016) for developing site-specific selenium criteria. Data were collected under established rigorous scientific protocols. Modeling was based on published, peer-reviewed work—considered the state of the science—and bioaccumulation

modeling was completed by the U.S. Geological Survey following their rigorous scientific procedures.

It can be challenging to detect the effects of selenium on aquatic life populations due to the fact that toxic effects of selenium exposure most often occur at the reproductive stage. This means that the point at which harm may be documented could be years later, during fish sampling efforts, where MT FWP may find decreased adult fish populations. Impacts could take years to become apparent because fish sampling techniques employed by MT FWP tend to capture adult fish. If the department waited until there was a dramatic decline in fish populations to set a standard, it could create a scenario that would be extremely challenging to recover from.

**Comment 15:** The water quality assessment for the lake has not been updated since 2012. In the 2012 assessment, DEQ estimated that the lake would exceed selenium standards by 2015 – which has NOT happened, even today in 2020. The current standard for the lake is 5 µg/L selenium. DEQ has told us in public meetings that the lake levels range between 0.04 - 2.29 µg/L selenium, with a current average of 1 µg/L selenium. DEQ has shown us graphs of lake data from 2013 – 2019 showing no increase in selenium in the lake. The data shows that the selenium levels have been and remain, well below the standard of 5 µg/L selenium. That is NOT an impairment and it does NOT indicate any threat of an impairment.

**DEQ Response:** The threatened listing of Lake Koocanusa for selenium was not the impetus for the derivation of a site-specific standard. The department began the collaborative work with BC-ENV and the bi-national LKMRWG to develop a protective water column standard to protect aquatic life in Lake Koocanusa, an effort determined necessary based on the local environmental factors affecting selenium bioaccumulation. The 2012 determination that Lake Koocanusa was threatened for selenium was based on the best available information and science. The 2012 analysis used knowledge about current and future loading and full mixing within the reservoir. At the time of the initial threatened listing, there were no active treatment plants or other treatment technologies in operation in the Elk Valley, British Columbia, thus, the determination incorporated conservative assumptions (i.e. no treatment). The Department will re-assess Lake Koocanusa's impairment status based upon the recently-adopted site-specific selenium criteria for Lake Koocanusa. See 24 MAR 2336 (2020). Idaho has also recently identified selenium as a cause of impairment to the Kootenai River downstream of Lake Koocanusa.

**Comment 16:** I also see no impact to the fishery in the lake nor downstream of the Libby Dam from selenium. Again, looking at DEQ's water quality assessment, I see nothing documenting negative impacts to the downstream fishery, nor do I understand how such an impact would be documented. DEQ has mentioned fish tissue data in recent public meetings, but I see nothing from DEQ explaining the scientifically correct way to use fish tissue data when assessing the lake fishery. Fish tissue data has not been and should not be, used in a water quality assessment of the lake without additional explanation and information. I see nothing, in terms of documented or observed impacts to the fishery from selenium, that would support a listing as impaired or threatened. The only thing I see is the political

rush to set the Selenium standards so low as to force Lake Koocanusa out of compliance of current water quality standards.

**DEQ Response:** DEQ agrees an assessment method specific to fish tissue standards is important because this is the closest measure of selenium to an affected use and waterbodies can have different selenium uptake rates into the food web. While a publicly reviewed assessment method is not a required component in adoption of a water quality standard, 40 CFR 130.7(b)(6)(i) requires states to submit “a description of the methodology used to develop an impaired waterbody list.” The department will undertake this effort beginning in 2021 and will collaborate with the state of Idaho, federal partners, and stakeholders. As a basis for this forthcoming assessment method, the department will utilize our 2016 Standard Operating Procedure (SOP) for fish tissue analysis developed in anticipation of the continuing need for accurate data representing the levels of selenium found in fish species in Montana. The SOP is intended to serve as a guide for and to assure integrity and consistency in the collection of fish tissue samples from fish populations in Montana waters and has been and will continue to be a reference in development of project planning and design documents.

