

# Hudson River Drinking Water Intermunicipal Council

Town of Esopus, Town of Hyde Park, Town of Lloyd, City of Poughkeepsie, Town of Poughkeepsie, Town of Rhinebeck, Village of Rhinebeck

June 1, 2021

Hon. Basil Seggos, Commissioner  
New York State Department of Environmental Conservation  
625 Broadway  
Albany, NY 12233-1011

Re: Catalum SPDES No. NY026-4652 (NYSDEC Case No. D007-001-11.01)

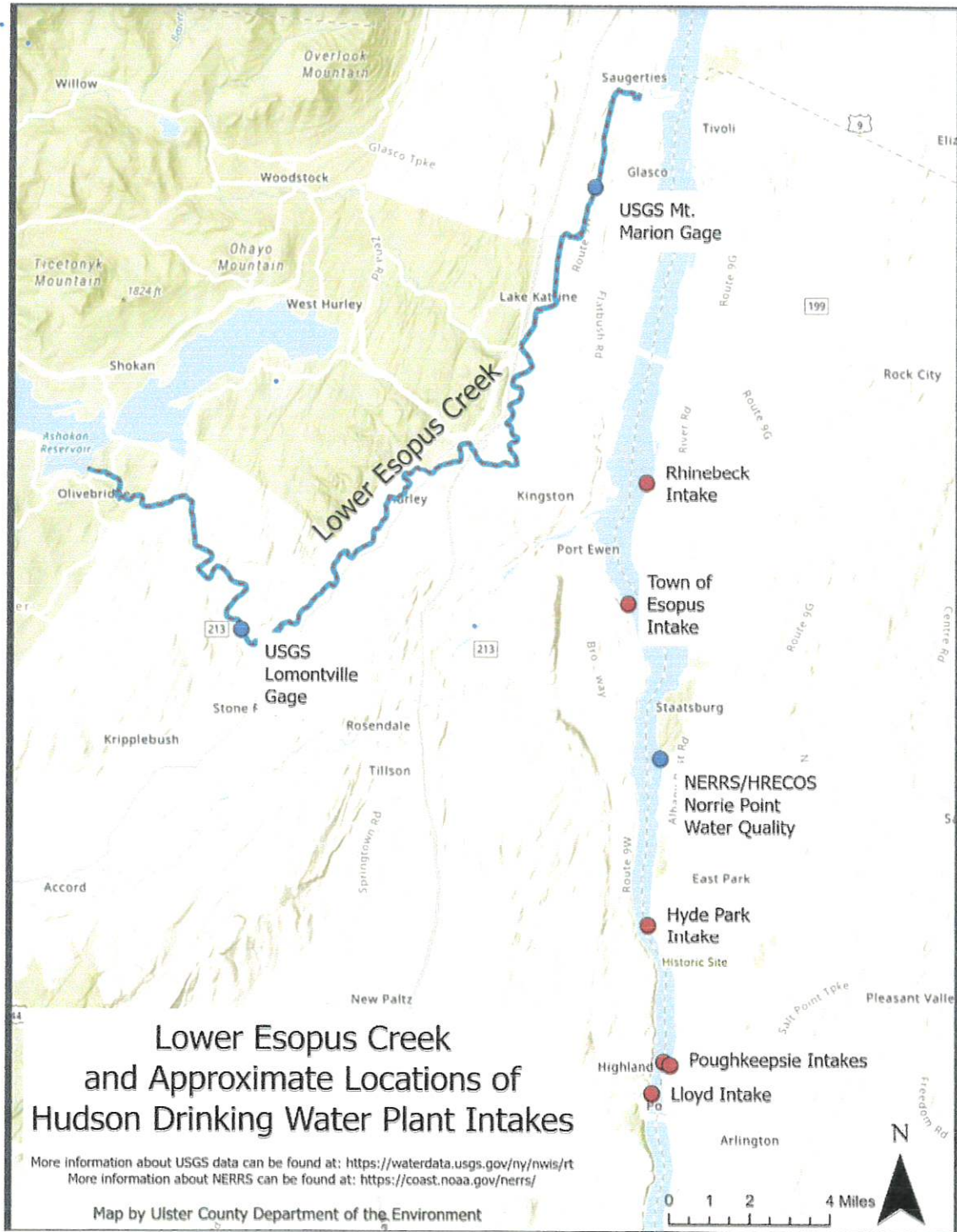
Dear Mr. Seggos:

As mentioned in our letter dated March 3, 2021, the Hudson River Drinking Water Intermunicipal Council (the "Hudson 7") has serious concerns about the Draft Environmental Impact Statement (DEIS) evaluating modifications of the New York City Department of Environmental Protection's (DEP) Catskill Aqueduct Influent Chamber State Pollutant Discharge System Permit (SPDES No. NY026-4652) (Catalum SPDES Permit). These concerns became more apparent after the releases of millions of gallons of water and thousands of tons of solids from the Ashokan Reservoir between 12/28/2020 and 2/12/2020 and 3/10/2021 and 4/17/2021. These extended periods of 46 days of muddy releases followed by another 38 days of muddy releases over four months are unacceptable to our treatment plants. The permit, as proposed, poses risks to the Hudson River and our drinking water supplies in the Mid-Hudson Valley. While the New York State Department of Environmental Conservation (DEC) considers modifications to the Catalum SPDES Permit, we ask you to consider requiring modifications to the DEIS, Catalum SPDES Permit, and the Order on Consent (NYSDEC Case No, Doo7-001-11.01). To protect our drinking water, we request the following modifications:

- Allow turbid releases for no more than four days without a flushing flow of less than 100 MGD with suspended solids of less than 10 mg/L for a minimum of four days between turbid releases at the same flow rate as the turbid releases.
- Require DEP continually release a minimum community flow of 25 MGD year-round to the Lower Esopus Creek
- Provide the Hudson 7 municipalities with daily flow information of all releases and all turbidity levels

The Hudson 7 is a coalition of seven municipalities that rely on drinking water from the Hudson River downstream of the confluence of the Esopus Creek. The communities include the City and Town of Poughkeepsie, the Village and Town of Rhinebeck, and the Towns of Esopus, Hyde

Park, and Lloyd. Our five public water supplies ("PWS") serve 106,000 residents, three hospitals, three colleges, and major regional employers, providing safe water for human consumption, firefighting, industry, and more. The location of the intakes for our five PWS are shown in the figure below:



The Hudson 7 came together in 2018 to protect our shared water source. One of the reasons the Hudson 7 was formed was to protect our watershed as DEP desires to protect its watershed. Unfortunately, our watershed of 13,000 sq. mi. is much larger than the Ashokan Reservoir's watershed of 255 sq. mi. Since our watershed area is 50 times the area of the City's watershed, we cannot control potentially harmful activities without the help of DEC and others. We also have many pollutants in the Hudson River created by misuse of the river, such as the coal tar dumped from manufactured gas, as well as current threats from the installation of electric cables in the river and risks of spills from industrial shipping activities. We are also concerned about the impacts of climate change, including the potential for the salt front to approach our intakes. Therefore, any additional sources of pollution are a serious concern. It is especially a concern when a fellow water provider, DEP, is polluting our source water. To make the matter even worse, we have never been notified about these releases, even though they started over ten years ago.

We are thankful that high turbid releases have not been as frequent during 2012-2017, when we experienced lower than average rainfall. However, because of climate change, DEP expects "an increase in the frequency and magnitude of high-stream turbidity events," as stated in DEP's 2018 Watershed Water Quality Annual Report, dated July 2019. Therefore, we must work together now to stop these muddy discharges for long periods. As water providers, we are particularly concerned about the following now and in the future:

1. Turbidity/Total Suspended Solids (TSS)
2. Total Organic Carbon (TOC)
3. Harmful Algal Blooms (HAB)

### **Turbidity/Suspended Solids**

Turbidity is a primary parameter used to treat the source water and is proportional to TSS. Usually, the ratio of TSS/Turbidity is 0.7 to 2.2. The ratio for the Ashokan release is a lot smaller. The lower ratio indicates that solids are very fine, which is characteristic of clay and the findings of DEP. The big question is, "Do these solids reach our intakes?"

