APPENDIX J: COMMENTS AND RESPONSES

Comment 1: The clean water act requires states to provide a description of the methodology used to develop the [303(d)] list. EPA's guidance encourages states to make assessment methods available to the public for review and comments. For future IRs we recommend MDEQ develop a draft assessment method for specific pollutants and solicit public comment on any revisions to assessment methodologies prior to finalizing and applying the approach.

DEQ Response: Thank you for the comment. We strive for increased public participation in the integrated report and all the tools used to build this report.

Comment 2: We recommend MDEQ make the delisting rationales available for the public to review on MDEQ's Clean Water Act Information Center (CWAIC). These documents provide helpful information, beyond what is documented in the State's typical assessment report, describing the State's review of the available data, comparison to the applicable water quality standard, and the basis for delisting.

DEQ Response: We use citations in our assessment records, our library system (LISA) http://MDEQ.mt.gov/Water/WQlibrary, and processing information requests to relay more detailed material from within our assessment records. We strive to summarize information adequately and succinctly in our assessment records and will consider this comment as we review and evaluate our reporting process and make updates to our reporting systems.

Comment 3: The Clean Water Act requires that the State provide documentation to support its determination to list or not to list its waters. The draft temperature delisting rationales for the West Fork Madison and lower mainstem Madison River do not provide a documented temperature assessment methodology or include any instream temperature data used for the State's assessment of these segments. Before delisting these segments, the EPA recommends MDEQ develop a temperature assessment methodology that could be consistently applied across all waterbodies.

DEQ Response: MDEQ has used a reference approach for riparian shade, stream channel condition (W/D ratio), and instream flow conditions as indications of thermal sources in relation to MT temperature standard for both assessment and TMDL completion. We have used these indicators of thermal heating, a comparison to reference conditions and interpretation of a naturally occurring condition that our temperature standard is based upon for over a decade on 53 waterbodies where EPA has made past actions. In these two cases, we did not complete a water temperature model to compare all the existing thermal influences back to an estimated naturally occurring temperature. Therefore, MDEQ will revise the temperature pollutant assessments back to the 2016 records. We stand by our draft conclusions that no further land and water conservation practices are needed to restore water temperatures on these two waterbodies.

Comment 4: Based on recent sulfate toxicity studies, MDEQ should revise its sulfate assessment methodology to incorporate the most recent scientific information on sulfate and potential impacts to aquatic life.

DEQ Response: We developed a guidance and translation of our narrative standard that relates to sulfate in 2014 and applied it to assessment decisions at that time. Decisions based upon this guidance were approved by EPA during that timeframe[1]. In light of more recent sulfate toxicity research for both chronic and acute conditions, we will review the research to determine its applicability to Montana waterbodies and whether that new information warrants revisions to our existing guidance.

Comment 5: MDEQ should seek public comment on any revisions to the sulfate assessment methodology prior to finalizing and applying the approach.

DEQ Response: We agree with the comment and will provide opportunities for public outreach on the topic.

Comment 6: The state should revisit the Tongue River sulfate de-listing decision after the updates are completed to determine use attainment.

DEQ Response: We continued to use our current 2014 sulfate guidance document for the Tongue River assessment in the 2018 IR. We also reviewed the commenters suggested citations as added guidance into the assessment record. Specifically, we reviewed the citations provided for applicability to the draft Tongue River de-listing decision. We concluded that the delisting of sulfates associated with agricultural use is appropriate and a decision not to list sulfates for aquatic life use and drinking water is also appropriate given the new information. Therefore, we did not change the Tongue River sulfate de-listing due to the comment. In addition, sulfate conditions on the Tongue River at Brandenberg from 1975-2016 appear to be stable. The new analysis is included in the assessment records.

Comment 7: The 2018 IR identifies chlorophyll-a as a cause of impairment for five waterbodies assigned to water quality Category 4C: North Fork Musselshell River (MT40A002_011), Frenchman Creek (MT40L001_010), East Boulder River (MT43B004_142), Bad Canyon Creek (MT43C002_020), and Lake Mary Ronan (MT760004_020). EPA recognizes that several of these waters were included in Category 4C in previous IR cycles and that the North Fork Musselshell River is a new impairment listing in Category 4C for 2018.

