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Adirondack Mountain Club
Comments on rdSGEIS to Bureau of Oil & Gas Regulation, NYSDEC Division of Mineral Resources

The Adirondack Mountain Club (ADK) thanks the Department of Environmental Conservation for the opportunity to submit written comments on the revised draft Supplemental Generic Environmental Impact Statement (rdSGEIS). The Adirondack Mountain Club is dedicated to conservation, education, outdoor recreation, and protection of New York's Forest Preserve, parks, wild lands, and waters. ADK represents nearly 30,000 hikers, paddlers, skiers, and backpackers.

While ADK reveres the Adirondack and Catskill Mountain ranges for their grandness, there are many valuable State Parks, Wildlife Management Areas and State Forests in Central and Western New York that are extremely important to our members, especially in our Western New York chapters. ADK will present our concerns for the potential environmental and recreational impacts that increased natural gas drilling in the Marcellus Shale may have on New York. We will also recognize improvements made to the revised draft, along with outlining our recommendations on how this document can be improved further.

Executive Summary

ADK strongly supports DEC's decision to prohibit surface drilling on state-owned land, including State Parks, State Forests, and Wildlife Management Areas. In the past, the State has leased State Forest land for gas exploration, but these older drilling operations used techniques that had far less impact than modern drilling operations that employ high-volume hydraulic fracturing (HVHF) combined with horizontal drilling. DEC correctly concludes that HVHF would be inappropriate on these lands and inconsistent with State law. All related infrastructure, such as pipelines, should also be prohibited on these lands. After exhaustive research, ADK has also concluded that there are significant and compelling legal, environmental, and practical reasons for banning the lease of subsurface drilling rights under publicly owned lands.

In the 16 Forest Preserve counties in the Adirondacks and Catskills, the legal issue is cut and dried. Under Article XIV, section 3 of the New York Constitution, state-owned land within these counties, but outside the borders of the Adirondack and Catskill parks, cannot be leased for gas drilling.

Outside the Forest Preserve counties, Article XIV section 3 requires that lands acquired for reforestation must forever be used for that purpose. We maintain that subsurface leases of reforestation lands would violate both the spirit and letter of section 3 and related state laws.

Leasing subsurface rights and allowing horizontal drilling under State Forests would place drilling operations at the border of these lands, and the highly industrialized nature of modern gas drilling operations would have a significant impact on these forests. These wild lands and their flora and fauna would be subject to air, noise, and light pollution from these operations. These lands and the streams that flow through them would also be at risk from well blowouts, chemical spills, and other drilling accidents. Land clearing for well pads and drilling infrastructure and road building to service these well sites would fragment habitats. And, as DEC acknowledges in the rdSGEIS, HVHF would facilitate the spread of invasive species, which already pose a major threat to our forests.

Subsurface leasing of state-owned forest land could also create serious issues for owners of adjacent land, many of whom purchased their property with the intention of supplementing State protection of plant and animal habitats. These lands abutting State Forests represent significant private investment to further the State's purpose of maintaining these areas in a wild or near-wild condition and protecting the rare species that call them home. But because of New York's Compulsory Integration Law, State leases of subsurface rights to State Forests could force DEC's longtime conservation partners into leasing agreements with the gas drillers. In other words, DEC would become complicit in undermining the very environmental protections it has encouraged for decades. Under compulsory integration, these adjacent landowners could lose significant property rights and the ability to sell their land because of leases they did not want or seek but which may be forced upon them with DEC's consent. Also, because DEC would be both a party and the arbitrator of any compulsory integration decision, such leases would create a clear conflict of interest for the agency.

Since Article XIV gives every New York resident legal standing to sue over any violation of this article, any attempt by the State to lease surface or subsurface rights to any State Forest land anywhere in New York would undoubtedly result in legal action against the State.

ADK also believes that HVHF anywhere in New York State could pose serious environmental threats to land and water. If HVHF is allowed anywhere in New York, DEC should put in place mitigation measures to limit environmental damage. We urge DEC to prohibit the use of benzene, formaldehyde, and certain other chemicals in fracking fluids and to require that drillers disclose the contents of all fracking and drilling fluids. We urge DEC to ban the use of open pits for storage of fracking fluids and wastewater (flowback) and require proper treatment and disposal of HVHF wastewater. We urge DEC to require adequate well casings to protect groundwater and adequate setbacks to protect water supplies.

