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VIA ELECTRONIC MAIL

June 5, 2006

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Rick Reichardt
Wisconsin Department of Natural Resources
101 S. Webster St.
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Re: Comments on Draft Environmental Assessment of Construction Plan Approval and Issuance of WPDES Permit to Grande Cheese, and Re-Issuance of a WPDES Permit to Protient, Inc.

Dear Mr. Reichardt:

Midwest Environmental Advocates, Inc. is a nonprofit environmental law center that provides technical assistance and legal representation to communities and families working for clean air, clean water, and clean government.

We are writing to submit written objections to the above-referenced Environmental Assessment. We submit these comments on behalf of Wisconsin Environmental Law Advocates. Our specific objections follow.

I. THE DNR HAS FAILED TO ADEQUATELY ANALYZE THE DIRECT AND CUMULATIVE WATER QUALITY IMPACTS OF PROTIENT'S AND GRANDE'S PROPOSED DISCHARGES.

A. The North Fork Juda Branch is Impaired by Low Dissolved Oxygen Levels, Caused by Phosphorus and Biological Oxygen Demand.

The North Fork Juda Branch is not meeting "fishable/swimmable use" goals of the Clean Water Act, 33 U.S.C. § 1251(a)(1). The stream is listed on Wisconsin's 2004 303(d) list as impaired by low dissolved oxygen ("DO") levels, caused by Biological Oxygen Demand ("BOD") and phosphorus. (See [http://www.dnr.state.wi.us/org/water/wm/wqs/303\(d\)/Lists303d/ Approved_2004_303\(d\)_list/pdf](http://www.dnr.state.wi.us/org/water/wm/wqs/303(d)/Lists303d/Approved_2004_303(d)_list/pdf), last visited on March 20, 2006). Significantly, the North Fork Juda Branch has been on the 303(d) list since at least 1997. (Wisconsin Outdoors and Conservation News, April 9, 1997, <http://dnr.wi.gov/org/caer/ce/news/on/1997/on970409.htm#art4>, last visited on March 20, 2006).

The North Fork Juda Branch is on the 303(d) list of impaired waters for good reasons. It has been heavily polluted by whey products, agricultural runoff and erosion. A DNR water quality survey of the North Fork Juda Branch is attached to this comment letter as Exhibit 1. (See Wisconsin Department of Natural Resources, 2004 Baseline Survey of North Fork Juda Branch, http://dnr.wi.gov/org/water/fhp/fish/pages/reports/final/green_north_fork_juda_branch.pdf, last visited on March 20, 2006). Additional water quality data on the North Fork Juda Branch is attached as Exhibit 2.

Further, the North Fork Juda Branch is an effluent-dominated stream, meaning that discharges from Protient, the whey processor into which Grande currently discharges its waste, make up the majority of the flow into the stream. Based on measurements taken by the U.S. Geological Survey, flow in the North Fork Juda Branch is estimated to be only 1.4 cubic feet per second (“cfs”) on average, while low flow conditions during dry years (known as the “7Q10”) can be as low as 0.22 cfs. Given the limited dilution capacity of the North Fork Juda Branch, it is critical that effluent limitations be placed in WPDES permits that ensure compliance with water quality standards, including narrative criteria, at the end of the pipe.

B. North Fork Juda Branch is Violating Narrative Water Quality Criteria in NR 102.04.

Attached as Exhibit 3 is a CD containing photographs of North Fork Juda Branch and what we believe to be the effluent ditch that receives the discharge from both Protient and Grande Cheese. We note that the effluent ditch joins North Fork Juda Branch at a public park which provides access to the discharge point.

As you can see from the photographs, the North Fork Juda Branch is being impacted by the discharge, showing signs of unwanted algal growth and degradation early in the growing season. The pictures show clear violations of Wisconsin’s narrative water quality criterion in Section NR 102.04(1), Wis. Adm. Code.

C. Sylvester Creek is Listed as an “Exceptional Resource Water.”

Sylvester Creek is an Exceptional Resource Water (“ERW”) under Wis. Admin. Code section NR 102.11(1)(d). The North Fork Juda Branch joins Juda Branch Creek, a “Fish and Aquatic Life” water under Section NR 102.13, approximately 0.5 miles below the proposed discharge point. Juda Branch Creek then joins Sylvester Creek 4.3 miles downstream from there. This is significant because, as explained more fully below, the DNR may not allow a lowering of water quality in Juda Branch Creek or Sylvester Creek unless it follows antidegradation procedures consistent with state and federal requirements.

