January 11, 2013

Attn: Draft HVHF Comments
Bureau of Oil & Gas Regulation
NYSDEC Division of Mineral Resources
625 Broadway, third floor
Albany, NY 12233-6500

Dear Commissioner Martens,

The Sierra Club Atlantic Chapter has reviewed the revised regulations and associated documents for the Proposed High Volume Hydraulic Fracturing (HVHF) Regulations 6 NYCRR Parts 52, 190, 550-556, 560, and 750 and we appreciate the opportunity to comment. We do not appreciate, however, the improper process put before the public during the busy holiday season. New Yorkers have been given 30 days to comment on new rules for drilling before any of the health or environmental studies have been completed. Without a completed environmental review as a foundational document, the regulations have little context for those that wish to provide meaningful comment. We call upon the Department of Environmental Conservation (DEC) to suspend this regulatory process until the Supplemental Generic Environmental Impact Statement (SGEIS) for HVHF is finalized and properly vetted by the public.

Last year's draft SGEIS on HVHF was deficient in its failure to conduct a cumulative impact analysis of the 65,000 projected gas wells, redraft its socioeconomic analysis to reflect the true costs of drilling born on host communities, devise a comprehensive plan for where to dispose of the projected billions of gallons of waste water and drill cuttings, and initiate a Health Impact Assessment (HIA) for the impact of fracking operations upon human health. Nothing in the revised regulations suggests any of these deficiencies will be corrected in the yet to be seen final SGEIS. Clearly, the Department intends to govern HVHF through permitting conditions in addition to the new rules. But since the revised permitting conditions have not been made available to the public it is impossible to gauge the effectiveness of the revised regulations. In general, we insists that the department commit to putting every possible permitting condition, safeguard, protocol or mitigation into the regulations – so that the terms of protection are clear and enforceable not only to the Department – but also to the public.

The current health review for the SGEIS has been conducted under a shroud of secrecy and the public deserves to know what is being considered by the Department of Health (DOH) and how their findings will translate into protections or prohibitions
in the final regulations. Other states that have embraced HVHF have experienced a range of health problems from nosebleeds and asthma to neuropathies and cancer. The public needs to see every scientific basis for decision making in this regard if New York is to realize a different outcome. The DEC and DOH should publish the scope of their review and give the public at least 30 days to weigh in on this crucial issue before any rules are considered.

New Yorkers deserve a transparent process that lets science drive the timeline—not arbitrary deadlines. The fact that the DEC was unable to facilitate a legitimate SAPA process, one that was based upon completed studies and meaningful public engagement – calls into question how the DEC will actually administer the program if the drill rigs are indeed allowed to move forward in New York State. Please suspend this illegitimate regulatory review and restore public confidence in the process. The Sierra Club is painfully aware of the resources and staff hours this fracking review is draining from the DEC’s core mission to protect New York’s environment. One could only imagine the burden this program will be on the agency if HVHF is allowed to move forward. Please accept the attached comments on the revised regulations. We look forward to the DEC’s thorough response to our concerns and suggestions.

Sincerely,

Roger Downs
Conservation Director
Sierra Club Atlantic Chapter
353 Hamilton Street
Albany, NY 12210
Sierra Club Atlantic Chapter
Comments on the Revised Regulations for High Volume Hydraulic Fracturing
Regulations
6 NYCRR Parts 52, 190, 550-556, 560, and 750

1. Sierra Club Atlantic Chapter objects to initiating the rule making for HVHF before the SEQRA process had concluded. The State Administrative Procedures Act (SAPA) intended for the DEC craft rules based upon the findings of any supporting environmental impact statement. To devise regulations without a comprehensive analysis is improper. In this case – with outstanding obligations to conduct public health impact assessments, cumulative impact modeling, or comprehensive waste water disposal plans—there is no way that the draft regulations can be representative of the best science-based safeguards. A year ago we objected to the commingling of the SEQRA and SAPA processes, because it put the cart-parallel-to-the-horse and prematurely set the regulatory clock for a final decision. With the expiration of the one year SAPA clock on November 29th and a subsequent 90 day extension, the cart has now been placed squarely before the horse. Instead of ongoing environmental and health reviews driving the regulatory process we have a rapidly approaching deadline (February 27) where rules are being finalized before we receive the scientific findings. Again, DEC should suspend this regulatory process, take the time it needs to complete every health and environmental review and restart the SAPA process after the SGEIS has been finalized.

