

**WATER QUALITY CONTROL COMMISSION  
STATE OF COLORADO**

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**IN THE MATTER CONCERNING THE WATER QUALITY CONTROL  
DIVISION'S FINAL 401 CERTIFICATION FOR THE NORTHERN  
INTEGRATED SUPPLY PROJECT**

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**THE CACHE LA POUDE RIVER AND SAVE THE POUDE'S NOTICE OF  
APPEAL AND REQUEST FOR ADJUDICATORY HEARING**

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Pursuant to Colorado Regulation No. 21, 5 CCR § 1002-21.10, and Regulation No. 82, 5 CCR § 82.8, the Cache la Poudre River (“the River”) and Save the Poudre (“STP”)(collectively referred to as “Petitioners”) appeal the decision of the Water Quality Control Division (the “Division”) to issue a Clean Water Act (“CWA”) § 401 water quality certification, , 33 U.S.C. § 1341 (“CWA § 401 Certification” or “Certification”) for Northern Integrated Supply Project (“NISP”). Petitioners respectfully request that the WQCC hold an adjudicatory hearing on this appeal pursuant to 5 CCR § 1002-21.4(A)(2)(d) and (B) and C.R.S. § 25-8-302(1)(f). On March 25, 2020 the Water Quality Control Commission (“WQCC”) issued an Order extending the deadline for filing an appeal to April 15, 2020. This appeal is timely.<sup>1</sup>

**I. Introduction**

The Cache la Poudre River is in crisis. The River is already over-appropriated. *Three Bells Ranch Associated v. Cache La Poudre Water Users Ass’n*, 758 P.2d 164, 166 (*en banc* Colo. 1988). As shown below, segments of the river near Fort Collins are often dry.

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<sup>1</sup> In light of the coronavirus, the Commission is not requiring submission of hard copies of this Notice of Appeal and exhibits.



Photo: Save The Poudre, October 2009, near Lyons Park, LaPorte, CO.

The River has been seriously altered by heavy agricultural and urban water use since early settlement in the 1870's. Exhibit 1 hereto, p. 2 ("Bestgen study"). "The human footprint continues to expand, placing additional pressure (or stresses) on the river ecosystem and the natural processes that sustain it." Exhibit 2 hereto, p. 3 of pdf ("State of the Poudre River 2017" (SOPR)). Extensive existing dam and diversion infrastructure, as well as proposed additional water development, such as the proposed Northern Integrated Supply Project, "have significantly altered the peak and base flows, the effects of which are exacerbated the further one travels downstream. Diversions also cause unnatural fluctuations in flow volume, which likely affects critical habitat and reproductive needs of fish and insects in the river." Exhibit 2, p. 4 (SOPR).

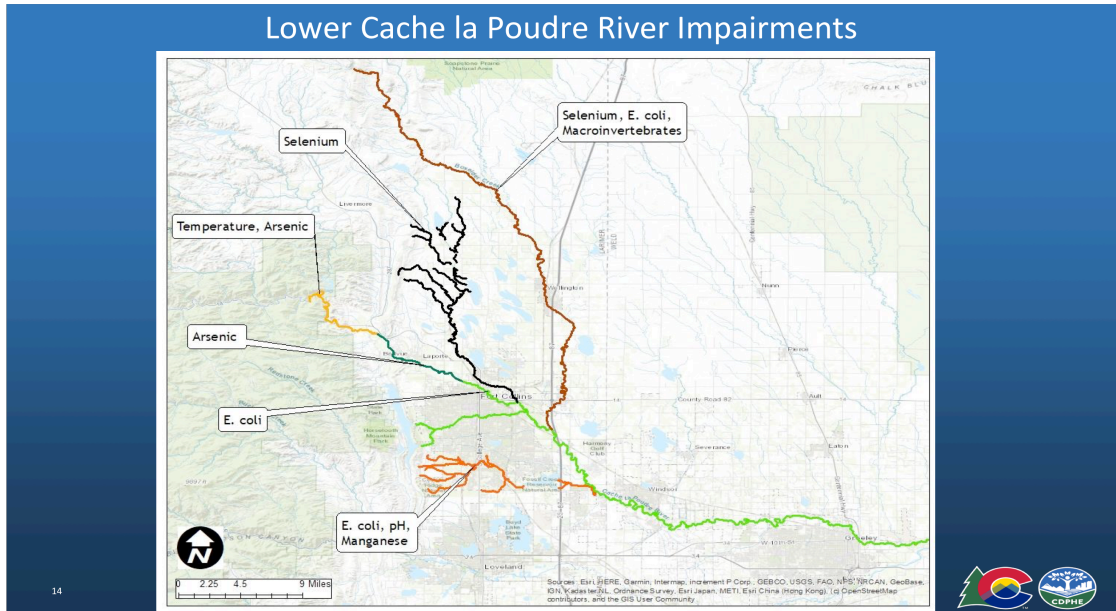
Currently proposed water diversion and/or storage projects in the upper Cache la Poudre River watershed include NISP, the Haligan Reservoir expansion, the Seaman Reservoir expansion, and the Thornton Water Project (that would remove Cache la Poudre River water out of the watershed).

