

Response to Comments

City of Sandpoint Wastewater Treatment Plant NPDES Permit # ID0020842

§401 Water Quality Certification

Public Comment Period: April 19, 2016 through July 5, 2016
For Draft Certification dated February 23, 2016

The 401 certification and the draft NPDES permit were advertised for public comment at the same time since one is a subset of the other. As a result comments are received that address both permit topics and certification topics. DEQ has selected comments from the respondents that relate to 401 certification topics. EPA also develops a response to comments document addressing comments specific to their permit.

1. Comment

Idaho Conservation League (ICL) commented:

“It is not clear to us what the justification is for a total phosphorus mixing zone that utilizes greater than 25% of the receiving flow. Idaho’s most recent mixing zone rule provides for the following [excerpt from Idaho Water Quality Standards (WQS) IDAPA 58.01.02.060 Mixing Zone Policy not included].

We interpret all of this to mean that the DEQ can, under certain circumstances, authorize a mixing zone larger than 25% of the receiving flow. However, doing so requires that the DEQ undertake significant analysis to justify this action.

Support documents included in DEQ’s 401 Cert provide analysis of the proposed mixing zone. However, this analysis does not demonstrate that this larger mixing zone does not “cause an unreasonable interference with, or danger to, beneficial uses.” On the contrary, the analysis demonstrates that the expanded mixing zone causes these impacts.

Further DEQ’s review concludes that the existing outfall is poorly located and discharges to slack water. This in turn hinders mixing. DEQ’s rules direct that “The Department shall not authorize a mixing zone that is determined to be larger than is necessary considering siting, technological, and managerial options available to the discharger.” DEQ seems to have failed to consider whether or not there are modifications that could be made to the outfall which would eliminate the need for a mixing zone that exceed 25%. No analysis of relocating the outfall is presented. As a result, the DEQ analysis fails to comply with the agency’s own rules and fails to provide adequate water quality protections for the receiving water.

The lack of review discussed above makes it inappropriate for the DEQ or the EPA to authorize a mixing zone of the extreme size proposed in the 401 Cert and the draft NPDES permit. Absent additional review and justification, the agencies are precluded from utilizing a mixing zone that is greater than 25%.”

Response

As noted by ICL, a mixing zone larger than 25% can be authorized if it will not cause unreasonable interference with, or danger to, beneficial uses (IDAPA 58.01.02.01.d). A mixing zone causes unreasonable interference or danger to beneficial uses when it causes conditions that impede or prohibit recreation in or on the water body (IDAPA 58.01.02.060.01.d.vi). This assessment unit of the Pend Oreille River (Pend Oreille Lake to Priest River) is not impaired due to excess nutrients, meaning there are not conditions that can cause visible slime growths or other nuisance aquatic growths that impair beneficial uses (IDAPA 58.01.02.200.06). The phosphorus limits in Sandpoint's permit will result in less phosphorus in the receiving water during the summertime period. Since under current conditions, nutrients do not cause an impairment of uses, the new limits for phosphorus in the permit should not impair recreational uses.

It should also be emphasized that phosphorus is not a toxic pollutant and mixing zones for non-toxic substances should be treated differently. In most situations, the time for nuisance aquatic growth to respond to an increase in nutrients will be longer than the time to reach full mixing. Therefore, in general, nuisance aquatic growth basically responds to fully mixed conditions. This allows DEQ to provide a 100% mixing zone for nutrients without, in most instances, an adverse impact on uses. DEQ did, however, limit the mixing zone to 47% for the Sandpoint discharge due to the difficult discharge point that demonstrated poor mixing during critical flows. DEQ used field data collected by DEQ and modeling completed by EPA in determining this mixing zone.

2. Comment

ICL also footnotes within the above comment that, "It is not clear to us that these rules [IDAPA 58.01.02.060] have been approved by the EPA. As such, it is not appropriate for the DEQ to be utilizing them for the development of mixing zones in Idaho. Nor is it appropriate for the EPA to be incorporating these rules into an EPA NPDES permit."