We calculated the amount of solids produced by using the DEP weekly sampling results for TSS in the releases and estimating TSS for the day in between. The pounds of solids equal the flow in MGD times the TSS times 8.34. Based on these calculations, DEP has discharged about 4,120 tons between 12/28/20 to 4/17/22. To put this in perspective, it would require 294 dump trucks to haul these solids. The daily amounts are shown on the graph below. The maximum day occurred on 12/30/20 when 440 tons of solids were released from the Ashokan Reservoir. To haul this

single-day volume, it would require 31 dump trucks. Surely, some of these solids must have reached our intakes.

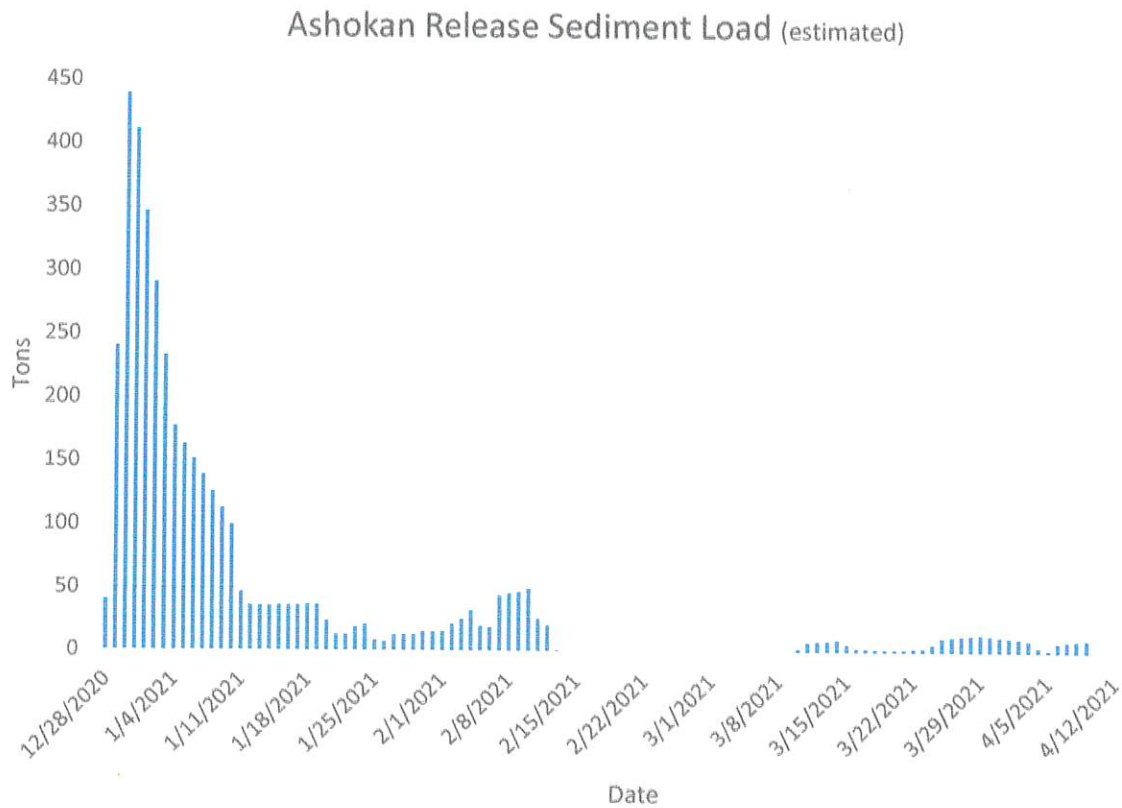


Figure 1: Tons of Solids based on DEP for TSS and Flow in the Release Channel

Our subsequent analysis was to look at the turbidities for each of our water plants in comparison to the turbidities and flows for the Ashokan Releases, as shown in the following graph:



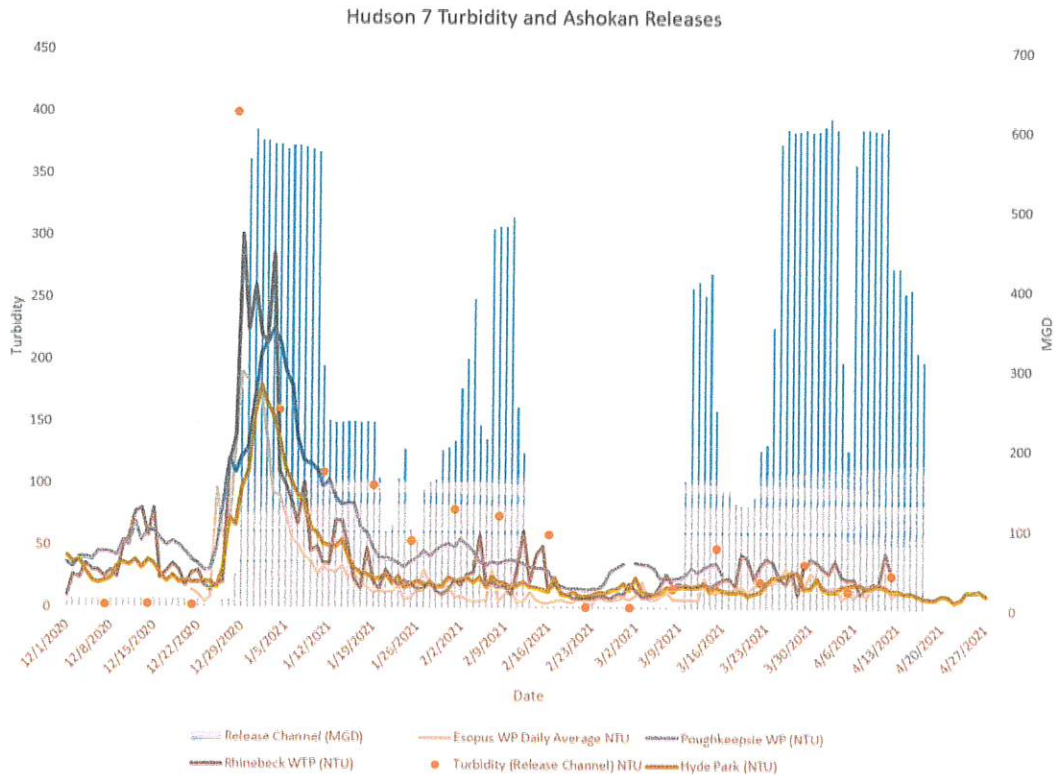
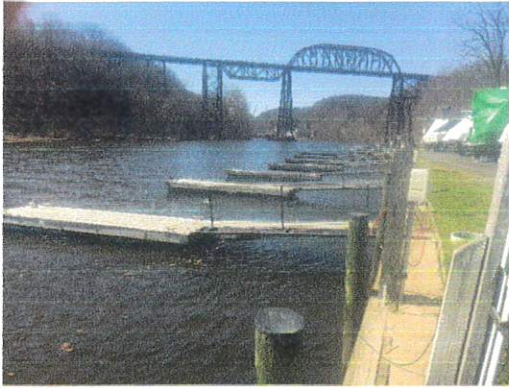


Figure 2 Turbidity in the Esopus Creek and Hudson River drinking water treatment facilities.

As shown, all the plants increased turbidities when the turbidities increase for the Ashokan Reservoir. The turbidities increased significantly at the end of December and reached 400 NTU in the release channel. The turbidities did not increase as significantly in April because the turbidities in the Ashokan release were substantially less, but overall, the high turbid releases occurred 84 days over four months. This is unacceptable to our treatment plants. The turbidities at the Poughkeepsie water plant were significantly affected by Ashokan release even though the plant is about 25 miles from the confluence of Esopus Creek and the Hudson River. The turbidities for Lloyd PWS are not shown on the graph because the operator was so concerned about the turbidity that he changed his source water from the Hudson River to his reservoir. No other Hudson River drinking water plant has an alternate supply, such as Lloyd has.