D. The Protient and Grande Discharges Will Increase the Total Pollutant Load to the North Fork Juda Branch and Sylvester Creek.

According to the DNR's fact sheet in its proposal to issue a WPDES permit to Grande Cheese, Grande is proposing to discharge through its new outfall substantially greater volumes of effluent to the North Fork Juda Branch, from its current 91,000 gallons per day ("gpd") to 125,000 gpd at the beginning of 2007, then 145,000 gpd by the end of 2007. In addition, Grande may discharge 80,000 gpd of reverse osmosis polisher permeate water from a whey concentrating operation by the end of 2007. Finally, Grande may add 75,000 gpd of effluent from a high strength wastewater treatment system to the discharge. The DNR's Permit Fact Sheet for Grande's discharge indicates that permit limits were calculated using the 225,000 gpd effluent load. In short, Grande is proposing to discharge up to 225,000 gpd by the end of 2007, and possibly 300,000 gpd after 2008. Grande is not merely pulling its current 91,000 gpd discharge from Protient's treatment system and discharging it through a new pipe; Grande is proposing an entirely new discharge of pollution to the North Fork Juda Branch that did not exist before.

In addition, a Protient representative stated during the March 21, 2006 public hearing on the Grande and Protient WPDES Permits that Protient intended to replace the wasteload it will lose when the DNR issues the WPDES permit to Grande. Clearly, there will be a net increase in overall pollutant loading, particularly phosphorus, to the North Fork Juda Branch. The EA fails to adequately analyze, let alone identify, this pollutant loading and the overall water quality impact it will have.

E. The DNR Must Prepare a Reasonable Potential Analysis that Analyzes Whether Protient's and Grande's Discharges, Whether Separately or Cumulatively, Will Cause or Contribute to a Violation of Narrative and Numeric Water Quality Criteria.

The EA is devoid of any analysis of the water quality impacts of Grande's and Protient's discharges, with before or after issuance of the WPDES permits. Federal law requires that NPDES permits, including state-delegated permits, contain conditions necessary to "[a]chieve water quality standards . . . including State narrative criteria for water quality." 40 C.F.R. § 122.44(d)(1). In order to decide whether such conditions are needed, the DNR must first conduct an analysis to determine if pollutants are being or may be "discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any State water quality standard." *Id.* at § 122.44(d)(1)(i). Federal regulations also specify how this analysis should be conducted.

When determining whether a discharge causes, has the reasonable potential to cause, or contributes to an in-stream excursion above a narrative or numeric criteria within a State water quality standard, the permitting authority shall use procedures which account for existing controls on point and nonpoint sources of pollution, the variability of the pollutant or pollutant parameter in the effluent . . . and where appropriate, the dilution of the effluent in the receiving water. *Id.* at § 122.44(d)(1)(ii).

In this case, the DNR has not provided an analysis whether Grande's discharge of phosphorus would cause or contribute to an excursion above a state water quality standard, including narrative criteria in Section NR 102.04(1), Wis. Adm. Code. Although there is no numeric water quality criterion for phosphorus in DNR regulations, there is a narrative water quality criterion on which a water quality based effluent limit may be established. *See* Wis. Adm. Code § NR 102.04(1). Further, federal regulations **require** that, where there is no numeric water quality criterion for a given pollutant, the DNR must develop water quality based effluent limits based on 1) a proposed numeric criterion that will ensure compliance with water quality standards, or 2) an EPA recommended water quality criterion, or 3) under limited circumstances, an indicator parameter for the pollutant of concern. 40 C.F.R. § 122.44(d)(1)(vi)(A) – (C).

The DNR has failed to perform a reasonable potential analysis for phosphorus in the proposed WPDES permits, and therefore has failed to prepare a reviewable record in accordance with WEPA, Wis. Stat. 1.11.

F. Grande's New Discharge Will Cause or Contribute to a Violation of Water Quality Standards, Including Narrative and Numeric Criteria.

The DNR may not issue a WPDES permit that would cause or contribute to a violation of water quality standards. 40 C.F.R. §§ 122.4(i), 122.4(d).