Category 4C is associated with non-pollutant impairments and the commenter recommended that the appropriate category is Category 5.

DEQ Response: All five of the waterbodies were listed in Category 4C and approved by EPA in the 2008 Integrated Report and all subsequent reports. The North Fork Musselshell River appears to be new, however it is part of the original North Fork Musselshell assessment unit (MT40A002_010) that

[1] Steinmetz, Amy. 2014. Translation and Guidance on Application of the Montana Narrative Water Quality Criterion for Sulfate. Helena, MT: Department of Environmental Quality.

we split into segments above (MT40A002_011) and below (MT40A002_012) Bair Reservoir in the 2018 report.

EPA's concerns are understood; however, we maintain the position that all waterbodies listed in Category 5 include only those with impairment due to an identified pollutant. Honoring this approach is important given the extent of stakeholder involvement and agreement in developing numeric nutrient criteria. Using a narrative interpretation of an observed effect or indicator parameter such as chlorophyll a for nutrients is no longer appropriate for waters that have numeric nutrient criteria. Thus, water bodies with impairment due to chlorophyll a will remain listed as 4C on our Impaired Waters List (Appendix A). We also agree that our focus for these five waterbodies is to identify whether they have nutrient concentrations at levels affecting beneficial uses when they are evaluated next, either for assessment purposes or TMDL development. We are not aware of sufficient readily available data for nutrient assessment of the remaining Chlorophyll-a listed waters at this time.

As a point of note, EPA in their review of our 2008 Integrated Report (and 303(d) list), examined all Category 5 [303(d)] delistings and for these waterbody/pollutant combinations provided the following determination in their approval letter:

> *We reviewed these six waterbody/pollutant delistings and the data used in the delisting determination. EPA finds that the documentation provided in MDEQ's Assessment Records supports delisting these waters based on the fact that: a) the chlorophyll concentrations are below MDEQ's current chlorophyll listing thresholds; and/or b) the original basis for listing was incorrect (i.e., water meets water quality standards). Table 2 documents our review of the existing data provided in MDEQ's Assessment Records and provides a delisting rationale for each of these waters. Based on EPA's review and evaluation of MDEQ's Assessment Records, we are approving the list of waters delisted by MDEQ.*

Table 2. Summary of EPA's Review of Waters Delisted for Chlorophyll a

Water body ID	***Water body Name***	***EPA Delisting Rationale***
MT43B004_142	*East Boulder River*	*MDEQ's Assessment Record indicates only 2 chl a samples were collected back in 1998. Chl values were 86 and 50 mg/m2. Error in original basis and existing data indicate low chl values.*
MT76O004_020	*Lake Mary Ronan*	*AR summarizes the existing chl a data as: mean values of 3.4 (1975), 4.7 (1980) and 6.6 (1990's) µg/L. No recent data are available and existing values do not indicate impairment. Error in original basis and existing data indicate low chl values.*
MT40L001_010	*Frenchman Creek*	*AR indicates that five chl a samples were collected in 2005. Values ranged from 64.5 mg/m2 to a max value of 182 mg/m2, with an average chl a value of 91 mg/m2. Given this limited dataset for a 75 mile segment and the low chl a values for all but one sample, the water body is delisted based on insufficient data.*

Water body ID	*Water body Name*	*EPA Delisting Rationale*
MT76N003_070	*Dry Creek*	*MDEQ's AR documents the only available data as a single chl a sample (measuring 132 mg/m2), collected in 2003. Error in original basis and existing data indicate low chl values.*
MT43C002_020	*Bad Canyon Creek*	*Only one chl a value, 64 mg/m2, was collected in 2004. Error in original basis and existing data indicate low chl values.*
MT40A002_010	*North Fork Musselshell River*	*Replicate chl a samples were taken at two sites in 2004. Average chl a values were 85 and 102 mg/m2. Error in original basis and existing data indicate low chl values.*

Comment 8: The Executive Summary states that the "2018 IR reports on the condition of the state's water quality for the years 2015-2016." Could this be a typographical error? If not, we would ask MDEQ to provide an explanation of the period of record for data considered in this IR and why data from 2017 were not included.