2. The Sierra Club Atlantic Chapter objects to the selective application of the new regulatory changes. The new proposed regulations will only pertain to gas wells that consume 300,000 gallons of water or more during the hydrofracking process. Gas wells that consume less than this threshold will only be subject to the permitting conditions established by the 1992 GEIS and regulations, which were last substantively updated in 1972. Since the de facto moratorium was put in place July 2008, the Department has issued nearly 1000 permits to drill for oil or gas in New York State. Most of these applications were vertical wells that did not exceed the water use threshold of 80,000 gallons. The 80,000-gallon figure came from the maximum amount of water anticipated for a hydraulic fractured operation in the original 1992 GEIS. The 2011 SGEIS identifies 300,000 gallons as the minimum amount of water required for HVHF and the starting point for new regulations. There is a significant gap between the two thresholds with no analysis of the environmental impacts of natural gas wells that use between 80,000 gallons and 300,000 thousand gallons of water. (the September 2009 and July 2011 drafts of the SGEIS suggested
that additional SEQRA review would be required for any application that fell between the water requirements of these two thresholds but the subsequent September 2011 draft dropped the subject entirely.) By creating the apparently arbitrary 300,000 threshold, the DEC is more than tripling the water requirements considered by the 1992 GEIS, without any justification, and creating a two-track system of regulatory controls where there is a chasm between protections. The 2011 rdSGEIS estimates that 10 percent of the gas wells developed in the future will be horizontal wells, many of which will use less than 300,000 gallons per frack, suggesting that thousands of applications in the coming years will be allowed to use open waste pits, undisclosed fracking chemicals, and be free of new emissions standards, set back requirements, and other improved environmental protections required of HVHF wells. The intent of the 1992 GEIS was to create the framework for new regulations to govern oil, gas and salt solution mining in the State of New York, but that rulemaking process never took place. It would be entirely inappropriate now for the DEC to move forward with creating regulations for supplemental conditions to the 1992 GEIS without first addressing the need for foundational regulations on which to base the supplement. **The DEC needs to create one unified regulatory standard for all oil and gas development.** The current regulations create a double standard that will inevitably lead to abuse and unanticipated environmental degradation.

3. The July 2011 draft SGEIS supported the notion that the Division of Mineral Resources (DMR) should not be regulating oil and gas with outdated permitting conditions:

“The 1992 GEIS included proposed regulations, designed to incorporate many of the permit conditions already in use by the Department’s Division of Mineral Resources when the GEIS was developed. Draft regulations were included in the 1992 GEIS as a means to facilitate public review, and it was then recognized that the GEIS was not intended to serve as a substitute for all of the detailed analysis required by the State Administrative Procedures Act (SAPA) for agency rulemaking. In connection with the Department’s issuance of the dSGEIS, questions have arisen again concerning the need for new regulations and new regulatory initiatives” Pg. 3-18

This section of the draft SGEIS was expunged in the September 2011 version because it conflicted with the sudden shift in the DEC’s regulatory philosophy that chose only to address HVHF. SEQRA determinations were never meant to serve as a regulatory program yet the dSGEIS proposes to continue regulating low volume drilling applications (under 300,000k gal) using outdated SEQRA permitting conditions. We
believe that the DEC has the obligation to go back and fold all oil, gas and salt solution mining into one comprehensive regulatory program.

4. In addition to the thousands of future oil and gas wells in NY that are anticipated to fall below the 300,000 gallon threshold, including those that use propane based fracking technology, there is a current oil and gas waste stream coming over the border from Pennsylvania in the form of liquids, cuttings and mixed materials. How will the practical implementation of only applying new regulations to HVHF wastes work when it is difficult to determine what constitutes an HVHF source?

5. The Revised Regulatory impact statement fails to include an acceptable cost assessment to the State agencies or local governments that have to contend with the substantial financial investment required to oversee what will be an especially large and new regulatory program. This is an unacceptable deficiency that must be elaborated upon and made available to the public for comment before any finalization of the new regulations.