According to an analysis prepared by Emmons and Olivier Resources, Inc., Grande's discharge of phosphorus and BOD have the reasonable potential to cause or contribute to a violation of water quality standards in the North Fork Juda Branch. (*See* "Reasonable Potential Analysis of Grande Cheese's and Protient's Proposed Discharges of Phosphorus and BOD to Violate Water Quality Standards in North Fork Juda Branch, March 17, 2006 at 5 [hereinafter *Reasonable Potential Analysis*] (attached as Exhibit 4)).

The North Fork Juda Branch is listed as impaired by low DO levels, caused by phosphorus and BOD. Grande is proposing to discharge phosphorus and BOD according to Section 2.2.1 of the proposed WPDES permit. Grande will be permitted to discharge 1 mg/L of phosphorus as a 12 month rolling average. Grande will also be permitted to discharge 10 mg/L of BOD from May through October, and 12 mg/L from November through April. The Reasonable Potential Analysis attached as Exhibit 4 examines Grande's proposed discharge of both phosphorus and BOD.

1. Reasonable Potential of Phosphorus to Violate Narrative Water Quality Criteria.

Based on the proposed 1 mg/L effluent limit for phosphorus in both Grande's and Protient's proposed WPDES permits, the annual average in-stream phosphorus concentration is approximately 0.492 mg/L. (*Reasonable Potential Analysis*, at 3) Grande's new discharge will contribute approximately 32% of the total phosphorus load to the North Fork Juda Branch, while Protient's discharge contributes 43% for a combined total of 75% of the phosphorus load. (*Id.*)

Assuming a target value of 0.08 mg/L of phosphorus for the North Fork Juda Branch,¹ the target in-stream load downstream of the outfalls is 348 lbs. per year. (*Id.*) Grande and Protient are expected to discharge almost 1,600 lbs. per year of phosphorus into the North Fork Juda Branch, or about 500% more than the target load. (*Id.* at 3-4) Grande alone would discharge almost double the target load of 348 lbs. of phosphorus per year. (*Id.* at 3) Further, assuming a 7Q10 flow of 0.22 cfs, and the consequent lack of dilution capacity, the total phosphorus concentration in the North Fork Juda Branch would be 0.828 mg/L, or more than ten times the target value of 0.08 mg/L. (*Id.*)

Making matters worse, the permit limit of 1.0 mg/L is stated as a twelve month rolling average, which means that monthly total phosphorus concentrations can exceed 1 mg/L during the growing season. (*Id.*) This will magnify the effect of the already existing phosphorus problem in the North Fork Juda Branch, more so than if compliance with the limit was judged monthly. (*Id.*)

Excessive concentrations of phosphorus, including those above the target value of 0.08 mg/L, can cause or contribute to a violation of Wisconsin's narrative water quality criteria that prohibits nuisance algal growth.² (*Id.* at 4); *See* Wis. Adm. Code § NR 102.04(1). This algal growth can

¹ This target value is derived from U.S. EPA recommendations. *See* U.S. Environmental Protection Agency, *Ambient Water Quality Criteria Recommendations: Rivers and Streams in Nutrient Ecoregion VII* (2000). EPA 822-B-00-018. The DNR has relied on U.S. EPA's approach to derive a target value for phosphorus in preparing TMDLs for Wadeable streams in the past. *See e.g.*, Wisconsin Department of Natural Resources, Sediment and Phosphorus TMDLs for Castle Rock (Fennimore) Creek and Gunderson Valley Creek (2004). Further, the Tennessee Department of Conservation has applied a modified version of U.S. EPA's approach in order to translate its narrative water quality criterion for phosphorus into a numeric water quality criterion. Tennessee Department of Environment and Conservation, *Development of Regionally-Based Interpretations of Tennessee's Narrative Nutrient Criterion* (2001).