The towns and cities in the thirsty Denver metro area have exhausted the local water supplies in Clear Creek, Boulder Creek, the mighty St. Vrain River and other watersheds. Now these metropolitans are moving north to grab water from the Cache la Poudre River. These water grabs are often accomplished by implementing a “buy and dry” strategy whereby these parched metro municipalities buy irrigated farms in the Cache la Poudre River watershed, convert the water to municipal use, and attempt to pipe it south into the metro area. Both NISP and the Thornton Water Project would take Cache la Poudre River water out of its natural watershed south to these metro communities. In some cases, as with NISP, the water developer has not even secured the water rights needed to fully build the water project, but still moves forward in acquiring necessary permits, such as this 401 Certification.

In the Cache la Poudre River, “populations of native fish are [also] in sharp decline. These declines are most likely due to fragmented habitat and extended periods of extremely low base flows. Other stresses likely influencing fishery health include rapid fluctuation of flows...and altered water temperatures.” Exhibit 2, p. ii (SOPR). The flow regime in the Cache la Poudre River score poorly in all segments of the river “suggesting substantially-impaired functionality...[i]mpairment mainly arises from the effects of water management.”. *Id.*, pp. 41, Table 4.1, and p. 42 (SOPR).

As shown below, the River also suffers from numerous existing water quality

impairments, including e coli.



These water quality impairments will worsen if additional stream flow is removed from the River.

In 2019 Fort Collins Utilities (“FCU”) commissioned the Water Supply Vulnerability Study (“WSVS”) to evaluate the future risks associated with meeting the water needs of its service territory. Exhibit 3 hereto. The #1 risk was climate change. The WSVS Report states:

Climate change is the most important vulnerability faced by the FCU system. Future climate conditions may be more impactful to FCU’s ability to meet its water supply planning policy criteria than the occurrence of any particular infrastructure outage or environmental condition simulated by the WSVS risk scenarios.

Exhibit 3, p. ES-16.

Based on a review of previous climate change studies for the Front Range region, the



WSVS study evaluated a worst case climate change temperature range increase from 0 to 8 degrees F (“T”) compared to average annual 1981 to 2010 observed temperature and precipitation risk ranges from -10% to +15% of average annual 1981 to 2010 observed precipitation (“P”).<sup>2</sup> The WSVS Study concludes:

Temperature and precipitation changes in the range adopted for the WSVS were found to have significant effects on streamflow contributing to the FCU water supply. The hottest/driest climate condition (T = +8%, P = -10%) reduced the Poudre River at the Canyon Mouth mean annual streamflow by an average of 30%...

*Id.* at ES-4.

Additional studies reveal that climate change will significantly reduce flows in Western watersheds. Exhibit 4, p. 2404 hereto (“The twenty-first century Colorado River hot drought and implications for the future.” Water Resources Research 2017 (“Udall and Overpeck Report”).