6. The Revised Jobs Impact Statement improperly frames HVHF as a one sided jobs creator without any of the nuance that comes with industrial activity. With Statements like “There are no regions of the State expected to be negatively impacted from the proposed revised rules” and “The proposed revised rules are not expected to have an adverse impact on jobs and employment”, the DEC does a disservice to multiple industries currently anchoring the upstate economy that will be negatively impacted by gas development. The Revised Jobs Impact Statement fails to talk about how HVHF will affect tourism, outdoor recreation, agriculture, yogurt production, viticulture, beer making, hunting, fishing, and bird watching. All these economic generators do not interface well with heavy truck traffic, compromised water resources, forest fragmentation, air pollution, and industrial noise. The Jobs impact statement also neglects consideration of the impact that depressed land values and home sales, stemming, from gas development have upon employment. Several reports from Western states show that regions dependent upon energy development under perform economically and suffer diminished future competitiveness. In Pennsylvania, counties with intensive drilling experienced a 19 percent decrease in both milk production and the number of dairy cows, whereas counties with no drilling performed showed no appreciable change over the same time period.
7. §190 (14) (15) and 190.8 of 6NYCRR provides for a ban on all oil and gas activity on the surface of all state land, not just for HVHHF. The Sierra Club encourages the DEC to extend this all-inclusive approach to every application to drill for oil, gas, and salt solution mining. For instance, DEC proposes that oil and gas activity will still be permitted in FAD watersheds, just as long as the activity uses less than 300,000 gallons of water. One of the original justifications for the SGEIS was that the 1992 GEIS never considered the impacts of drilling in major drinking watersheds. The SGEIS and associated new regulations do little to address these impacts and provide only a partial remedy to future development. If the DEC is going to allow low volume oil and gas development in Filtration Avoidance Determination (FAD) watersheds or other critical drinking watershed across the state – it must provide the proper environmental review and justification. As stated in our SGEIS comments, in many situations vertical well spacing presents greater surface impacts to drinking water than HVHHF. The new regulations should set one standard for all oil and gas activity.

8. §560.2 (14)(16) The new regulations continue the DEC’s illogical distinction between principal and primary aquifers, in the context of protecting water quality. Regardless of what population density is served by an aquifer the mechanism of protection should be identical. By suggesting that principle aquifers deserve less protection because they serve a secondary human purpose, condemns future New Yorkers to potentially more resource constraints when potable water supplies may indeed become scarce. The DEC must frame all its mitigation proposals with a long term view of resource protection.

9. §560.3 (a)(9) The new regulations should not require or provide specifications for open lined reserve pits. The closed loop system described in §560.3 (a) (11) should be mandatory for drilling muds, cuttings and flowback fluids. There is no aspect of oil and gas development where an open pit cannot be replaced with a closed tank. The DEC must commit to best management practices at all times.

10. §560.3 (a)(16) The new regulations provide very little substance in protecting biodiversity from oil and gas development. Almost none of the mitigations proposed by the SGEIS are reflected in the new rules. The requirement of posting best management practices for the identification and control of invasive species at the drill site is a good start, but there needs to be a lot more prescriptive structure and standards in the regulations if the mitigations are to be effective.
11. Protection of Endangered species is administered through 750-3.11(f) (3) which finds any HVHF operations that adversely affect a listed or proposed to be listed endangered or threatened species or its critical habitat would be considered ineligible for coverage under an HVHF general permit and would require authorization under an individual SPDES permit. But it remains unclear how the individual permit will be administered, as there are no express terms for determining approval. Because the regulations do not specify the criteria for how the Department makes a determination that endangered species will be affected, we are gravely concerned that opportunities to protect biodiversity will be missed. In the past, DMR has only investigated habitat considerations when a permit to drill comes into conflict with information found on the Natural Heritage Program (NHP) database. This is a good first step, but we believe that:

- The NHP database reflects important information on biodiversity but can be regionally incomplete and should not be substituted for an in-depth site inspection. Well development predominantly occurs on private land, while the majority of information in the NHP database comes from observations made on public land.
- Due to budget constraints, the NHP database has not been updated since December of 2008. In addition there is a sizable backlog of information from herbaria (plant survey) collections statewide that cannot be processed due to funding constraints. The database alone, based upon being incomplete, should not be the determining factor in assessing potential impact to critical habitat.
- On site investigation should be required for every well application, with complete four season biological inventories. Further more:
  i. The DEC’s intended approach, even with capturing applications that impact habitat blocks, does not address region wide biodiversity issues that take into account a pattern of cumulative impacts that may not be apparent on the individual permit level.
  ii. There is no substantive discussion of mitigation strategies for the habitat impacts of the oil and gas industry beyond well relocation and potential seasonal restrictions.
  iii. Natural gas development should be driving information for the NHP database so that at the very least, the destruction of habitat through well development and pipeline corridors will generate information helpful in planning the protection of the larger ecosystem. The regulations should reflect more a more detailed approach to protecting endangered species and biodiversity.
12. Perhaps the greatest mitigation provided by the proposed regulations for impacts to biodiversity is the ban on all drilling—not just HVHF—in state forest lands. (§190 (14) (15) and 190.8 of 6NYCRR) We applaud this restriction and see it as an essential component to preserving NY’s wilderness legacy. But the decision to allow the leasing of the subsurface mineral rights to companies that will drill horizontally under parkland to access natural gas will still have a profoundly negative impact on biodiversity and habitat integrity. Leasing of subsurface rights to state forestland will lead to dense development surrounding our parks and reserves. Tight networks of well pads and pipelines will cut off migration corridors between protected lands and larger blocks of significant habitat on private lands. Increased natural gas development surrounding our parklands will lead to secondary environmental degradation of parklands like decreased air quality, excessive noise and light pollution, contaminated waterways from accidental spills, excessive road kill in migration corridors and increase invasive species vectors. The DEC should end all plans to lease the subsurface drilling rights of any state forestland because the secondary impacts from drilling on the park’s periphery will have a significant and unacceptable impact on habitat integrity of these reserves, even if the core is protected.

13. §750-3.2 (b)(54) defines Wetlands as “any area regulated pursuant to Article 24 of the Environmental Conservation Law and any other wetlands regulated under Section 404 of 33 U.S.C. 1251, et seq.” The DEC only protects wetlands 12.4 acres and larger or smaller wetlands of unusual local importance. This represents about 6% of the State’s wetlands under DEC protection. The majority of wetlands in NY State are regulated by the Army Corps of Engineers (ACOE) or receive no protection because of the 2001 SWANCC decision that has removed protection of “isolated wetlands”. Complicating the issue further is that the DEC only has jurisdiction over wetlands that have been charted on official DEC maps and there are thousands of wetlands statewide, larger than 12.4 acres that have never been mapped. Natural gas exploration will drive development into remote areas where we suspect there are gaps in DEC wetlands mapping. Currently, we estimate that there are over 700,000 acres of potentially jurisdictional wetlands in NY that remain unmapped. We have concerns that the DMR will not protect unmapped wetlands from oil and gas development. The DMR has stated publicly that it is the driller’s responsibility to notify the ACOE if a federal wetland is to be disturbed and will not get involved if there are no DEC jurisdictional issues present. The regulations must require that the DMR notify the ACOE of any potential wetland conflicts in a drilling application and withhold any
permits until the ACOE is satisfied that a proposed well is in compliance with federal wetland protection laws. In addition, if a well site investigation reveals an unmapped wetland larger than 12.4 acres that could be disturbed by drilling activity; the SGEIS must mandate a map amendment process and the wetland should be treated as “under the jurisdiction of the NYSDEC.” Lastly, the Sierra Club recommends that the DEC provide a 500 ft buffer from the gas well pad to all classes of wetlands to be consistent with the protections afforded drinking water wells. In addition, we demand that the new regulations require certification in the permit application that the driller has satisfied its obligation under the Clean Water Act and that the chosen well pad site does not require a 404 permit from the ACOE.

14. §560.3 (c) (2) The DEC should outline the rules for how it will determine exemptions from the required chemical disclosure requirements for fracking additives. We strongly advocate that all chemicals used in fracking and the individual chemical contents of the resulting flow back be made available to the public – not just regulators. In addition regulation should stipulate that emergency access to proprietary information to first responders and medical officials should be granted in case of spills or contamination events.