Although these evaluations are convincing that the turbidities/TSS are affecting the PWSs, it could be said that there were other reasons: the rainstorm on Christmas Day may have resulted in the high turbidities in December and January; in April, the rainfall and snowmelt may have caused the high turbidities; the Rondout Creek caused the high turbidities. None of these arguments are persuasive, compared to the apparent source of ongoing higher-than-usual levels of turbidity being discharged from the Esopus Creek due to the DEP discharges from the Ashokan Reservoir. The following pictures of the Rondout Creek and Esopus Creek tributaries unaffected by turbid discharges from the Ashokan (Sawkill and Plattekill) were taken in March and April prove that other sources did not contribute to the high turbidities:

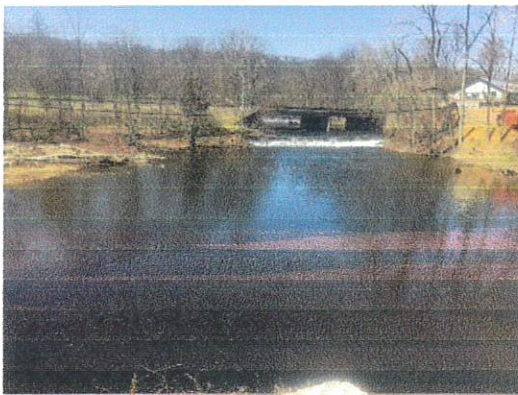




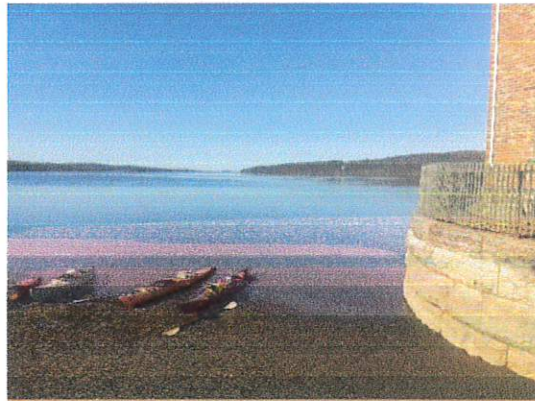
Rondout April 5



Sawkill April 2

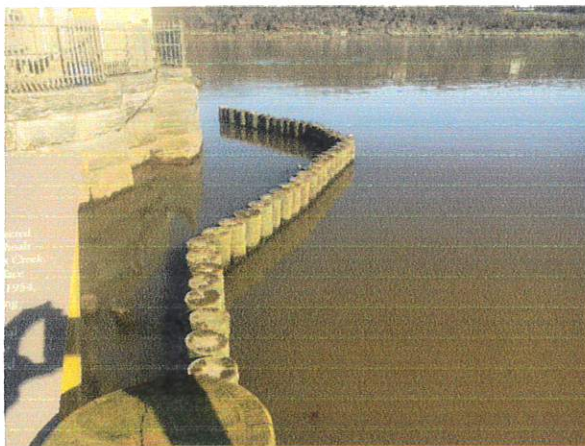


Plattekill April 2



Hudson River Upstream of the Esopus

Compare these pictures with the pictures below of the Esopus Creek, especially compare the Hudson River upstream and downstream of the Esopus confluence.



Hudson Downstream of the Esopus  
April 8



Esopus at the Bridge on RT. 587  
March 27





Esopus Downstream – Leggs Mill Bridge  
April 7



Esopus Upstream - Leggs Mill Bridge  
April 7

All of the creeks and the Hudson upstream pictures indicate the dominant influence on the turbidities on the Hudson River is the DEP's releases from the Ashokan Reservoir to the Esopus Creek.

We also consulted satellite pictures taken of the Esopus Creek's and Hudson River's confluence on April 7, and the image is shown below. The picture of the muddy Esopus joining the Hudson River clearly indicates that the Ashokan Release is affecting the Hudson River.



Figure 3 Satellite image of Esopus Creek's confluence with the Hudson River at Saugerties.