The Cache la Poudre River is in dire need of restoration, not further flow depletion. “River restoration requires understanding linkages between specific flow conditions and ecosystem attributes to provide ***clear, quantified management targets.***” Exhibit 1, p. 2 (Bestgen Study). Recently a group of researchers developed an Ecological Response Model (“ERM”) for the Cache la Poudre River to design a river management system to improve the health of the river in light of current and future water extraction and storage. *Id.* The purpose of the study “was to produce a scientifically credible and comprehensive analysis to inform the public and assist water managers interested in sustainable management of the Poudre River ecosystem.” *Id.* at p. 2. The ERM “used empirical data and modeled interactions among multiple ecosystem components to capture system-wide insights not possible with the unintegrated models commonly used

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<sup>2</sup> Exhibit 1, p. ES-3.

in environmental assessments,” such as the inferior modeling done for the NISP 401 certification.

The Bestgen Study incorporated climate change data and information. “To incorporate climate change impacts, the present operations scenario was modified using predictions from global climate circulation models...that describes climate-changed hydrologic scenarios for the western United States.” *Id.* at pp. 9-10.

The Bestgen Study concluded that “additional flow regime modification [such as from NISP] would further alter the structure and function of the Poudre River aquatic and riparian ecosystems due to multiple and interacting stressors.” *Id.* at p. 1. The stressors and factors employed in the modeling included “water temperatures, nutrients and water chemistry...”[and] “Clean Water Act aquatic life criteria.” *Id.* at p. 8. The ERM found that the river benefitted from “higher and more stable base flows and high peak flows.” *Id.*

The “complex and interacting Poudre River insights demonstrated by the ERM would not be possible with more traditional flow assessments that evaluate only single variables independent of each other.” *Id.* at p. 14. Unfortunately, the Division’s 401 Certification fails to mandate requirements that would prevent additional deterioration of the River, such as allowing unimpeded peak flows for long periods of time down the river. Further, the Division’s 401 Certification does not adopt, incorporate, or otherwise refer to, the comprehensive Bestgen study and modeling approach.

## **II. Notice of Appeal Criteria**

### **a) Identification of person(s) requesting hearing and the subject matter of the request:**

The Cache la Poudre River and Save the Poudre are requesting an adjudicatory hearing before the WQCC with respect to the Division's decision to issue the CWA § 401 Certification for NISP. NISP involves construction of raw water pipelines, reservoirs, diversion and return flow conveyance structures in Larimer and Weld Counties, Colorado that will alter that hydrology and water quality of the Cache La Poudre River.

The Cache la Poudre River is a watershed flowing through Larimer and Weld Counties, Colorado. The Cache la Poudre River is unable to represent itself and relies on others to do so.

Save the Poudre is a Colorado non-profit membership organization primarily composed of residents of Larimer County, including outdoor recreationists, scientists, property owners, and taxpayers that would be adversely impacted by the construction and operation of NISP. *See*, Exhibit 5, p. 1, ¶ 2.d. (Declaration of Gary Wockner). The members of Save the Poudre include full time residents of the various Larimer County communities that would be adversely affected by NISP, including but not limited to residents of the City of Fort Collins. *Id.* p. 1, ¶ 2.b. Most of Save the Poudre's approximately 600 dues-paying members and approximately 5,000 followers and supporters are residents of Larimer County. *Id.* These members "live, work, and recreate on and around the Cache la Poudre River ("Poudre River" or "River") in Larimer County." *Id.* Some members own property or have residences near the Poudre River in the City of Fort Collins. *Id.* at page 2, ¶ 7.

Save the Poudre's members would be uniquely and adversely impacted by construction and operation of NISP. More specifically, "members interests in clean water and maintaining flows for swimming, fishing, kayaking, and aesthetic enjoyment would be

detrimentally impacted by NISP.” *Id.* p. 1, ¶ 2.c. As noted in this Notice of Appeal, NISP would add to negative impacts to the ecological health and beauty of the Cache la Poudre River through Fort Collins and natural areas valued by Save the Poudre members. Further NISP will negatively impact the downstream riparian ecosystem, including fish populations, insects, birds, mammals and the wetland and riparian vegetation along the river.

Save the Poudre and its members participated in all aspects of the CWA §401 Certification process. In summary, the Cache la Poudre River, Save the Poudre and its members are adversely affected and/or aggrieved by the Division’s decision to issue the CWA § 401 Certification.

**b) The statutory and regulatory authority that forms the basis for the request:**

Pursuant to 5 CCR § 1002-21.10 and 5 CCR § 1002-82.8, Petitioners are appealing the Division’s determination to issue the final CWA § 401 Certification for NISP. 5 CCR § 1002-21.4 requires the WQCC to provide a formal adjudicatory hearing for all appeals of decisions with respect to the Division’s CWA § 401 certifications pursuant to C.R.S. § 25-8-302(1)(f).