² Section NR 102.04(1), DNR's narrative water quality criteria, provides:

- (1) GENERAL. To preserve and enhance the quality of waters, standards are established to govern water management decisions. Practices attributable to municipal, industrial, commercial, domestic, agricultural, land development or other activities shall be controlled so that all waters including the mixing zone and the effluent channel meet the following conditions at all times and under all flow conditions:
 - (a) Substances that will cause objectionable deposits on the shore or in the bed of a body of water, shall not be present in such amounts as to interfere with public rights in waters of the state.
 - (b) Floating or submerged debris, oil, scum or other material shall not be present in such amounts as to interfere with public rights in waters of the state.
 - (c) Materials producing color, odor, taste or unsightliness shall not be present in such amounts as to interfere with public rights in waters of the state.
 - (d) Substances in concentrations or combinations which are toxic or harmful to humans shall not be present in amounts found to be of public

deplete oxygen in the stream, and can degrade in-stream habitat for fish macroinvertebrates, and micro-organisms. (*Reasonable Potential Analysis*, at 4)

The EA fails to adequately analyze the water quality impacts of Grande's and Protient's discharge of phosphorus to the already impaired North Fork Juda Branch.

2. *Reasonable Potential of BOD to Violate Water Quality Criteria for DO and Narrative Water Quality Criteria.*

Similar to Grande's proposed discharge of phosphorus, Grande's discharge of BOD at permitted levels is likely to cause or contribute to a violation of the water quality criterion for DO and cause unwanted algal growth, violating the Wisconsin's narrative water quality criterion as well.

Although the summer DO limit in Section 2.2.1 of the permit is 10 mg/L, the DNR's own calculations indicated that a DO limit of 6.3 mg/L is needed to maintain the in-stream DO water quality criterion of 5 mg/L for warm water sport fish waters. (*Id.* at 5) To account for the more lenient BOD limit, the DNR imposed a more stringent DO limit of 7.0 mg/L in the permit. (*Id.*) However, the higher DO concentration will not necessarily compensate for the higher BOD load discharged to the stream. (*Id.*) Grande will aerate the effluent to ensure higher DO to offset the BOD load. (*Id.*) However, if aeration is not maintained in the stream, then the BOD discharge will deplete the DO in the stream. (*Id.*) Based on the water quality data compiled by the DNR, it appears that the North Fork Juda Branch lacks the riffle areas needed to aerate the stream and maintain DO levels. (*Id.*; *See also* Exhibits 1 and 2) As a result, the proposed summer BOD effluent limit has the reasonable potential to cause or contribute to a violation of water quality standards.

The EA fails to adequately analyze the water quality impacts of Grande's and Protient's discharge of BOD to the already impaired North Fork Juda Branch.

II. THE DNR HAS FAILED TO MITIGATE SIGNIFICANT WATER QUALITY IMPACTS.

A. The DNR May Not Issue a WPDES Permit to Grande That Will Cause or Contribute to a Violation of Water Quality Standards.

The DNR has failed to mitigate significant water quality impacts stemming from Grande's and Protient's new and increased discharges, respectively. Federal regulations prohibit states or the U.S. Environmental Protection Agency from issuing NPDES permits to new dischargers that will cause or contribute to a violation of water quality standards. 40 C.F.R. § 122.4(i). Specifically:

No permit may be issued:

health significance, nor shall substances be present in amounts which are acutely harmful to animal, plant or aquatic life.

- (i) To a new source or new discharger, if the discharge from its construction or operation will cause or contribute to a violation of water quality standards.

40 C.F.R. § 122.4(i). The DNR may issue the WPDES permit where the stream that will receive the new discharge is impaired, the DNR has prepared a Total Maximum Daily Load (“TMDL”) for the pollutant to be discharged, there are sufficient remaining load allocations for the new discharge, and the existing dischargers to the stream are subject to compliance schedules designed to bring the segment into compliance with applicable water quality standards. 40 C.F.R. § 122.4(i)(1) and (2).

Based on this federal standard, the DNR may not issue the Proposed WPDES Permit because 1) Grande is a new discharger under federal law; 2) Grande’s new discharge will cause or contribute to a violation of water quality standards; and 3) there is no TMDL on the North Fork Juda Branch that identifies sufficient remaining pollutant load allocations and requires existing discharges to come into compliance with water quality standards. Because Grande’s discharge will cause or contribute to a violation of water quality standards, in the absence of water quality based effluent limits for phosphorus and more stringent BOD limits, the DNR’s issuance of the WPDES permit to Grande represents a failure to mitigate significant environmental impacts.