DEQ Response: We will clarify this language in the final IR.

Comment 9: MDEQ is proposing to delist East Fork Armells Creek for specific conductivity (SC) and total dissolved solids (TDS) impacts to aquatic life uses. The EC values for East Fork Armells appear to be above protective levels established in the scientific literature for aquatic life. For the aquatic life use assessment, we request that MDEQ 1) explain how the State's reference based approach ensures protection of aquatic life uses and is supported by the scientific literature; and 2) describe the biological information considered for East Fork Armells that supports the conclusion that uses are attained including agricultural and aquatic life uses.

DEQ Response: Future efforts for assessing salinity in prairie streams will continue to use a reference approach to identify applicable targets for interpreting our narrative criteria for all salinity related parameters. This approach has been used successfully by Montana and approved by EPA for TMDL work in Montana. The reference approach will continue to be necessary as the natural variability of salinity is extreme and literature values are routinely not appropriate for aquatic life, agriculture, or livestock.

Our assessment methods are built to use macroinvertebrates or periphyton metrics in cases where they have proven to be effective at identifying the impact on aquatic life of a specific pollutant. Given the large environmental variability in prairie systems we have only found limited use for macroinvertebrate data for prairie streams. In these circumstances, we will include the data in the document as being available if future advances in biological research proves useful for assessment decisions.

See Comments 10, 11 and 12 for cross reference information.

Comment 10: SC and Sodium Absorption Data (SAR) data are available for East Fork Armell's Creek. Further, this data shows levels that exceed a recommended level of 700 to 3,000 uS/cm which was included in EPA's action letter for criteria applicable in a nearby watershed. We suggest a rationale

as to how agricultural uses are protected.

DEQ Response: It is true that at times the salinity data in East Fork Armells Creek exceed the range described in EPA's action letter for numeric salinity criteria adopted for the Tongue, Powder, and Rosebud watersheds. It is important to note that East Fork Armell's is not located within the watersheds described in EPA's action letter.

Salinity conditions in this part of Montana vary greatly due to many factors, and many of these factors are natural. To interpret *a narrative standard* (emphasis added) to protect a "naturally marginal" use, our approach for salinity assessment used a two-step process: 1) determine if the waterbody in question has higher salinity levels than natural conditions and if yes, 2) then are those levels at concentrations that may harm designated uses. If after review of the information available we determine salinity concentrations are less than or equal to natural conditions then there is *no need* to pursue the second step as to what concentration would harm occur. If we did not consider the high natural variability with salinity, we would be required to create many different agricultural uses that would lead to a downgrade or in some cases even remove agriculture as a designated use in order to recognize the naturally highly saline conditions that occur in some waterbodies. We understand the commenter's concern but, at this time, we are not interested in down grading or removing agriculture as a designated use although, in many cases, this use is naturally limited. *See* ARM 17.30.629(1) (stating the quality of C-3 waters is "naturally marginal" for agriculture and other uses). Our application of the "naturally marginal" agriculture use is meant to be a broad representation of a wide range of uses and criteria necessary to protect those uses.

See Comments 9, 11 and 12 for cross reference information.

Comment 11: The commenter was concerned with the appropriateness of the use of West Fork Armells as a reference site for comparing East Fork Armells salinity. Additionally, the commenter suggested that we did not follow the MDEQ's Identification and Assessment of Montana Reference Streams methodology.

DEQ Response: The commenter is inappropriately combining two commonly used reference approaches. The method, *Identification and Assessment of Montana Reference Streams*[2] is designed to identify potential reference sites on a statewide scale. It is true that this approach provides value to this type of review but it is not limiting. The project team did confer with the statewide list of reference sites to see if any were located nearby or could be useful in informing a local reference design for the project. Here, we identified a local reference condition, an approach that is frequently used by us to determine targets for interpreting narrative water quality standards where it is inappropriate to use literature values due to naturally high conditions of the parameter of interest. This practice has been, and will continue to be, used for narrative standards interpretations. See comments 9, 10 and 12 for cross reference information.