**c) The basis upon which the applicant believes the Division has committed error with respect to the subject matter of the request:**

The Division is required pursuant to 5 CCR § 1002-82.5(A)(1) to consider the following in determining whether to issue a CWA § 401 certification for the proposed NISP:

- An antidegradation review under Regulation No. 21, 5 CCR § 1002-21.16;
- Compliance with the Basic Standards and Methodologies for Surface Water Regulation No. 31, 5 CCR § 1002-31 and the Basic Standards for Ground Water Regulation No. 41, 5 CCR § 1002-41;
- Classifications and water quality standards assigned to the affected waters;
- Applicable effluent limitations or control regulations;
- Best management practices (“BMPs”) as set forth in subsection 82.6(B), 5 CCR §

1002-82.6(B);

- Stormwater discharge provisions;
- Public comments; and
- Any project-specific conditions.

The Division may only grant a CWA § 401 certification when the project complies with all applicable requirements as set forth above. 5 CCR § 1002-82.5(A)(2). The Division must deny a CWA § 401 certification if the Division concludes that there is not a reasonable assurance that the proposed project will comply with all applicable requirements even with the addition of conditions. 5 CCR § 1002-82.5(A)(5).

Petitioners assert the subsection 82.5(A)(1) criteria have not been met for the following reasons:

1) the Division failed to comply with regulatory requirements in issuing its draft 401 Certification including, but not limited to, 5 CCR 1002-82.5(B) by failing to provide a rationale in its draft 401 certification, failed to allow meaningful public comment because of the deficiencies with the draft 401 certification, and failed to comply with constitutional and administrative due process requirements as applied to the issuance of the draft 401 certification.

2) the final 401 Certification fails to provide to clear, quantified management targets to ensure compliance with water quality standards and regulatory requirements.

3) the Division's finding that the South Platte River is a "non-impacted waterbody" is not supported by the record. Division Rationale, p. 11 fn. 1. The project proposes to withdraw water from the South Platte River and pump the water to agricultural ditches in the Cache la Poudre River watershed. The withdrawal of exchange water from the South Platte River will adversely impact the waterbody including, but not limited to, reduced flows, reduced pollutant assimilative capacity, and reduced aquatic

habitat. The Division's final 401 Certification fails to analyze impacts to the South Platte River resulting from the exchange water withdrawals.

4) the terms "adaptive management," "reasonable assurance," "mitigation measures," and "environmental benefit" found in the Commissions 401 Certification regulations, 5 CCR 1002-82, including but not limited to Regulation 82.5(A)(1)(a), are unconstitutionally vague on their face and as applied to this 401 Certification.

5) the Division's final 401 Certification fails to quantify, model, or otherwise assess the performance of the conditions imposed and whether such conditions provide reasonable assurance that all requirements of the CWA will be met. Section 401 of the CWA requires that the "imposition of conditions" in a 401 certification must "insure compliance" with the requirements of the CWA. 33 U.S.C. §1341(a)(2). The Division's failure to adequately quantify, model, or otherwise assess the performance of the conditions imposed prevents the Division from insuring compliance. As such, there is no rational basis in the administrative record supporting the Division's finding that compliance with the CWA will be achieved.

6) the 401 Certification does not mandate the conditions necessary to prevent degradation of the River caused by construction and operation of NISP, namely the failure of the 401 Certification to require natural peak flow for extended consecutive days or weeks to restore natural conditions and/or sustain the current river and riparian condition. Exhibit 6 hereto (Poff comment letter, p. 2).

7) the Division illegally exempts NISP from the Total Maximum Daily Load ("TMDL") regulatory process if a Category 4b Demonstration Plan is adopted and implemented. Division Rationale, p. 20. The Division's exemption from the TMDL



regulatory process is illegal because neither the federal or state regulations allow for such an exemption.