Response

The mixing zone provisions in IDAPA 58.01.02.060, adopted in 2015, have not yet been approved by EPA. However, there are several reasons why it is appropriate to reference these provisions. First, DEQ is not limited to relying upon WQS when it considers certification under section 401 of the CWA. It is also allowed to include conditions necessary to ensure compliance with "any other appropriate requirement of state law." CWA, section 401(d). The mixing zone provisions are an appropriate requirement of state law. Regardless of the version of the mixing zone rules, mixing zones for toxic substances do not exceed 25% of the critical flow condition and the acute or chronic mixing zones for toxic substances are not contrary to any other provision of these rules.

Second, like the new provisions, the prior mixing zone provisions that were approved by EPA prohibit mixing zones that cause an unreasonable interference with, or danger to beneficial uses. DEQ's interpretation of the prior provisions also allowed the agency to vary from the 25% limit on mixing zones, but only if the mixing zone still ensured protection of uses. The new provisions provide further explanation for what constitutes an unreasonable interference and confirm the agency practice of allowing larger or requiring smaller mixing zones. At the very

least, while not yet effective for CWA purposes, the new provisions assist in DEQ's interpretation and application of the mixing zone provisions that have been approved by EPA.

3. Comment

ICL comments, "As noted in our previous comments, we believe that DEQ has erred in determining that the receiving water a tier I water for aquatic life. We ask the agencies to review our prior comments and reconsider their conclusions."

ICL's previous comments on this topic in a letter to DEQ dated January 30, 2015 are as follows:

"The antidegradation review conducted by the DEQ for this draft permit incorrectly determined that the receiving water was only a tier I water for aquatic life. Idaho antidegradation rules are found in IDAPA 58.01.02.054. [Excerpt from WQS IDAPA 58.01.02.054 omitted.]

An additional error exists in the antidegradation review. The review (and the factsheet) states that the receiving water is impaired for total dissolved gas supersaturation. However, the receiving water in the vicinity of the discharge is not in violation of standards for total dissolved gas supersaturation. Downstream from the WWTP point of discharge is the Albeni Falls Dam. Distant and downstream from the WWTP, as a result of the Albeni Falls Dam, the river exceeds the state water quality standards for this parameter. The Albeni Falls Dam is a barrier to fish passage in the river. Since the impacts of gas supersaturation are exclusive to aquatic life, and aquatic life that is impacted by the gas supersaturation caused downstream of the dam cannot swim upstream past the dam, it is not logical to say that the waters in the vicinity of the WWTP discharge are impacted by the supersaturated gas levels downstream from the dam. For this reason, the receiving water needs to be listed as *not* impaired by dissolved gas supersaturation."

Response

The Pend Oreille Lake to Priest River segment of the Pend Oreille River is listed as impaired due to total dissolved gas. This includes the portion of the river where Sandpoint's WWTP outfall is located. The reason for this impairment is not the Albeni Falls dam. The source of the dissolved nitrogen gas in this portion of the Pend Oreille River is Avista's two hydroelectric facilities located on the Clark Fork River. The dissolved nitrogen gas impairment on the Clark Fork River is being addressed per the FERC relicensing agreement as directed by the *Lower Clark Fork River Subbasin Assessment and Total Maximum Daily Loads*, IDEQ, 2007. Currently, spillway crest modifications are being installed and initial results have been positive in some reductions of dissolved nitrogen gas. Eventually, reductions per these efforts should restore this section of the Pend Oreille River to meeting WQS for dissolved nitrogen gas. This impairment is relevant to the cold water aquatic life use and lowers the level of protection to Tier 1 only for this use in the Pend Oreille River. In addition, the aquatic life for this assessment unit is also impaired due to elevated temperatures. Therefore, regardless of the TDG, the unit would receive Tier 1 protection only for aquatic life.