1. Grande is a “New Discharger.”

Federal regulations define “new discharger” as:

Any building, structure, facility, or installation:

- (a) From which there is or may be a “discharge of pollutants;”
- (b) That did not commence the “discharge of pollutants” at a particular “site” prior to August 13, 1979;
- (c) Which is not a “new source;” and
- (d) Which has never received a finally effective NPDES permit for discharges at that “site;”

40 C.F.R. § 122.2 (2006). “Site” is further defined to include:

land or water area where any “facility or activity” is physically located or conducted, including adjacent land in connection with the facility or activity.

40 C.F.R. § 122.2. “Facility or activity” means:

any NPDES “point source” or any other facility or activity (including land or appurtenances thereto) that is subject to regulation under the NPDES program.

40 C.F.R. § 122.2.

It is clear that Grande is not a “new source” and did not commence discharging pollutants at its facility in Juda, Wisconsin, prior to August 13, 1979. It is also clear that the new discharge pipe Grande proposes to install is a “structure, facility, or installation” that will carry pollutants to the North Fork Juda Branch. Further, the term “discharge of pollutants” referenced in Section 122.2 is specifically defined to include pollutant discharges from “point sources,” which in turn include “any pipe, ditch, channel, tunnel, conduit...” 33 U.S.C. § 1362(14); 40 C.F.R. §122.2.

Finally, Grande has never received a “finally effective NPDES permit for discharges at that site.” Grande’s proposed new outfall is a “site” as that term is defined in 40 C.F.R. § 122.2. A “site” is the land or water area where any “facility or activity” is located. A “facility or activity” means “any NPDES point source.” 40 C.F.R. § 122.2. As a result, Grande’s proposed new outfall is a “site” for which the DNR has never issued a WPDES permit that would authorize discharges from that outfall. Even if the outfall is not a “site,” then the new wastewater treatment plant that Grande plans to build clearly is a “site.”

Grande may argue that it is not proposing a new discharge, but that it is merely pulling its existing pollutant load from Protient’s wastewater treatment system and diverting it to a new pipe, which in turn discharges it to North Fork Juda Branch. Such an argument would be irrelevant and, based on the administrative record so far, inaccurate.

First, the federal definition of “new discharger” does not refer to pollutant load, but to the “structure, facility, or installation” which discharges the pollutants to a stream. The status of the pollutant load, whether increased or static, is irrelevant. Any state regulatory definition for “new discharger” or “increased discharge” which conflicts with this federal definition is an invalid administrative rule. Wis. Stat. § 227.40(4)(a).

Second, according to the DNR’s fact sheet in this matter, Grande is proposing to discharge through its *new* outfall substantially greater volumes of effluent to the North Fork Juda Branch, from its current 91,000 gallons per day (“gpd”) to 125,000 gpd at the beginning of 2007, then 145,000 gpd by the end of 2007.

For the foregoing reasons, Grande’s new outfall to North Fork Juda Branch makes Grande a “new discharger” under federal regulation in 40 C.F.R. 122.2.

2. *Grande’s Discharge, Either Alone or In Conjunction with Protient’s Discharge, Will Cause or Contribute to a Violation of Narrative and Numeric Water Quality Standards.*

Grande’s and Protient’s discharge of phosphorus will cause or contribute to a violation of narrative water quality standards. Section I.F of this comment letter is incorporated by reference herein.

3. *There is no TMDL for the North Fork Juda Branch*

Grande may receive a WPDES permit for its new discharge only if there is a TMDL in place for phosphorus and BOD and/or DO in the North Fork Juda Branch, there are sufficient remaining

load allocations for those pollutants, and the existing dischargers on the North Fork Juda Branch are subject to compliance schedules designed to bring the North Fork Juda Branch into compliance with water quality standards. 40 C.F.R. § 122.4(i).

There is no such TMDL for the North Fork Juda Branch, and therefore the DNR may not issue Grande its WPDES permit until such TMDL has been established and the applicable requirements of 40 C.F.R. § 122.4(i) have been met.

B. The DNR Must Impose Water Quality Based Effluent Limits to Ensure Compliance with Water Quality Standards, Including Narrative Criteria.

Even if the DNR incorrectly determines that Grande's new pipe is not a "new discharge," it must nonetheless impose water quality based effluent limits for phosphorus to ensure that Protient's and Grande's discharges of phosphorus will not cause or contribute to violations of narrative or numeric water quality criteria.