8) The 401 Certification is premature because, to date, NISP has not obtained the exchange agreements with water users on the Larimer and Weld and New Cache canals required to supply 22,000 Acre Feet (“AF”), which is over one-half of the water supply for Glade Reservoir. Moreover, NISP’s proposed “buy and supply” scheme, which is an entirely new post-FEIS scheme proposed in 2019, has not yet bought even 5% of the farms needed to operate the exchange agreements. Similarly, the 401 Certification fails to address how 200 cubic feet per second (“cfs”) of water exchanges will be distributed between the Larimer & Weld and the New Cache canals. There are 8.25 river miles between the two canals, including the entire section of the River through the City of Fort Collins that is heavily used for recreation. Without information on the quantity and distribution of NISP’s South Platte Water Conservation Project (“SPWCP”) water rights exchanges, it is impossible to model water quality impacts to the Cache la Poudre River system, and specifically between the two canals, caused by the water exchanges.

9) the 401 certification fails to analyze water quality impacts to the Cache la Poudre River related to decreased flows when the Conveyance Refinement or mitigation flows are not released from Glade Reservoir, a situation very likely to occur during the first 10 to 30 years of Glade Reservoir operations. Instead, the 401 Certification arbitrarily over-states the benefit of the mitigation plan by modeling conditions at full build out when mitigation flows are assumed to be available to the River. Further, the 401 Certification arbitrarily fails to require water quality sampling in the Cache La Poudre

River when Glade Reservoir is, and is not, releasing water to the Poudre River Intake (“PRI”). Without such water quality sampling, under all anticipated conditions, there will be no data upon which to make adaptive management decisions.

Glade Reservoir water releases need to prioritize the health of the Cache la Poudre River. In the 401 Certification Application, Northern admits, per FWMEP Appendix B to the 401 Cert. Appl. Section 5.2.2.4 page B-54 and B-55: and pointed out in STP comments page 9, that:

"As previously described, diversions at the Poudre River Intake, and through the refined conveyance system as a whole, are demand driven. Diversions cannot be made through the Poudre River Intake if there is insufficient demand from the Participants. Therefore, there may individual days when the delivery rates cannot be reached, and deliveries to the Poudre River Intake cannot be made. At full operations, this should not be the case per the design methodologies described above, but could infrequently occur. However, during initial NISP operations before full NISP demands are met, this may happen more frequently. ... “

Justification for the 401 Certification relies heavily on positive effects of the Conveyance Refinement yet, as presented above, discharges from Glade Reservoir to the Cache la Poudre River will be intermittent and depend on the quantity and timing of additional water demands of NISP participants, particularly prior to demands reaching full build out. The 401 Certification did not address water quality issues when the Conveyance Refinement mitigation was not delivering the full amount of additional water to NISP participants.

10) The water quality modeling and data relied upon is technically deficient because it did not consider the impact of climate change which will result in lower flows and higher temperatures in the Cache la Poudre River during the perpetual life of NISP. The WQCC 401 Certification regulations require that the Division consider

environmental impact studies performed under the National Environmental Policy Act.

WQCC Regulation 82.5(A)(1). The Final Environmental Impact Statement (“FEIS”) for

NISP contains extensive findings related to climate change and its impact on water

quantity, water quality, and surface hydrology. For example, the FEIS finds:

- A change in runoff timing to earlier runoff peaks is more likely to occur...[t]his predicted change in timing of peak runoff could be amplified by climate change.” FEIS, Vol. 3, p. 5-11;
- A large volume of scientific information supports the conclusion that global temperatures are increasing and that precipitation trends would change in the future. The warming trend is expected to accelerate in the coming decades.” FEIS, Vol. 3, p. 5-46.
- “In the western United States, longer periods of drought are expected.” *Id.*
- “Climate scientists generally agree that climate change information specific to Colorado indicates that snowpack melting and runoff would occur earlier in the year and temperatures would increase by 4° F by 2050...” *Id.*
- “The hydrology of the Poudre River is anticipated to change under climate change conditions and in turn is predicted to change current operations of diversion, storage and delivery of water.” *Id.* at p. 5-47.
- “Under climate change conditions, water supply is predicted to exceed demand in April and May, and is lower than demand in June through February. Supply and demand are approximately equal in March.” *Id.* at p. 5-48.
- Warmer air temperatures combined with lower flows would be likely to result in greater frequency and magnitude of exceedences of DM and MWAT in the Poudre and Platte rivers. Temperature exceedences that currently occur in July and August may be expanded to June and may result in additional shoulder season temperature standard exceedences.” FEIS, Vol. 3, p. 5-120.
- “Warmer river temperatures may also increase the potential for reducing DO concentrations in rivers.” *Id.*
- “Changes in the volume and timing of flows as a result of climate change also have the potential to affect the concentration of nutrients and metals in the rivers.” *Id.* at pp. 5-120-121.
- “Under climate change, peak flows at most points in the Poudre River Basin below the canyon mouth are predicted to occur earlier and be reduced on the rising limb of the hydrograph compared to Current Conditions hydrology. These changes would likely affect the storage of water for irrigation and administration of the river.” FEIS, Vol. 3, pp. 185-86.
- “Based on an analysis of the Poudre Basin, (DiNatale and CDM Smith 2014), winter flows will be slightly higher than under Current Conditions hydrology, peak runoff will occur earlier in the year and will be characterized by lower flows, and summer flows will likely decrease as well...” FEIS, Vol. 3, p. 5-324.