4. Comment

ICL comments, "Further, because this waterbody is a tier II water for aquatic life, we do not agree with DEQ's determination that the increased phosphorus discharges are appropriate at the level authorized. The proposed discharge limits would utilize greater than 10% of the remaining assimilative capacity of the receiving water. Indeed, it appears that the support materials provided as Appendix D in the 401 cert reach this same conclusion. As such, it appears that this permit will cause significant degradation."

Response

The conclusions section of Appendix D (now Appendix B) states that currently 23% (corrected to 25%) of the phosphorus load upstream of the outfall is contributed by the Sandpoint discharge (see Appendix E of the Fact Sheet). The new summertime effluent limit is less than the currently discharged load. This fact was discussed to indicate how important this source of phosphorus pollution is to water quality of the Pend Oreille River and how important it is to authorize an amount that will not cause degradation. The 23% (25%) figure did not refer to loss of assimilative capacity.

As described in the response to comment #3, DEQ is not in error regarding the Tier 1 level of antidegradation protection afforded the cold water aquatic life use in the Pend Oreille River.

5. Comment

Lake Pend Oreille Waterkeeper (LPOW) comments, "However, the allowance of a year after the effective date of the final permit for the City to notify EPA and DEQ of their preferred compliance option is excessive. Given that the interim effluent limits for phosphorus will cause or contribute to water quality standards (WQS) violations, allowing an entire year to decide which option is more palatable is unwarranted and should be reduced."

Response

Compliance schedules must require compliance as soon as possible (40 CFR 122.47). DEQ has learned with other communities in similar planning situations that this amount of time is necessary for the cities to determine the direction they want to go. Major financial decisions by communities often require more than just input from a few leaders. Preparation can be made in one direction or the other during the draft permit phase but there are many steps to finalizing such a decision. Public direction, funding, planning, engineering design, and construction are key components that must be taken into account in determining the appropriate option to meet the phosphorus limits. During the public comment period, Sandpoint has requested two years to make the decision to choose whether or not to build a new plant or upgrade the existing one. Since the request did not affect the overall timeframe and there were valid reasons for this change, DEQ is granting that request. Therefore, allowing two years to select an option as part of the compliance schedule is reasonable, and the compliance schedule as a whole requires compliance as soon as possible.

6. Comment

LPOW comments, "Furthermore, DEQ's initial Water Quality Certification stated that the poor mixing conditions that currently exist could be improved upon by extending the outfall further into the main channel of the river since the current position of the outfall discharges treated

wastewater to a slack water location. There is no such suggestion or, more importantly, requirement in the revised certification. A combination of improved mixing and reduced effluent concentrations for phosphorous (as discussed below) would substantially reduce the potential to cause or contribute to WQS violations. If the City of Sandpoint decides to pursue upgrades at the existing POTW, then relocating the outfall should be included as part of the planned upgrades.”

Response

DEQ did issue a draft certification (dated September 18, 2014) with a requirement for the City of Sandpoint (City) to improve mixing by modifying the outfall pipe to mitigate the effects of a large phosphorus mixing zone (43.5%) of an 87 lbs/day year round effluent limit. The City indicated that an outfall modification to improve mixing would cost approximately \$2 million dollars and they did not want to invest in this outfall location before determining if a new treatment plant would be constructed with a potentially new outfall location (12-5-14 meeting with the City). In response to this and other comments, EPA and DEQ developed the currently proposed seasonal phosphorus limit of 61 lbs/day in the summer months. This lowered amount of phosphorus (87 to 61 lbs/day) during the summer months alleviated DEQ’s concerns related to the mixing zone size so the requirement for an outfall modification was removed from the certification.

7. Comment

LPOW comments, “It’s clear that the proposed interim limits from June-September, which are the same as the final limits from October-May will cause or contribute to WQS violations. According to the proposed compliance schedule outlined in the DEQ Water Quality Certification, interim limits will be in effect for up to 6 years including the 1 year grace period where the City decided which compliance schedule option they have selected. Considering that the current level of phosphorous loading already greatly exceeds the miniscule assimilatory capacity that may or may not remain, the interim limits must be substantially reduced to prevent further impairment to the River.”