15. §560.4 (c) The DEC should not allow any private land owner to waive the 500 ft. buffer between a drinking water source and the gas well pad. The intent of the regulation should be to protect water resources in perpetuity not the current interests of a transient property owner. The DEC should also establish a non-negotiable set back from residential structures of at least 500 ft. The SGEIS requires separate SEQRA determinations for any application that proposes to drill within any protective buffer zone. Again, we believe there should be no variances to any established set back, but the regulations should clearly state that any proposal do so shall automatically be a Type I action under SEQRA.

16. §560.4 (a)(3) the currently mapped 100 year flood plains in NYS are no longer sufficient indicators of persistent flood risk areas. In consideration of climate change and the significant increase in catastrophic flood events, the new regulations should prohibit development at the 500-year flood stage, unless a recalibrated and remapped regional approach is taken that properly identifies the new parameters of a true 100-year storm event.

17. §560.4(c) Reporting of “non-incidents” should be posted in the DEC’s online Spill Incidents Reports. The new regulations should have all hazardous spills and releases from oil and gas activities open and transparent to the public. The current, and
irrationally separate, oil and gas spills database is difficult for the public to access and shields drillers from the kind of accountability that has effectively curtailed spills in the rest of the industrial sector of New York. If the public is given access to timely reporting of accidental chemical releases there will be more pressure and incentive to be careful on the well pad. **The DEC should abolish the separate oil and gas spills database and incorporate all future reported spills to the larger statewide database.**

18. If HVHHF is to move forward the DEC should consider requiring the drilling of test wells to 800 ft at varying intervals, ranging from 150 ft from the well bore to the furthest distance possible within the spacing unit, to monitor – using sondes or other testing equipment – the real time effects of drilling within the water table.

19. §560.5 (d) The new regulations should specify and define the necessity of third party and independent baseline testing of water resources. Independent testing companies must not be allowed to serve the driller in other capacities – like preparation of permit applications or representing the driller in public.

20. §560.5 (f) The new regulations now require a mandatory monthly online filing of *Drilling and Production Waste Tracking Form* which is to be posted on the owner or operator’s publicly available website. In the interest of creating a valuable public resource the DEC should maintain one singular website for all owners / operators to post to, rather than make the public navigate dozens of separate sites to retrieve information. The cost and effort on DEC’s part to maintain such a website would be minimal but the public benefit would be great. This waste tracking clearing house should also include waste that is reused and recycled, so that the public and the DEC alike can have a full picture of how drilling waste is utilized.

21. §750-3.12 (c) Publically Owned Treatment Works (POTW) were not designed to process the complex wastes associated with fracking. Fracking wastes’ high salinity combined with significant concentrations of radioisotopes, volatile organic compounds, biocides and heavy metals can have detrimental effects upon the treatment plant itself while slowly discharging these diluted contaminants into our waterways. Even with the establishment of strong effluent standards, the potential for accidents and non-compliance are great. DEC should replace this section with an absolute prohibition, banning POTWs from treating flow back or productions water from any oil or gas operation.
22. §560.6(a)(ii) The new regulations establish an open pit volume limit of 250,000 gallons for drill cuttings/fluids or 500,000 gallons for multiple pits on one site. 5-34 of the SGEIS estimates that a 7,000 foot well bore combined with a 4,000 foot lateral will produce 217 cubic yards of cuttings or 44,000 gallons. This appears to be at the upper limit of what is to be expected for a single well. If the Department anticipates that this 200,000 gallon overcapacity is to serve multiple wells on one pad – then it is facilitating the long term and unsafe presence of open pits on the well pad. Since the new regulations will only allow 45 days of waste storage in the pits, this overcapacity seems unwarranted– unless the DEC intends to allow consistent variances to drillers that exceed the anticipated waste fluid amounts. Section 5.2.3 of the SGEIS details the tanks and recirculation apparatus for drilling muds that suggests all liquids are recycled into the drilling process and cuttings are separated – so there shouldn’t be that much liquid waste in the reserve pits; certainly not enough to require a 200,000-500,000 gallon impoundment. In general, this section of the new regulations goes into great detail about the specifications of an antiquated technology (open pits) that should be discontinued in favor of close loop systems and sealed tanks. It seems especially inappropriate considering that the Department provides very little specificity when handling regulatory mitigations for loss of biodiversity, air quality degradation, or public health issues. Once and for all the DEC should reject open pits for drilling muds as a best available technology in favor of closed loop systems.