[2] Suplee, Michael W.; Sada de Suplee, Rosie; Feldman, David L.; Laidlaw, Tina. 2005. Identification and Assessment of Montana Reference Streams: A Follow-up and Expansion of the 1992 Benchmark Biology Study. Montana Department of Environmental Quality

Comment 12: The geology within the West Fork Armells is not the same as the geologic formations present in the East Fork Armells and as such is not an appropriate reference for comparison.

DEQ Response: The commenter provided a level of information on geology that was not previously considered. To understand the implications of this comment, we used a Piper diagram analysis and stream reference sites as a point of comparison. The Piper diagram approach graphically displays the collective signature of the individual ions that comprise the salinity of the water. In completing this exercise, we confirmed that the base water chemistry of East Fork Armells Creek is not similar to West Fork Armells Creek. Further, our re-analysis showed that the individual ion composition of East Fork Armells Creek was unique when compared to our statewide reference sites within the Fort Union Formation, as well as when compared to a larger group of reference sites throughout eastern Montana. It is important to note that this analysis does not show or describe in anyway whether the salinity concentrations have increased or decreased. Nor does this analysis relate to the attainment of a designated use or a water quality standard. Rather, it simply shows the base water chemistry is different in East Fork Armells Creek when compared to our reference sites, thus rendering any direct comparison to them unhelpful. *Considering this new information, we will maintain the prior East Fork Armells listings for EC and TDS and add the new reference analysis into our assessment records (emphasis added).*

See comments 9, 10, 11 and 13 for cross reference information.

Comment 13: A TMDL for East Fork Armells Creek would be beneficial for the public.

DEQ Response: TMDLs set maximum loads for pollutants. 33 U.S.C. § 1313(d)(1)(C); 40 C.F.R. § 130.7(c)(1). States must establish a TMDL for every pollutant that prevents or is expected to prevent a waterbody from attaining applicable water quality standards. 40 C.F.R. § 130.7(c)(1)(ii); *see also* 40 C.F.R. § 130.7(b)(4) (requiring states to include in their impaired waters lists "a priority ranking for all listed water quality-limited segments still requiring TMDLs, taking into account the severity of the pollution and the uses to be made of such waters") and (d)(1) (requiring states to submit to the EPA "the list of waters, pollutants causing impairment, and the priority ranking including waters targeted for TMDL development within the next two years").

The CWA defines “pollution" as the man-made or man-induced alteration of the chemical, physical, biological, and radiological integrity of water (33 U.S.C. § 1362(19)), and similarly defines a “pollutant” as “dredged spoil, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt and industrial, municipal, and agricultural waste discharged into water.” 33 U.S.C. § 1362(6). Neither definition covers the naturally-occurring conditions. The state lists waters that are water quality limited, but the cause is not a pollutant as category 4C. A TMDL is not required to address the non-pollutant water quality limitations in 4C waters.

Pursuant to § 75-5-702, MCA, the Department has identified development of a TMDL for East Fork Armells Creek for total nitrogen, nitrate/nitrite, and total phosphorous as a “High Priority” in the 2018 Integrated Report Appendix B. Salinity related listings will be added to the list of “Medium Priority” TMDLs for East Fork Armells Creek. Iron and aluminum will remain as a “low priority” as there is little indication that the receiving stream concentrations are outside of our Eastern Montana reference site ranges for these parameters. We are currently reviewing how to implement iron and aluminum standards in eastern Montana as these standards are commonly naturally exceeded.

See also Responses to Comments 12 and 33.

Comment 14: MDEQ should consider completing a water balance and synoptic sampling for East Fork Armells Creek in order to identify where water and salinity enters and leaves the stream.

DEQ Response: The approach suggested will be considered in future efforts. However, this level of detail is not typical or commonly necessary for making a beneficial use assessment decision.

Comment 15: The 2018 proposed integrated report removes chloride as a cause of impairment for East Fork Armells Creek. It appears that this is in error and should remain a cause of impairment.