Finally, according to the DEIS on page ES-25, DEP suggests that **all** of the turbidity released from Ashokan to Lower Esopus reaches the Hudson: "Given the size of turbidity particles transferred through flows from Ashokan Reservoir, it is not anticipated that turbidity within spill mitigation releases that has not settled in the Reservoir under quiescent conditions would settle in the faster-moving water of lower Esopus Creek." It isn't easy to understand why the effects of Ashokan releases on the Hudson River were not included in the DEIS when the DEIS indicates all the solids flowed to the Hudson River. This is especially a concern because the Hudson River is a tidal estuary, allowing suspended sediments to enter our intakes for an extended period. We recommend that DEC allow turbid releases for no more than four days without a flushing flow of at least 100 MGD with suspended solids of less than 10 mg/L for a minimum of four days between turbid releases at the same flow rate of the turbid releases.

During the discharge of muddy water from the Ashokan Release Channel from December 28 through April 17 to the Lower Esopus Creek, four of our five water treatment plants have experienced significant increases in our raw water's turbidities from the Hudson River. As we previously mentioned, the fifth, Llyod PWS, stopped withdrawing water from the Hudson River in late December until January 21, 2021, because of high turbidities and was forced to use its reservoir because its plant is unable to treat high turbidity. These high turbidities at the four other PWSs have resulted in some of the following operational changes at our plants:

1. An increase in the amount of coagulant chemicals to remove solids in our clarification basins
2. Additional pumping or more frequent cleaning of our basins to remove sludge
3. Clogging of our filters which results in shorter filter runs
4. High turbidity in initial filter runs requiring more filter-to-waste and addition of filter aid
5. Additional backwashing of our filters, which results in more waste backwash water to treat and recycle
6. Additional alum sludge to thicken, dewater and dispose of.

These operational changes have resulted in significantly higher costs for our communities and put our water supplies at risk of violating drinking water standards. The Hudson 7 has prepared the additional costs for treating the high turbidity from New York City's Ashokan Reservoir for December 2020 through April 2021, as shown below:

• Poughkeepsie –	\$11,640
• Hyde Park –	\$ 1,070
• Rhinebeck -	\$ 520
• Esopus –	<u>\$ 330</u>
• TOTAL –	\$13,560



Our concern is that Esopus Creek experiences algal blooms in the summer in the slow-moving portions of the creek, even though the DEP started in July 2011, community releases of 10 MGD in the winter and 15 MGD in the summer. A study in 2010 by USGS and Lower Esopus Watershed Partnership recommended continuous releases of 65 MGD (100 CFS) in the summer for non-drought years and 32 MGD (50 CFS) in the winter during non-drought years, but DEP rejected these amounts. Because the algal blooms continue with the permitted community releases, we would recommend that DEP continually release 25 MGD from the Ashokan year-round to prevent algal blooms and then conduct a study to determine the release amount required to keep the Lower Esopus Creek swimmable and fishable without algal blooms. We also have concerns that sedimentation in the Esopus Creek associated with Ashokan Reservoir turbid releases could decrease water depth, increase water temperature, and otherwise contribute to conditions that would make HABs more likely. These impacts must be considered in light of climate change, which will increase the water temperature in Esopus Creek and the Hudson River, and also lead to changes in flow and precipitation patterns that could exacerbate the risk of cyanobacteria blooms.

## **Climate Change**

As previously stated, DEP expects "an increase in the frequency and magnitude of high-stream turbidity events." Specifically, the DEP estimates that changes in precipitation patterns due to climate change could result in turbidity increasing by more than 50% and high-turbidity events affecting the Ashokan Reservoir increasing by 23% days per year. These levels of increased turbidity in Esopus Creek releases, and the increased number of days affected by turbid water releases, can reasonably be anticipated to increase costs for Hudson River drinking water intakes in the future. Despite its knowledge of these impacts of climate change on turbidity issues affecting the Ashokan Reservoir, DEP hasn't proposed any specific measures to address the impacts of climate change in its DEIS. It is DEP's responsibility to include in its DEIS a study of the impacts of its discharges of turbid water to the Esopus Creek, including on our intakes, and to consider alternatives that would mitigate or eliminate these impacts. These studies and alternatives must take into account the impacts of climate change.

## **Questions for NYSDEC**

In preparing this letter, the following question came up:

1. Why was DEP allowed to discharge alum sludge into the Kensico Reservoir when no other PWS can discharge alum sludge and spent backwash water into any surface water, especially a drinking water source and water environment for aquatic plants and animals? (Please note that these solids are not alum floc as described in the DEIS but alum sludge or alum residuals.)