ADK provides more detailed comments, including legal citations, below.

ADK Comments on sdSGEIS

HVHF Drilling on State Lands – Prohibition of Gas Leases on Public Lands

While ADK understands that Article XIV, section 1 of the state Constitution fully protects the lands of the Catskill Forest Preserve, we are deeply concerned about the impacts of high volume hydraulic fracturing or (HVHF) for natural gas on the lands of the New York City watershed and the surrounding lands of the Catskill region. The Marcellus formation is thickest in this region and is a very likely target for the energy industry.

Article XIV, section 1 of the State Constitution mandates that "lands of the state, now owned or hereafter acquired, constituting forest preserve as now fixed by law, shall be forever kept as wild forest lands. They shall not be leased, sold or exchanged, or be taken by any corporation, public or private, nor shall the timber thereon be sold, removed or destroyed."

Forest preserve lands include by definition "lands owned or hereafter acquired by the state within the county of Clinton, except the town of Altona and Dannemora, and the counties of Delaware, Essex, Franklin, Fulton, Hamilton, Herkimer, Lewis, Oneida, Saratoga, Saint Lawrence, Warren, Washington, Greene, Ulster and Sullivan." ECL Section 9-0101(6).

The above "forever wild" and "anti-alienation" provisions of the State Constitution plainly prohibit the state from permitting drilling associated with HVHF on or under forest preserve lands. Therefore, the proposed regulatory provision to prohibit drilling associated with HVHF on forest preserve lands is consistent with Article XIV, section 1 of the State Constitution.
DEC has stewardship responsibility for some 700,000 acres of designated State Forests and Wildlife Management Areas primarily located over the Marcellus formation. These valuable public lands are currently managed for watershed protection, public recreation, wildlife habitat and open space conservation. The renowned Finger Lakes Trail traverses many of these State forests and Wildlife Management Areas as does the North Country National Scenic Trail authorized by Congress. This is why ADK was encouraged by the strengthened language in the revised draft supplemental environmental impact protecting State Forest from the surface impacts of drilling.

> "Surface disturbance associated with high-volume hydraulic fracturing would not be allowed on State-owned lands administered by the Department, including but not limited to State Forests and State Wildlife Management Areas, because it is inconsistent with the suite of purposes for which those lands have been acquired. Current Office of Parks, Recreation and Historic Preservation (OPRHP) policy would impose a similar restriction on State Parks."[1]

ADK also completely agrees with the rdSGEIS assessment that:

> "State-owned lands have been acquired over the past century to provide compatible public recreation opportunities, protect watersheds, and provide sustainable timber harvesting. Drilling and trucking

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[1] rd*sGEIS* 1.7.14 State Forests, State Wildlife Management Areas and State Parks

> activities disturb the tranquility found on these lands and can cause significant visual impacts. Also, many State Forest roads serve as recreational trails for bicyclists, horseback riders, snowmobilers and others. The level of truck traffic associated with horizontal drilling and high-volume hydraulic fracturing presents safety issues, and would significantly degrade the experience for users of these roads, if not altogether during the drilling and construction phases of development."[2]

With the DEC acknowledging that HVHF, and the siting of necessary infrastructure is in fact incompatible with the objectives for which these lands were acquired, we believe that the DEC should also conclude that leasing of these lands would be equally inappropriate.

With respect to reforestation areas also known as state forests, Article XIV, section 3(1) of the Constitution states that: "Forest and wild life conservation are hereby declared to be policies of the state. For the purposes of carrying out such policies the legislature may appropriate moneys for the acquisition by the state of land, outside of the Adirondack and Catskill parks as now fixed by law, for the practice of forest or wild life conservation."

As noted on page 22 of the Regulatory Impact Statement for the proposed HVHF regulations, state owned lands have distinct classifications derived from:

- (i) The legislation that authorized acquisitions;
- (ii) The source of funds for land acquisition of the land, such as the land and water conservation fund, federal funding for purchase of hunting and fishing lands, state bond acts, the Environmental Protection Fund, Forest Legacy Funds;
- (iii) Geographic location of lands with the Adirondack or Catskill Parks or with Forest Preserve counties, but located outside the Adirondack or Catskill blue lines.