23. The new regulations are designed to govern the operations of High-Volume Hydraulic Fracturing (HVHF) to Develop the Marcellus Shale and Other Low-Permeability Gas Reservoirs but to date we have only seen only substantive analysis of Marcellus shales and the potential environmental outcomes from the development of that geologic strata. The 2011, rdSGEIS did not conduct the same analysis for Utica Shale or any other low permeable gas reservoirs and unless substantial geological investigation is made into the environmental challenges presented by other formations, the proposed regulations should be restricted to the Marcellus and geological formations covered under the 1992 GEIS. §560.1(a) should be amended to reflect this restriction.

24. Definitions in §560.2 should correspond with the definitions set forth in §750-3.2. Instead, there are different and sometime conflicting definitions for access roads, additives, CAS numbers, flow back, fluids, primary / principle aquifers, production brine, and safety data sheets. Failure to standardize definitions between the 2 sections will result in confusion and possible conflict.
25. §556.2(b) The draft regulations miss an important opportunity to substantively prohibit venting and flaring of gas well emissions. Green completion, technology that purifies the gas through a closed loop system, is a standard best practice and can be mandated at every well site by the DEC as an alternative. It requires more planning for the well developer, who has to construct a pipeline to the site before drilling, but there are no real technical constraints that would prevent this from happening. Every well in the Marcellus shale play will hook up to a pipeline at some point. Requiring gathering line installation first, so that the industry can capture otherwise wasted methane, would reduce carbon dioxide, sulfur dioxide, benzene and formaldehyde emissions and ultimately protect public health. Natural gas production is now the largest anthropocentric source of methane pollution in the United States and as a greenhouse gas methane is at least 25 times more potent than carbon dioxide. As it stands now the proposed regulations are positioned to see considerable methane and other air contaminants flared or vented unnecessarily into the atmosphere. §556.2(b), (c), and (g) (5) should be removed or modified to reflect mandatory usage of green completion technology as described in §560.6 (c)(29). This section states, “a reduced emissions completion, with minimal venting and flaring (if any), must be performed whenever gas is capable of being transported or marketed by connection of an available commercial sales line, interconnecting gathering line and any necessary compressor station.” In reality, energy companies and the gas they extract are always “potentially capable” of meeting these transport requirements. It just takes planning and foresight. DEC needs to mandate that pipelines must be connected to well pads, before drilling, to ensure that air quality standards are protected.

26. In response to comment (3833) about 6 NYCRR Part 371.1 (e) (2)(v): the DEC misrepresents the intent of those that wish to change the exemption in regulation that prohibits drilling wastes from receiving a hazardous designation. Few are suggesting that DEC change the regulations so that ALL drilling waste is considered hazardous. The request is to remove the exemption that says it can NEVER be considered hazardous and treat wastes based upon chemical properties. **If drilling wastes happen to contain components that would generically meet the standard regulatory definition of “hazardous” then the wastes should be subject to all the same regulations for hazardous waste generation, transportation, treatment, storage, and disposal that apply to other industries operating in the state.**

27. In both Definition Sections §560.2 and §750-3.2 the term ‘hazardous waste’ should be defined as:
A waste or combination of wastes, which because of its quantity, concentration, or physical, chemical or infectious characteristics may: a. Cause, or significantly contribute to an increase in mortality or an increase in serious irreversible, or incapacitating reversible illness; or b. Pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, disposed, or otherwise managed.

Fracking chemicals arrive at the drilling site often as regulated hazardous materials, but current federal and state exemptions allow drillers that pump these harmful chemicals into the ground to treat the wastes that come back up as standard industrial waste. Carcinogenic benzene, toluene, and formaldehyde are common frack fluid ingredients and the returning flowback water also brings up naturally occurring salts, heavy metals and radioactive particles. Fracking wastewater that enters local sewage treatment plants—sometimes with radiation levels hundreds of times the safe limits for drinking water—goes right back into the rivers and streams that supply water to millions of people. Gas drillers should not be exempt from laws governing the safe treatment and disposal of hazardous waste. DEC should close the loophole and stop the oil and gas industry from circumventing standard procedures for hazardous waste disposal.

Thank you for accepting these comments into the public record. We look forward to the DEC’s thorough response to our concerns and suggestions.

- Sierra Club Atlantic Chapter 1/11/2013