2. Why does DEC allow DEP not to filter its water from the Ashokan when water exceeds 5 NTU and require all other PWS to filter their water from the Catskill Aqueduct?
3. Why does DEC allow DEP to discharge muddy water to an impaired stream, which is impaired due to sediments?
4. Why does DEC allow DEP not to continually require community flows from the Ashokan Reservoir to make the Esopus swimmable and fishable as required by the Clean Water Act?

The answer to all these questions is that DEC had to choose, and DEC decided to provide safe drinking water to 9.5 million people by allowing DEP to implement practices that would be illegal for any other PWS.

We respect that New York City is responsible to the 9.5 million people who rely on drinking water from the Ashokan Reservoir and the City's other reservoirs. We have the same responsibility to our communities. Solving New York City's turbidity problem by giving the Hudson 7 a turbidity problem and possibly THM, HAA, and cyanotoxin problems is not a fair solution. Yet, that is essentially what would result from accepting the DEIS. The DEIS did not evaluate all the impacts of DEP's proposed discharges or other alternatives that could alleviate the pollution of our intakes and environmental impacts on the Lower Esopus Creek. The DEIS fails to compare alternatives based on costs and benefits and takes the required "hard look" at alternatives. We also realize the NYC is trying to avoid constructing a \$10 billion filtration plant. However, DEC forced Poughkeepsie to spend \$18.9 million even though Poughkeepsie is identified by DEC as a "potential environmental justice area," due to relatively low incomes and a high proportion of non-White community members.

As we mention in our March 3<sup>rd</sup> letter, since Hudson 7 would not be allowed to discharge high turbidity water or our alum sludge in the Ashokan Reservoir, we would expect that DEP, a fellow water utility, would stop discharging high turbidity water into our source water, the Hudson River, which serves 106,000 people.

Another major concern, which we previously mentioned, is that we were not notified of the Catalum SPDES Permit, the Order on Consent, and the modifications made in October 2013, 2018, and 2020 – nor of the releases of turbid water that began most recently with the Christmas storm of 2020. We respectfully request that Hudson 7 be notified of all modifications to the permit and public hearings on these modifications and be provided with daily flow information of all releases and the turbidity levels. While we hope and expect that our comments influence the permit in ways that prohibit further discharges of turbid water for extended periods, and should any future discharges occur, we must be notified of them as well, in order for our plant operators to make the necessary operational changes to remove excess turbidity.

The Hudson 7 stands ready to work collaboratively with DEC and DEP to develop short-term and long-term solutions and address our critical concerns.

Please feel free to contact me directly at Rhinebeck Village Hall (845-876-7015 or 76 East Market Street, Rhinebeck, NY 12572) or direct technical questions to Paul Malmrose, PE, the Hudson 7's technical advisor on this and other environmental engineering issues, at 860-895-7211 or PEMalmrose@tighebond.com.

Sincerely,



Gary Bassett  
Chairman

cc:

Roger Sokol, Director, Bureau of Public Water Supply, NYS Department of Health  
Marc Molinaro, Dutchess County Executive  
Pat Ryan, Ulster County Executive  
NYS Senator Sue Serino (NY-41)  
NYS Senator- Michelle Hinchey (NY-46)  
NYS Assembly Member Kevin Cahill (NY-103)  
NYS Assembly Member Jonathan Jacobson (NY-104)  
NYS Assembly Member Kieran Lawlor (NY-105)  
NYS Assembly Member Didi Barrett (NY-106)  
US Senator Charles Schumer  
US Senator Kirsten Gillibrand  
US Rep. Sean Patrick Maloney (NY-18)  
US Rep. Antonio Delgado (NY-19)  
Jeffery Gratz, USEPA Region 2  
Katie Lynch, MPH, USEPA Region 2  
Kelly Turturro, DEC  
Ken Kosinski, DEC  
Brenan Tarrier, DEC  
Timothy Rose, Ulster County  
Lee Felshin, Dutches County