Article XIV, section 3 (1) of the New York State Constitution applies to reforestation lands both within and outside of forest preserve counties and provides in pertinent part as follows:

> "1. Forest and wild life conservation are hereby declared to be policies of the state. For the purpose of carrying out such policies the legislature may appropriate Moneys for the acquisition by the state of land, outside the Adirondack and Catskill parks as now fixed by law, <u>for the practice of forest or wildlife conservation</u>. The prohibitions of section 1 of this article [requiring that the forest preserve be Forever kept as wild forest lands, and prohibiting alienation and the sale, removal and destruction of timber] shall not apply to any lands heretofore or hereafter acquired or dedicated for such purposes within the forest preserve counties but outside of the Adirondack and Catskill parks as now fixed by law, <u>except that such lands shall not be leased, sold or exchanged, or be taken by any corporation, public or private</u>."

The underlined language clearly forbids the state from entering into any gas leases for the extraction of natural gas under any state forests located in any of the Forest Preserve counties. It is clear from Article XIV, section (3)(1) of the Constitution that the state can not enter into a lease with any private corporation for the extraction of natural gas from any state forest or reforestation area located in the counties of Greene, Ulster, Sullivan, or Delaware counties.

Should DEC enter into any natural gas from any State Forest in a Forest Preserve county subject to Article XIV, section 3 (1), ADK will consider that lease to be a constitutional violation and

[2] rdSGEIS 6.4.4 Impacts to State-Owned lands

resort to a legal action authorized by section 5 of Article XIV to restrain any violation of the express terms of Article XIV, section 3.

ADK asserts that the same provision of the Constitution would forbid the state from entering into any lease with any person, public, or private corporation for oil and gas extraction from the Marcellus, Trenton, Utica, and Black River shale plays on any state forest or reforestation area covered by Article XIV, section (3)(1) located in any Forest Preserve County, including Clinton, Delaware, Essex, Franklin, Fulton, Hamilton, Herkimer, Lewis, Oneida, Saratoga, St. Lawrence, Warren, Washington, Greene, Ulster and Sullivan.

Moreover, since the purpose of the gas and oil lease between the state and a private energy company is to permanently remove or alienate the gas and/or oil portion of the real property estate, any such lease would also expressly violate that section of Article XIV, section 3 (1) that forbids any "taking" of such lands.

In a 1990 Attorney General's Opinion, Robert Abrams discusses the State's responsibility pertaining to reforestation areas.

> "Given the State's responsibility to protect these lands as steward of the public trust, the State has a heightened responsibility, as compared to its role with respect to private lands, to ensure that any State permitted action does not adversely impact the ecosystems and habitat on these public lands so that they may be enjoyed by future generations."[3]

The impacts of HVHF will undoubtedly have a severe impact to ecosystems, and will alter the character of the land for generations to come. It is clear from this opinion that land managed by the DEC, for the enjoyment, and benefit of the public should be held to the highest standards.

The record of debate of the Constitutional Convention of 1938 makes clear that Article XIV, section (3)(1) is intended to prohibit alienation of reforestation lands within the Forest Preserve counties so as to preserve such lands forever for use for reforestation purposes. (See revised record of 1938 Constitutional Convention pp. 1296-1316, pp. 1697-2703)

The purpose was to permit on reforestation land, the cutting of trees and the undertaking of other activities consistent with the use of the land for forest and wildlife conservation while ensuring through the no-alienation provision that the land would be forever dedicated to this purpose by the State. (Constitutional Convention of 1938, Revised Record, p. 1314)

It is crystal clear that the highly destruction nature of HVHF and the disturbances of heavy truck traffic, extensive tree removal, road construction, pipelines and compressor station represent an impermissible alienation of both the land and subsurface of these state forests and reforestation areas, all in direct contravention of Article XIV, section (3)(1) of the state constitution.

State forests and reforestation lands, once acquired for reforestation, must be "forever devoted" to this purpose. (Environmental Conservation Law, 9-0501). See Towner c. Jimmerson (N.Y. A.D.4th Department, 1979) 67 AD2 817. The "no alienation" language of Article XIV, section 3

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[3] *rdSGEIS* 6.4.4 Impacts to State-Owned Lands

(1) applies equally to the subsurface estate of lands "forever devoted" to reforestation. This language contains no exclusion permitting the leasing, sale or alienation of gas and oil reserves that are a part of the fee estate of these state forest and reforestation lands.