Response

The proposed interim limits are based on what has been historically discharged on an annual basis since their last permit renewal. Interim limits will be in effect for either a 5 or 10 year period of time depending on the City’s decision to construct a new treatment plant or upgrade the present facility. When effluent limits are proposed for the first time and the permittee cannot immediately comply with the new limits on the effective date of the permit, the state can grant a compliance schedule. The schedule must be an enforceable sequence of actions leading to compliance with a water quality based effluent limit. The compliance schedule must require compliance as soon as possible. The interim limits in this case are based on what the facility can meet at this time, without the benefit of any upgrades. It is appropriate and reasonable based on information provided by the permittee to allow time to plan, fund, design, construct and optimize new treatment systems to meet new limits for phosphorus. DEQ considers the compliance schedule and interim measures timeframes to be sufficient to ensure compliance as soon as possible but not overly lenient.

We understand that LPOW sampled the river in the vicinity of the outfall and the results exceeded 10µg/L total phosphorus. This is an area of mixing and mixing zones are authorized because they are an area where WQS are not met. This does not constitute a violation of WQS.

To clarify the last statement in this comment, the current level of phosphorus loading from this discharge does use up most of the remaining assimilative capacity of the river for phosphorus pollution; however, the river is not impaired due to excessive amounts of this pollutant. This is based on monitoring by DEQ over several years.

8. Comment

LPOW comments, “DEQ and EPA may not authorize TP discharge limits that will cause or contribute to violations of water quality standards; therefore the permit must be further revised to incorporate a more stringent interim and final TP WQBELs.”

Response

The interim limit for phosphorus is based on what the facility can currently meet without any upgrades. It is intended to allow the facility to discharge as it currently does while making upgrades and meeting annual milestones that will at the end of the compliance schedule meet the final effluent limits. Compliance schedules are allowable under the CWA as long as they are authorized under state Water Quality Standards. (In Re: City of Moscow, Idaho, 10 E.A.D. 135 (EAB 2001); Star-Kist Caribe, Inc. 3 E.A.D. 172, 175 (Adm’r 1990), mod denied, 4 E.A.D. 33, 34 (EAB 1992).

9. Comment

LPOW comments, “As a preliminary matter and discussed supra, there is sufficient narrative and numeric data and science showing the Pend Oreille River is unable to meet, at minimum, its recreational contact and cold water aquatic life designated uses, and therefore, is impaired and requires a TMDL. As EPA recognizes in its Fact Sheet, when a waterway does not possess a TMDL, permits can still contain Wasteload Allocations (WLAs) for specific point source dischargers. In turn, EPA has given the Sandpoint POTW a WLA.

However, the WLA for the POTW would sanction excessive loading based on, as discussed above, expanded mixing zoned, and therefore is inappropriate and must be revised. Indeed, the proposed TP WQBEL for the Pend Oreille River is insufficient to ensure that water quality standards downstream of the discharge will be protected because the permit does not account for a safety factor, contributions from other point and nonpoint sources, and because the permit implicitly assumes that TP concentrations in the main channel are an appropriate indicator of acceptable TP concentrations constituting adequate protection of water quality standards.

Rather, the permit should possess a TP WLA of less than a minimum of 61 lbs/day (as suggested above) because its designated uses, particularly contact recreation and cold water aquatic life, are tied specifically to near-shore use, not main channel river use. Near-shore water below the POTW discharge circulates and dilutes less than in the main channel of the river, meaning it is more sensitive to TP concentrations, and therefore requires more stringent effluent limits to protect its designated uses. The revised draft permit’s proposed TP WQBEL is thus arbitrary, on one hand, because there is zero explanation of how TP dischargers from the POTW – in

combination with other sources of TP in the river – will not violate water quality standards in the near-shore area.”