DEQ Response: Chloride was not listed as an individual pollutant causing impairment on East Fork Armells, but it was listed for a cause of "Salinity/TDS/Chlorides" from 1992-1998. The phrase "Salinity/TDS/chlorides will remain a cause of impairment" was last used in the 2014 record text. However, this comment in the record was simply repeated, from the 1998 list, within the 2014 record. During the development of the 2000 303(d) list this cause was removed from the East Fork Armells Creek assessment due to lack of sufficient and credible data. Then, during the 2006 list, we reassessed the waterbody and Electrical Conductivity and Total Suspended Solids were added back onto the waterbody as individual causes of impairment. It was at that time "chlorides" were no longer part of the listing for East Fork Armells Creek.

This comment will again be considered during future assessment or TMDL efforts related to salinity on East Fork Armells.

Comment 16: The MDEQ is not being consistent "in its practice of listing potential *causes* of impairment." The commenter then goes on to discuss concerns with source identification.

DEQ Response: See the response to comment 17 for cross reference. We have detailed approaches to identifying causes of impairment, referred to as our assessment methods, and past practice was to simply include all potential sources that are present and may contribute. The "sources" for segment MT42K002_110 described in the text of the actual assessment record on our Clean Water Act Information Center (CWAIC) include "*crop production, coal mining, golf courses, natural conditions, grazing along streams, septic systems, land application of wastes, urban areas and power generation facilities"* with respect to all causes. In order to address the confusion created by source identification we will prioritize the development of a standard operating procedure on how 1) sources will be identified and 2) guidance about how this information should be appropriately used for Montana Water Quality Act and Clean Water Act programs, and 3) where and how this information will be reported.

Comment 17: The draft integrated report identifies East Fork Armells as impaired for iron, nitrogen, and phosphorous, but then states that the source is "unknown."

DEQ Response: See Response to Comment 16. The "source" as described in our integrated report is an optional CWA reporting component that is meant to serve two purposes: 1) a statewide gauge on where to focus resources and 2) initial direction for the TMDL program's source assessment. The "source" is not to be used outside of this context for activities such as MPDES compliance (TMDLs are developed to do this), current impacts analysis, or future anticipated impacts analyses.

Additionally, the assessment record, which can be found on our Clean Water Act Information Center (CWAIC) web page, does include the following language: "Formal pollutant source assessment is outside of the scope of the 2017 project. Based on identified land uses in the area of the study stream segment, several potential sources are present. However, we do not know the contribution of any of these or if they contribute at all. Besides sources that are natural in origin, some existing activities in the watershed that may influence pollutant loading include: *crop production, coal mining, golf courses, grazing along streams, septic systems, land application of wastes, urban areas and power generation facilities.*" We feel the inclusion of this language adequately and accurately represents our understanding of potential sources.

Comment 18: The integrated report did not recognize the impairment for the human health standards for lead and arsenic in East Fork Armells Creek.

DEQ Response: We are not listing East Fork Armells Creek, AU MT42k002_110, as impaired for lead and arsenic in this assessment cycle because the exceedance data for these pollutants is limited to a single-sample anomaly out of a large dataset. Additionally, the quality of this segment of East Fork Armells Creek is naturally marginal for drinking, culinary, and food processing purposes and there is no known, current drinking water use. The Department will ensure that data collection continues for lead and arsenic in East Fork Armells Creek.

Comment 19: The 2018 integrated report inappropriately removed "mining" as a source for the Alteration in stream-side or littoral vegetative covers listing on East Fork Armells MT42K002_170.

DEQ Response: See Response to Comments 16 and 17. Information related to the cause of water quality impairment is used by us to 1) prioritize and focus agency resources; and 2) provide direction for the TMDL program's initial assessment of sources of impairment. The information is not intended to definitively determine the source of water quality impairment.

Mining was removed as a source of alteration in streamside or littoral vegetative cover in response to comments on the 2016 Integrated Report.

We agreed that several of the justifications for mining as being a potential source of habitat alteration in the assessment record were not substantiated. Therefore, we modified the list of potential sources for this waterbody.

Comment 20: Macroinvertebrate data tend to indicate that East Fork Armells Creek is impaired.