The EA states on page 7 that Wisconsin "does not have water quality standards for phosphorus." While it may be true that Wisconsin does not have a numeric water quality criterion for phosphorus, Wisconsin does have a narrative water quality criterion associated with foul smelling substances like algae, caused by phosphorus discharges. *See* Wis. Admin. Code § 102.04(1).

Further, federal regulations make clear that the absence of a numeric water quality criterion is irrelevant to the requirement to establish water quality based effluent limits. And, where necessary to protect water quality, DNR regulations authorize the DNR to impose water quality based effluent limits for phosphorus more stringent than those imposed under Chapter NR 217 regardless of the absence of a numeric water quality criterion for phosphorus, when the DNR deems it necessary to protect water quality. *See* Wis. Adm. Code § NR 102.06.³

One option available to the DNR is to apply the EPA's recommended water quality criterion of 0.08 mg/L for phosphorus as the basis for establishing a water quality based effluent limit in Grande's proposed WPDES permit. 40 C.F.R. § 122.44(d)(1)(vi)(B). As noted above, the DNR has relied on the EPA's approach to deriving a target value for phosphorus in setting TMDLs.

³ Section NR 102.06 provides the DNR with explicit authority to establish water quality based effluent limits for phosphorus:

In addition to the requirements established in ch. NR 217, any wastewater discharger, regardless of population, volume or type of waste discharge, or geographic location, may be required to remove excess amounts of phosphorus. *Effluent limitations for total phosphorus based on surface water quality may be established where, in the best professional judgment of the department, such limitations will result in an improvement in water quality, or preserve the quality of surface waters where long-term discharges may result in impairment of water quality. Such limitations for phosphorus shall include an evaluation of the discharges from point sources, nonpoint sources, background sources, tributaries, and a consideration of a margin of safety.*

Or, the DNR may delay issuance of the permits until it has developed a proposed numeric water quality criterion for phosphorus. 40 C.F.R. § 122.44(d)(1)(vi)(B). Finally, the DNR may select an indicator parameter, re-propose the permit and clearly establish a scientific basis that explains how a water quality based effluent limit for an indicator parameter addresses the pollutant of concern. 40 C.F.R. § 122.44(d)(1)(vi)(B). But, the DNR may not do “nothing” and issue the WPDES permits to Grande and Protient as proposed.

Attached are two power point presentations (Exhibits 5 and 6) prepared by the DNR in its efforts to develop a numeric water quality criterion for phosphorus in wadeable streams not unlike the North Fork Juda Branch. Although the DNR is still working to develop a numeric criterion, the presentations show that the current science is available to set an appropriate criterion on a case-by-case basis pending formal adoption of a numeric criterion that would apply statewide. The last slide of Exhibit 5 acknowledges that more stringent effluent limits than those contained in Chapter NR 217, Wis. Adm. Code, may be necessary to protect water quality.⁴

In addition, attached is an excerpt from what I understand to be a report titled “Nutrient Concentrations and their Relations to the Biotic Integrity of Wadeable Streams in Wisconsin,” prepared jointly by the DNR and the U.S. Geological Survey and to be formally released in April of 2006. (Exhibit 7) Table 23 shows the levels of phosphorus concentration in relation to the algal growth in wadeable streams. The figures in Table 23 are consistent with our suggested phosphorus target value of 0.08 mg/L for North Fork Juda Branch, in that this concentration of phosphorus is likely the point at which water quality will degrade. In fact, Table 23 indicates that 0.08 mg/L may be too high a concentration for North Fork Juda Branch to protect fish and aquatic life and prevent unwanted algal growth.

III. CONCLUSION

Thank you for the opportunity to comment on the draft EA for the Construction Plan Approval and Issuance of WPDES Permit to Grande Cheese, and Re-Issuance of a WPDES Permit to Protient, Inc. We look forward to your written response.

Sincerely,

MIDWEST ENVIRONMENTAL ADVOCATES, INC.



Andrew C. Hanson

Encl.

cc: Alan Turnquist, WELA
Janet Boerboom, WELA

⁴ The last slide states: “For point sources, will likely need to consider mass load caps and/or lower effluent concentrations for a number of lakes and streams.” (Exhibit 5)