Response

DEQ evaluated this draft permit using the EPA approved 2012 Integrated Report. This section of the river is impaired due to total dissolved nitrogen gas and temperature. Regarding the antidegradation portion of the WQS, these pollutants are significant to the cold water aquatic life beneficial use. As a result, the Pend Oreille River only receives the Tier 1 level of antidegradation protection for this use. Neither of these pollutants is significant to recreational uses so both Tier 1 and Tier 2 (high quality waters) levels of protection apply for all pollutants relevant to recreational uses, including phosphorus. To date there have not been any total maximum daily loads (TMDLs) developed for temperature or dissolved nitrogen gas for this segment of the Pend Oreille River. Without a TMDL there are no wasteload allocations (WLAs) for these pollutants, no safety factor to account for uncertainty, no WLAs for other point sources, or other provisions required as part of the development of a TMDL. The wasteload allocation (WLA) factor in the fact sheet relates to how effluent limits are developed, not to be confused with the development of a TMDL. Unfortunately, WLA is a term used in both processes.

The nearshore area around the wastewater treatment plant outfall depending on the wind, current and boating activity can move the phosphorus zone of mixing in different directions. By definition, a mixing zone is an area that does exceed WQS for a particular pollutant. Pollutant concentrations that are higher than the WQS within this zone of mixing should be expected. Table 4 of the certification details the pollutants and the size of their mixing zones authorized for this discharge. Please also refer to the response to comment #1 that better describes how DEQ evaluates mixing zones for non-toxic pollutants such as phosphorus.

The Pend Oreille River does not have a separate pelagic zone that has its own aquatic regime such as Pend Oreille Lake. The Pend Oreille River overall is well mixed but does exhibit differing manifestations of nutrients depending on depth (sunlight) and circulation (flushing). However, these localized effects do not reach the level where one could say a separate aquatic regime exists. If there are water quality issues within the nearshore areas throughout the Pend Oreille River, it is appropriate to bring up this concern during the development of the next Integrated Report.

10. Comment

LPOW comments, “Further the POTW’s TP concentrations from discharges bioaccumulate in receiving water, with the potential to become much more potent in shallower near-shore water with less dilution capacity. The studies shown in DEQ’s Water Quality Certification prove that the effluent plume from the POTW is significant and far greater than any allowable mixing zone. Although the permit’s documentation notes that fact, it does not then take the logical step in applying the near-shore’s diminished capacity to dilute TP and require more stringent effluent limitations. Instead, it applies inappropriately lax WQBEL; this decision is arbitrary and capricious. EPA cannot sanction unabated pollution that causes or contributes to persistent violations of water quality standards in the river beyond the mixing zone.

Likewise, the revised draft permit does not model or account for TP discharges to the river below the discharge point. The river below the POTW receives TP loading from other point and nonpoint sources including but not limited to effluent from wastewater treatment facilities located in Dover and Priest River that discharge to the Pend Oreille River as well as stormwater discharges. These additional TP discharges compound the impact of TP discharges from the POTW, particularly in near-shore areas for the aforementioned reasons.”

Response

Bioaccumulative pollutants are substances that build up in an organism faster than they are broken down and excreted. They are included in a group of substances known as persistent, bioaccumulative, and toxic chemicals or PBTs. These include substances such as PCBs and heavy metals. Phosphorus is not a bioaccumulative pollutant. Outside of the mixing zone area, the differences seen in aquatic plant growth from one nearshore area to another is not because phosphorus from the discharge remains unmixed or accumulates. It is due to a variety of environmental factors including currents, water depth, temperature, light, substrate, and nonpoint source contributions of nutrients. There are two other wastewater treatment plant discharges to the Pend Oreille River, Priest River and Dover. Appendix D of the certification looks at the far field effects of all three discharges. Modeling presented in new Appendix B using best available data, reaffirms that there will not be violations of WQS outside the mixing zones to the Washington state line.