- Under climate change, adverse effects on boating along the Poudre River are expected to be exacerbated due to reduced summer flows and increased overall variability. Climate change may also affect fishing opportunities, due to increased temperatures and flow variability and the long-term effects on aquatic species.” FEIS, Vol. 3, p. 5-353.

Further, as the FEIS acknowledges, “modeling of the Colorado River Basin indicates overall lower runoff on the West Slope [due to climate change]” (DiNatale and CDM Smith 2014). FEIS, Vol. 3, p. 5-47. The DiNatale Report summarizes potential effects of climate change on the Poudre River hydrology. Exhibit 7 hereto. Some impacts would disrupt the entire Poudre River water supply system. For instance;

Existing infrastructure may not be sufficient to meet water needs under climate change conditions. In particular in the western United States, water managers may no longer be able to reliably count on winter storms and spring runoff to fill their reservoirs. (Ibid,15).

The hydrologic cycle will likely change, bringing longer periods of drought alternating with spells of heavy rainfall. This may reduce the reliability of water storage and could increase reliance on groundwater potentially changing the interface between groundwater and surface water (Miller and Yates 2005). (Ibid, 15).

Both of the above statements point out that, under climate change conditions, uncertainty in the water supply may reduce the reliability of reservoirs, raising questions about the efficacy of NISP. Yet modeling for the Common Technical Platform (“CTP”) and 401 Certification do not address potential impacts of climate change.

The study period for the (Common Technical Platform) CTP includes irrigation years (IY, November through October) 1950 through 2005. The use of historical hydrology is a common approach to modeling for the evaluation of water supply projects, but excludes potential impacts due to climate change (CDM Smith et al. 2011). (DiNatale Report, page 10).

The 401 Certification evaluation ignored findings in the DiNatale Report, findings that could easily have been incorporated into modeling performed for the 401 Certification.

There is ample evidence and agreement that air temperatures are and will further

rise into the future due to climate change. Between 1895 and 2010 temperatures at the NOAA station #3005 in Fort Collins have increased by approximately 5 degrees F (Figure 2-2, DiNatale and CDMSmith, 2014). Per Page 17 of the report, the rate of temperature rise is increasing over time - up to 1 degree Fahrenheit in years between 1981 and 2010. By not using the most current rate of temperature increase, Table 2-1 underestimates the average annual temperature rise expected by 2050, 1.7 to 2.5 degrees Fahrenheit compared to 3.6 degrees Fahrenheit. If the more recent rise in average annual temperature is used, by 2070, the planning horizon for the NISP project, average annual temperatures may rise an additional 1.8 degrees Fahrenheit; for a total of 5.4 degrees Fahrenheit between 2010 and 2070.

The DiNatale Report (p. 15) states that summer temperatures are expected to increase faster than the annual average:

“Summers will warm more than winters ( average of 3 degrees Fahrenheit to 7 degrees Fahrenheit summer increases, average of 2 degrees Fahrenheit to 5 degrees Fahrenheit winter increases) (CWCB 2008).”

This rise in temperature is based on local historical data, is not dependent on the output of regional climate change models, and must be incorporated into the stream temperature model for the Poudre River. The 401 Certification neglected to and must evaluate the impact of increased air temperature, expected under hotter future conditions, on water temperatures in the stream.