DEQ Response: The 2018 report continues to consider the creek as "impaired" for multiple pollutants. However, it is important to recognize that the Water Quality Planning Bureau, at present, uses macroinvertebrate data as a secondary component in its nutrient assessment method. We have invested significant resources into developing tools to use macroinvertebrate information. Unfortunately, our current tools are simply not accurate enough in prairie settings. Therefore, our assessment methods do not attempt a direct measure of the aquatic life use. If a macroinvertebrate tool were developed that was reliable and consistent in interpreting "harm" we would consider using it.

Comment 21: The Lake Creek assessment was conducted in 2013 and relied on data collected between 2005 and 2012. This assessment pre-dates the MDEQ's current assessment methodologies for nutrients.

DEQ Response: We coordinated with the commenter to include more recent data into the updated nutrient assessment method for this waterbody and includes results in the final 2018 IR. The additional data did not change any nutrient related listings for the waterbody, nitrates remain a cause of impairment.

Comment 22: The Lake Creek assessment was conducted in 2013 and relied on data collected between 2005 and 2012. A large portion of the data used would no longer be considered according to the MDEQ's 2012 metals assessment method which does not use data which is over ten years old.

DEQ Response: We coordinated with the commenter to include more recent data into the assessment record for metals assessments and includes results in the final 2018 IR. Copper remains listed and lead is removed as a cause of impairment for Lake Creek.

Comment 23: The Stanley Creek assessment was conducted in 2013 and relied on data collected between 2005 and 2012. This assessment pre-dates the MDEQ's current assessment methodologies for nutrients.

DEQ Response: We coordinated with the commenter to include more recent data into the updated nutrient assessment method for this waterbody and includes results in the final 2018 IR. The additional data did not change any nutrient related listings for the waterbody, nitrates remain a cause of impairment.

Comment 24: The Stanley Creek assessment was conducted in 2013 and relied on data collected between 2005 and 2012. A large portion of the data used would no longer be considered according to the MDEQ's 2012 metals assessment method which does not use data which is over ten years old.

DEQ Response: We coordinated with the commenter to include more recent data into assessment record for metals assessments and includes results in the final 2018 IR. Copper remains a cause of impairment but lead and zinc are removed as a cause of impairment for Stanley Creek.

Comment 25: Data that is submitted to the MDEQ through mine Operating Permits should be incorporated into the water quality assessments. Specifically, the water quality and biological data collected for Lake Creek and Stanley Creek should be included.

DEQ Response: We will initiate coordination between the programs and communicate how permittees may request that data be used for analysis within future integrated reports. Montana DEQ and US EPA have minimum data quality requirements for 303(d) listing/delisting purposes, which may require more information be reported about sampling design and results for data submitted for other program purposes to be used in water quality assessments.

Comment 26: The Metals assessment method (July 2012) is biased toward identifying the stream as impaired and should weigh biological data more heavily.

DEQ Response: We are currently building our schedule for public outreach on our assessment methods, including the 2012 Metals method, and will be sure to consider the commenters interest in reviewing/modifying our approach to metals. We agree, given what we have learned in implementing our Metals assessment, that modifications may be appropriate. However, the total recoverable fraction of metals is the current adopted water quality criteria for most metals in Montana and assessment methods must use existing standards. If Montana was to consider adopting the dissolved fraction for metals criteria the most appropriate avenue for that comment is during the State's Triennial review, which is scheduled for public comment in 2019 or 2020. Additionally, the assessment process must consider the independent application of numeric standards and, therefore, they do not rely heavily on biological data for toxic substances with numeric criteria, which are based on the outcome of toxicology studies.

Comment 27: The Report does a decent job describing important hydrologic information in a manner for the public to understand; however, there are areas where some of wording could be improved to better convey the science. In addition, Figures 2, 4, 5, 7, and 8 are hard to read.

DEQ Response: We reviewed the Report text and made adjustments where we believed a better balance between writing for a general audience and scientists could be found. Figures 4, 5, 7, and 8 were updated to improve image resolution and we combined figures 4 & 5 into the new figure 4. This altered the numbering of subsequent figures in the report.

Comment 28: Please list the appendices in the Table of Contents and state the length of each appendix. Most of the appendices are .pdfs. It would be helpful to have such massive amounts of information in a spreadsheet or database file that allows faster searching and the ability to actually analyze the information. Suggest providing the report as a Word document.