Currently, there are no municipal separate stormwater permits (MS4s) for discharges to the Pend Oreille River and we are not aware of any water quality data from these municipal stormwater discharges. So this contribution of nutrients has not been quantified and could not be used as part of the modeling in Appendix D (new Appendix B). However, by examining water quality in the river at various locations stormwater contributions would be included. Similarly, the Albeni Falls hydroelectric facility raises and lowers water levels causing bank erosion and flooding of adjacent wetlands. This also is an unmitigated source of phosphorus but its effects are captured by monitoring efforts at various locations on the river. DEQ generally evaluates the support status of uses governed by narrative standards such as nutrients by examining the manifestations of nutrients. Other water quality data may also be collected. Monitoring is done as part of our five year review process and data submitted by other entities as part of the Integrated Report process contributes to the ongoing assessment of the nutrient status in the Pend Oreille River.

11. Comment

LPOW comments, “A mixing zone study was conducted by DEQ to determine whether such a mixing zone would comply with applicable rules. We find it troubling that the study unequivocally found that even authorizing 47.2% and 60% mixing zones would violate water quality standards, yet the permit still reflects these exorbitant mixing zones. On the basis of the study alone, the proposed mixing zones are arbitrary and capricious. The proposed mixing zones are also arbitrary and capricious because, during low-flows, the existing mixing zones create a significant effluent plume that spreads across the river rather than moving rapidly downstream, and therefore by its plain language will cause or contribute to violating receiving water quality standards. In fact, the IDAPA prohibits such expansive mixing zones undoubtedly because they do not adequately protect receiving water quality.”

Response

A regulatory mixing zone is defined in the Idaho Water Quality Standards as a defined area or volume of the receiving water surrounding or adjacent to a wastewater discharge where the receiving water, as a result of the discharge, may not meet all applicable water quality criteria or standards. IDAPA 58.01.02.010.61; See also NPDES Permit Writer's Manual, EPA 2010. Thus, the exceedance of criteria within the mixing zone is allowed. All water quality criteria will be met at the edge of the mixing zone as required by the Water Quality Standards.

We agree with the commenter that the mixing zones authorized by the certification are to be used by this discharger to dilute their wastewater. The authorization of mixing zones larger than 25% is allowed given that it does not cause an unreasonable interference with, or danger to, beneficial uses and the discharger demonstrates that a larger mixing zone is needed given siting, technological and managerial options (IDAPA 58.01.02.060.i.ii.). As noted above, recreational uses in the receiving water are not currently impaired and under the new limits in the permit phosphorus levels will be reduced during the summer months, a time when manifestations of phosphorus could impact recreational uses. In addition, phosphorus is not a toxic pollutant and mixing zones for non-toxic substances should not be treated like mixing zones for toxic pollutants. Nevertheless, DEQ did limit the mixing zone size to 47% due to the difficult discharge point that demonstrated poor mixing during critical flows. Through careful analysis and documentation DEQ has examined the consequences of the new phosphorus effluent limit and the mixing zones and determined they will not cause an unreasonable interference with or danger to beneficial uses and therefore are consistent with the Water Quality Standards (please see answer to comment #1).

12. Comment

City of Sandpoint comments, "Our first concern is the timeline proposed for the necessary planning, funding, design, construction and start-up of the improvement to meet new permit requirements. The current Facility Plan is ten years old and must be updated to reflect improvements made within our system since it was approved. The Facility Plan Update must also address the significantly more stringent requirements for phosphorus, ammonia, and mercury proposed under this Second Draft Permit. We have received approval from Idaho Department of Environmental Quality (DEQ) matching funds to update the Facility Plan and will begin that two-year process in 2016. The Facility Plan will include significant public involvement to determine whether the existing treatment plant site can accommodate the preferred improvement alternatives. Imbedded within the decision for plant relocation is the level of desire and participation of other regional entities in a common treatment plant.

Once the Facility Plan Update is approved by DEQ, the difficult and extensive process for funding the treatment plant improvements must be achieved through voter approval or judicial confirmation. Funding approval often takes a year or more to achieve and may delay the improvement design process, since improvement alternatives are often dictated by available funding for those improvements. The improvement design process should be provided at least two years in order to allow for potential pilot testing of physical and biological process modifications. This is especially true at the existing plant site, where space constraints will significantly limit the available technologies that can be considered for ammonia and phosphorus reduction.