Streamflow is expected to decrease whenever precipitation declines under climate change conditions. Precipitation must increase by a higher and higher percentage to offset higher temperatures anticipated in 2070 and to prevent reduced streamflow. As temperatures rise and precipitation drops, streamflow deficits increase (Table 2-2 and 2-3

DiNatale and CDMSmith, 2014). Much of our runoff comes as snowmelt in Colorado.

Per the report, we can expect,

Shorter and warmer winters with less snowpack (State of Colorado 2007) and Snowpack in Colorado is projected to decline by 10 to 20 percent by 2050 (CWCB 2008). (Ibid, pages 15 and 16).

Based on Table 2-2 and 2-3 of DiNatale and CDM Smith, 2014, as well as Table ES-3 of the WSVS conducted for Fort Collins, any decrease in precipitation will result in lower streamflow. A drop of 10 to 20 percent in precipitation is drastic and would substantially reduce streamflow. Under climate change conditions, Poudre River peak flows and the drop to the low flow portion of the hydrograph are expected to occur approximately one-month earlier: peak flows are expected to occur in May with the onset in April and the low flow portion of the hydrograph is expected to occur in June such that,

“Under all scenarios except the wettest, these two studies project native streamflow to be lower than the baseline condition (1953 to 2004) from approximately July through September.” (DiNatale and CDM Smith, 2014, 31).

In addition, under climate change conditions summer temperatures are expected to increase more than winter temperatures (see above comment), exacerbating the impact of climate change on streams, particularly during June through September when direct flow irrigation diversions and NISP exchanges would be highest and, perhaps, limited by water availability.

The results of the DiNatale and CDM Smith Report and WSVS Study need to be incorporated into water quality analyses for NISP 401 Certification to assess the potential impacts of climate change on streamflow and by extension water quality.

As shown above, accepted existing data and scientific models exist to predict



changes in surface hydrology of the Poudre River due to climate change. Further, “[a] reasonable range of potential climate change effects based on findings from historical trends in temperature and runoff, published studies, reports, and other scientific literature” was available to the WQCD but ignored in preparing its 401 Certification analysis. FEIS, Vol. 3, p. 5-47. The WQCD’s 401 Certification is legally and technically deficient by failing to incorporate available climate change modeling, historical trends and data, published studies, reports, and other scientific literature into its analysis for a project that is proposing to operate indefinitely into the future.

11) The 401 Certification fails to specifically allow public participation in the adaptive management program.

12) The 401 Certification fails to require dissolved oxygen and phosphorus water quality sampling in the Glade Reservoir during late summer and early fall when reservoir stratification is expected and hypoxic conditions are likely. These parameters must be added to the Multi Level Outlet Works (“MLOW”) decision tree in order to determine hypoxic conditions in the reservoir.

13) The 401 Certification relies on the Aquatic Life Use Attainment Methodology (Policy 10-1), which utilizes MMI data. The MMI data relied upon as a basis for the 401 Certification is technically flawed and/or inadequate. The 401 Certification calls for annual monitoring of the MMI Index at three (3) sites at and above Lion Lakes. This should extend to Boxelder Creek and below. There is no MMI monitoring or data for Segment 12 downstream of Boxelder Creek. As noted in the Bestgen Report, different flow regimes influence the diversity of macro-invertebrate populations throughout all segments of the river.

**d) An estimate of the time that will be required for the hearing:**

Petitioners request 4 days to present its case in chief and present its rebuttal.

Respectfully submitted,

s/ John Barth

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**CERTIFICATION OF SERVICE**

I certify that on this 15th day of April 2020 a true and correct copy of this Notice of Appeal and Request for Adjudicatory Hearing, and all exhibits thereto, were delivered to the Colorado Water Quality Control Commission, the Colorado Attorney General's Office, and Northern Colorado Water Conservancy District at the following email addresses:

Colorado Water Quality Control Commission, [cdphe.wqcc@state.co.us](mailto:cdphe.wqcc@state.co.us)

Jerry Goad, Colorado Attorney General's Office, [Jerry.Goad@coag.gov](mailto:Jerry.Goad@coag.gov).

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s/John M. Barth

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John M. Barth