**Comment 17:** Some misconceptions and twisting of information include the radical environmental assertion of the idea that there has been a fish “kill” in the Elk and Fording rivers that is directly attributable to selenium level issues. I find that the assertion of that information false as the population decline found in the upstream rivers of the Kootenai have not been fully studied. Again, a rush to judgment and attribution to the “selenium scare”. Population survey test data shows that the population actually rose from 2012 to 2017 then a quick (over 2 years between the 2017 and 2019 established testing interval) decline across the whole life cycle of fish rather than a slow decline of fry, then juveniles and ultimately over time, adults. The proponents of lowering the standards describe “selenium poisoning” as a long term decline in reproduction rates affecting the bottom of the life cycle first, moving to a decline in fry population, then over time affecting the juvenile population and ultimately affecting adult populations. This population decline can be attributed to many, many other environmental issues other than selenium.

Where is the population testing data that shows this population decline is “selenium poisoning”? It has NOT been presented.

**DEQ Response:** While there have been significant population declines detected for select species in British Columbia, the cause of the fish population declines are currently under Canadian Federal Investigation. See Response to Comment 14.

**Comment 18:** Where is the population testing data that shows this population decline is “selenium poisoning”? It has NOT been presented. Nor has any credible data been presented that would support assumptions there is a “huge selenium problem”. Where is the testing of burn sites where intense heat from wildfire have removed the top layer of cover of the soil and exposed naturally occurring selenium? What are the background levels of naturally occurring selenium in the rivers and lakes? How much selenium has been inserted into the water column via this means? Why are we not investigating all the

possible sources of selenium? Why the selective discount of data that may prove the “selenium scare” is just that? Where is the evidence of 2 headed trout? Where is the evidence of a current ecological disaster or even proof that one looms in our immediate future?

**DEQ Response:** Water quality standards are not set once harm occurs, but rather in advance of that. This is consistent with how all water quality standards for the protection of both aquatic life and human health are established. Water quality standards are set to protect the beneficial use of the water body. Standards are updated periodically to incorporate the best available knowledge about toxicity.

The department has not indicated that there is a crisis. While the elevated selenium samples in both the water column and the fish tissue are cause for concern, the proposed standards are not being proposed because a crisis may or may not be occurring. Rather, the department has been collaborating with a bi-national working group with the goal of determining a protective water column standard for Lake Koochanusa.

The department has clarified and re-iterated during many public meetings that Montana Fish Wildlife and Parks (MTFWP) has not detected population declines in Montana directly associated with selenium nor do they expect to see deformities in adult fish, the age class most commonly captured in their sampling efforts. The department’s intent is to protect fish populations from harmful effects at all points during reproduction, including the effect of decreased populations of fish species from reductions in fry survival. It can be challenging to detect the effects of selenium on populations due to the fact that toxic effects of selenium exposure most often occur at the reproductive stage. This means that the point at which harm may be documented could be years later, during fish sampling efforts, where MT FWP may find decreased populations. Impacts may also be missed due to survivorship bias because fish sampling techniques employed by MT FWP tend to capture adult fish. It is difficult to detect population effects in a reservoir as large as Lake Koochanusa with limited sampling efforts. The department cannot wait until there is a dramatic decline in fish populations to set a standard because that would create a scenario that would be extremely challenging to recover from. See Reponse to Comment 14.

To our knowledge there has been no testing of Lincoln County burn sites, although, waterbodies across the Kootenai watershed have been sampled for selenium for various projects and all showed samples for selenium below reporting limits, except for one sample detected at 0.08 µg/L. These results are corroborated by the understanding of the underlying geology in the Montana portion of the Kootenai Watershed. It is very unlikely that elevated levels of selenium in Lake Koochanusa are due to environmental sources on the Montana side of the international border. The geology of Lincoln County differs dramatically from the geology in the Elk Valley, the identified primary source of selenium to Lake Koochanusa.

## **References**

Montana Administrative Record (MAR) Issue 24 Published 12/24/2020. Pages 2336/2400  
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Montana Department of Environmental Quality. 2020. Derivation of a Site-Specific Water Column Selenium Standard for Lake Kooconusa, Montana. Helena, MT: Montana Dept. of Environmental Quality.

Presser, T.S., Naftz D.L., 2020. *Understanding and Documenting the Scientific Basis of Selenium Ecological Protection in Support of Site-Specific Guidelines Development for Lake Kooconusa, Montana, U.S.A., and British Columbia, Canada*. Open-File Report 2020-1098, Helena, MT: U.S. Geological Survey.

U.S. EPA, 2016, Aquatic Life Ambient Water Quality Criterion for Selenium – Freshwater-2016. PA 822-R16-006. U.S. Environmental Protection Agency, Office of Water, Washington D.C.