In addition, ECL Section 9-0501(1) authorizes the state to acquire reforestation areas, which are adapted for reforestation and the establishment and maintenance thereon of forests for watershed protection, the production of timber and other forests products, and for recreation and kindred purposes, which shall be forever devoted to the planting, growth and harvesting of such trees.

Although ECL Section 9-0507 provides for leasing of oil and gas rights on reforestation areas, and states in pertinent part that the Department may, in any lands acquired by the state in accordance with section 9-0501, enter into leases for the purpose of aiding in discovering and removing any oil or gas upon such lands or storage of gas or oil thereon, this authority is expressly given, by stating that the lease for gas and oil shall not interfere with the operation of such reforestation areas for the purposes for which they were acquired and as defined in Section 3 of article XIV of the Constitution. Nor can the provisions of ECL 9-0507 supersede the "no alienation" language of Article XIV, section 3 (1) which expressly precludes the permanent alienation of any part of the fee estate of state forests located in Forest Preserve Counties, including the permanent transfer to a private party of the oil and gas rights, the alienation of state land for gas drilling roads, pipelines, compressor stations and other gas transmission infrastructure.

Thus, the Department is authorized to lease reforestation areas for oil and gas exploration so long as the exercise of such lease does not interfere with the operation of such reforestation areas for the purposes for which they were acquired and for the purpose prescribed by the constitution, i.e., the practice of forest or wild life conservation, reforestation and the establishment and maintenance thereon of forests for watershed protection, the production of timber and other forests products, and for recreational purposes.

Currently, the Department leases reforestation areas for oil and gas exploration; however, such leases do not authorize HVHF drilling. The department has not permitted HVHF under this leasing program and to date the Department has administered this leasing program so that it does not interfere with the legislative objectives described above for reforestation areas. However, as compared to vertical low volume drilling permitted under existing leases, the level of development associated with HVHF is expected to interfere with the protection of forests, wildlife habitat and recreational values of state forests and reforestation areas.

We would contend that by the end of this process the DEC will find leasing of State owned lands for HVHF to be wholly inappropriate, and we reject the conclusions reached by the New York State Commission on State Asset Maximization cited in the rdSGEIS concluding that

> "State-owned lands not protected by Article XIV of the State Constitution could provide revenue relief to the State and spur economic development and job creation in economically depressed regions of the State."[4]

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[4] rdSGEIS 2.2 Public Need and Benefit

These lands were not acquired to spur economic development, and these recommendations should be excluded from the final SGEIS.

HVHF activities are wholly inconsistent with the aforesaid policy goals because such intense industrial activities would lead to the degradation and despoliation of the "scenic beauty" of the lands and would very substantially harm or destroy their "natural habitats and ecological communities."

Finally, with respect to lands acquired pursuant to ECL Article 11, including, but not limited to, conservation areas, unique areas and wildlife management areas, ECL Section 11-2103 empowers the Department to acquire or receive lands "for the purpose of establishing and maintaining public hunting, trapping and fishing grounds."

As its title indicates, the purpose of ECL Title 21 -- Conservation Areas and Facilities; Private Refuges and Posted Lands -- is to manage and conserve the area in a manner "calculated to promote the public interest" in wildlife activities. See ECL Section 11-2101. The Department's enumerated powers all relate to managing the public's recreational use of these lands. Indeed, while ECL Section 11-2101(2) permits the removal of "trees and other products," such removal should be "calculated to produce the optimum conditions for fish and wildlife."

Thus, while the Department leases some of these Article l1 areas for oil and gas exploration consistent with its lease program for reforestation areas, these leases do not contemplate the use of HVHF drilling methods. Compared to vertical drilling, the very significant surface disturbances anticipated with HVHF discussed in section 6.4.4 of the 2011 dSGEIS, including access roads, truck traffic, noise pollution, clearing for well pads and other site disturbances, are not compatible with management of these areas for wildlife habitat and associated recreational activities.

Furthermore, many of these Article 11 lands have additional Federal restrictions on their use because they were purchased with Federal funds. Funds provided under the provisions of the Pittman-Robertson Wildlife Restoration and Dingell-Johnson Sport Restoration Acts (50 C.F.R. Section 80) require that land acquired be suitable for "wildlife habitat or public access" for hunting, fishing or other wildlife-oriented recreation. See 50 C.F.R 80.50(4); 50 C.F.R. 80.51(b)(1).