DEQ Response: Table of contents was changed to include a list of appendices; however, their lengths were not noted as that is inconsistent with report formatting. Additionally, most appendices are now available in both PDF and Excel versions. The report is published as a PDF for online publication and security.

Comment 29: The report should have a different format with background Clean Water Act information and rules in an Appendix and keep the report to assessment results. This should be structured and presented differently as well. Also, make the Executive Summary longer and structured differently. Add more detail to the Surface Water Monitoring and Assessment section.

DEQ Response: We have revised and updated the formatting and presentation of the state's Water Quality Integrated Report after the 2014 reporting cycle. This was done in response to comments received regarding how bureaucratic the document was. Our aim is to provide an overview of the state's water quality with the report and provide access to all associated data via our Clean Water Act Information Center (CWAIC) reporting site (www.cwaic.mt.gov). From this site, one can access assessment information by basin, drainage (HUC 8), county, stream name, listing category, designated use, or cause of impairment. Each primary query can be filtered further with optional filters and the resultant data query viewed in the mapping application and/or downloaded as a csv file for data analysis in a spreadsheet or database program. Additionally, the entire 2018 cycle data may be downloaded as a geodatabase file (.gdb), with the download including a layer (.lyr) file for mapping symbology in a GIS application.

Comment 30: In the groundwater section, more discussion on water quality standards exceedances noted in Table 7 as to likely causes/sources and how they are being addressed, and an expanded discussion into the effects of groundwater on surface water uses beyond the drinking water use.

DEQ Response: Your comments are noted and will be taken into consideration in future reports.

Comment 31: It is good to see that 7 water bodies have improved (Successes, page 55). But that should be presented along with how many water bodies have worsened or remained impaired. Citizens want a genuine assessment of problems to be addressed, not just a few happy stories. The following section on spill reports, fish kills and consumption advisories (p 58) suggest some serious problems.

DEQ Response: The report section covering surface water monitoring and assessments does point out waters that have one or more impaired beneficial uses, in the context of total amount of waters (rivers or lakes) assessed – not all the waters of the state. Additionally, Appendices A and B focus only on those waters with degraded or impaired uses.

Comment 32: The report's discussion of water quality conditions & causes of impairment is much summarized and it is rather difficult to take it in.

DEQ Response: In past reports we have provided much greater detail and granularity in impairment information within the Integrated Report itself, which had been miss-understood or miss-interpreted. We opted to provide this information in more general terms in the actual report and provide access to the complete detail of assessment data and information from our reporting cited on the web (www.cwaic.mt.gov). Interested users can access and download the listing details and conduct analysis of the data, at spatial scales of interest to them, using either GIS or other data analytic tools such as relational databases or spreadsheet programs.

Comment 33: The Integrated Report should address the recommendations of the 2015 Montana State Water plan and other associated basin plans.

DEQ Response: Addressing the State Water Plan recommendations, which focuses on water supply and water use issues is not within the scope of the Clean Water Act reporting requirements and is more correctly connected with our Nonpoint Source Management Plan. However, we agree that water quantity and quality are interrelated and will continue to seek opportunities to connect the programs.

Comment 34: I am confused by the 303d list that accompanies the draft report. Appendix A lists lots of impaired waters in the Pend Oreille/Clark Fork basin but I found only a few [15] in the 303d list. Did I miss others or misunderstand with Appendix A and the 303(d) list?

DEQ Response: Appendix A is the list of all waterbody segments that we have assessed where one or more beneficial use is impaired to some level, regardless of whether the impairment is due to a pollutant and a TMDL is needed or completed. Specifically, Appendix A includes waters that are water-quality limited and a TMDL is not required, i.e., no pollutant listing, (category 4C), waters where all required TMDLs have been completed and approved (category 4A), and waters where a

TMDL is required but not yet developed (category 5).

Appendix B is specifically the 303(d) list and includes only those waters that require at least one TMDL to be developed and approved and is presented as waterbody/pollutant combinations. These are category 5 waterbodies. When a TMDL is approved for a waterbody/pollutant combination, it is removed from Appendix B (i.e., delisted) and will only appear on Appendix A.