Bidding and construction of the complex electrical, mechanical, and biological wastewater improvements being contemplated to meet new permit limits will require at least two years to complete. If the selected alternative from the Facility Plan involves relocating the existing treatment plant, the construction timeline should be extended by at least two years. The additional time is needed to account for the miles of pressure pipelines that must be constructed to connect the existing common influent location to the proposed location near Baldy Mountain Road and Great Northern Road, as well as return the reclaimed water to the river outfall. Once construction is complete at either location, the biological startup and optimization sequences will still require at least a year to be confidently established for permit compliance. The bottom line is that compliance with the Second Draft Permit limits would require at least eight years at the existing treatment plant site, and ten years if the Facility Plan Update process recommends relocating the treatment facility to the new site.

Interim milestones and progress reports may be needed to assure DEQ, U.S. Environmental Protection Agency (EPA), and the public that these efforts are being made to achieve final compliance as soon as practicable. A proposed Compliance Schedule Table is attached to this letter to more easily demonstrate the timelines necessary for each treatment plant location.

Response

DEQ has changed the compliance schedule to reflect Sandpoint's preference to allow two years to select a preferred compliance schedule option. Building a new plant is a major decision for the entire community and we understand the need to proceed with an involved and informed public, to prepare an adequate master plan and to select the best option for the long term. We also understand that Sandpoint will not begin the master planning effort until they receive their final permit. Please note that the change from one to two years will not change the length of either option of the compliance schedule. Sandpoint's request for an additional 3 years to the 5 year compliance schedule Option 1 was not authorized because of the removal of the ammonia limits. The justification provided to DEQ for the extended schedule as related to us during the June 17, 2016 meeting in Sandpoint was due to the need for upgrades associated with ammonia removal.

13. Comment

City of Sandpoint comments, "However, the methodology is not well documented in the permit or fact sheet; therefore, we request that the basis for the phosphorus discharge (current load) be firmly established in the permit and that analyses undertaken by DEQ and IPA (mixing zone, CORMIX, CE-QUAL-W2, Ecoregion II) were used to confirm that the permitted load meets water quality standards."

Response

The method is well documented (see references cited in the certification and Fact Sheet).

14. Comment

City of Sandpoint comments, "Mixing zones for non-toxic compounds are not required under the Clean Water Act. It seems Idaho law is written in such a way to require mixing zones for all discharge constituents rather than allowing 100% of the flow to mix with non-toxic compounds."

It will be our responsibility to work at the State level to verify that the methodology is consistent with the intent with which it was passed into law.”

Response

Mixing zones are not required. States are allowed, however, to authorize mixing zones (40 CFR 131.13; IDAPA 58.01.02.060). If a mixing zone is not authorized, the discharger must meet criteria at the end of pipe, which results in more stringent effluent limits. Pollutants such as phosphorus, while not toxic, can result in an impairment or unreasonable interference with recreational uses. The City’s outfall is poorly located in a backwater location with limited mixing capability. The plume location, direction, size, and shape can vary greatly from day to day depending on wind direction, boat traffic and eddies. Recreational use is also the highest during the lowest flow and poorest mixed timeframe. Excess phosphorus can create algae blooms and other aquatic plant growth in quantities that impact recreational uses. The wide variability in the monitoring data also presents a level of uncertainty regarding the amount of phosphorus the City currently discharges. For these reasons DEQ examined the quantity of phosphorus very closely. DEQ is obligated per the WQS to prevent impairment of designated beneficial uses due to excess nutrients, oxygen-demanding materials and floating, suspended or submerged matter (IDAPA 58.01.02.200). DEQ believes the mixing zone it has authorized for phosphorus allows a reasonable mixing while providing reasonable assurance that the mixing zone will meet DEQ’s mixing zone requirements, including specifically the requirement that the mixing zone not cause unreasonable interference with, or danger to, beneficial uses.