Thus, the clear intent of the State legislature and Congress was to promote the acquisition and management of Article 11 lands for the public's wildlife-oriented recreational use rather than allowing for the surface degradation and disturbances associated with HVHF as more fully discussed in Section 6.4.4 of the 2011 SGEIS. ADK submits that the plain language of these federal regulations preclude DEC from entering into any HVHF gas leases on ECL Article 11 state lands.

Acknowledging that it would be inappropriate for surface drilling to occur on State Lands, we believe that the same standard should be upheld for all drilling infrastructure, including storage tanks, compressor stations, holding pits, and pipelines. The intensive industrial footprint and

activity required for hydro-fracking is wholly inconsistent with the conservation of these state lands for public recreation, watershed protection, habitat preservation and open space protection.

While we are aware that the Public Service Commission (PSC) is the lead agency for gas pipelines, DEC is the agency statutorily responsible for the management of State Forest, and Wildlife Management Areas. Therefore, DEC should have included an analysis of these impacts to State Lands in this report.

Gas pipelines are not the only pipelines used in this practice; other pipelines are used to transport water as well. These pipelines were not considered in the rdSGEIS, and are also not under the authority of the Public Service Commission. The impacts of these pipelines should be analyzed by the DEC before any permitting moves forward.

ADK anticipates that HVHF drilling on or near state forests and wildlife management areas would lead to the installation and proliferation of gas transmission and feeder pipelines. These pipelines would further fragment forest habitats and encourage the spread of invasive species. Like the heavy duty road networks needed for HVHF drilling, the necessary spider webs of gas transmission and feeder pipelines would further degrade the forest character, wildlife habitats and recreational values of our state forests. These pipeline networks require that compressor stations are placed throughout the length of the pipelines to move the gas along. These stations are noisy, dangerous to operate and emit methane into the atmosphere as part of normal operation.

The SGEIS is fatally defective in that it utterly fails to discuss, analyze and mitigate the multiple, very substantial environmental impacts of gas transmission and feeder pipelines.
In 1972 Governor Nelson A. Rockefeller signed into law the State Nature and Historical Preserve Trust (the "Trust") (see ECL Article 45), declaring "the Trust will serve as a vehicle for State action in accordance with the mandate of the Constitution to preserve and protect lands unique in historical, geological and ecological significance." ECL Section 45-0117(3) states that lands held under this provision are to be maintained for their "highest, best and most important use," including, but not limited to, "maintaining plants, animals and natural communities," and to "provide the public with passive recreational opportunities including, where appropriate, fishing, hunting and trapping, or commercial fishing opportunities that are compatible with protecting the ecological significance, historic features and natural character of the area."

Site development for hydro-fracking requires extensive tree cutting, vegetative clearing and grading of about 5 acres for the well pad, water and wastewater storage, truck parking and drilling infrastructure. With installation of the necessary utility and road corridors, the total disturbance for a single well pad is estimated at 7 acres. The rdSGEIS fails to evaluate the cumulative impacts of forest fragmentation, habitat destruction/loss and wildlife disruption from site construction. It also fails to adequately analyze the impact of the conversion of permeable forest cover or fields to gravel or other low permeability compacted surface. These changes result in accelerated storm runoff and erosion potential due to reduced percolation and infiltration and increased water flow velocities due to the clearing of trees and vegetative

covering.[5] Moreover the clearing of a drill site is very likely to increase the spread of invasive species.

Protecting these resources will ensure that State lands will continue to serve the purposes they were originally acquired for. In addition to a SEQRA review, it is ADK's position that before a natural gas lease is entered for under State Land, the DEC trace back where the money to acquire these lands came from to ensure that they are not violating the terms attached to funding sources.

In the past, whenever state forests or wildlife management areas were considered for gas leasing, DEC would conduct a comprehensive tract assessment to determine whether the lands are able to sustain the surface impacts of gas drilling without in any way compromising the environmental and recreational values that these lands were acquired to protect and preserve. The Division of Lands and Forests and/or the Division of Wildlife would conduct and prepare the tract assessment. A number of factors will be considered during the "tract assessment process" to determine the nature and degree of impact of surface disturbances and damages associated with natural gas development, including but not limited to proximity to wetlands, forest fragmentations, riparian areas, slope steepness, recreational trails, threatened or endangered species and other ecological communities and habitats.

Since HVHF gas drilling has a much bigger footprint and is far more destructive than conventional gas drilling as discussed in Section 6.4 of the SGEIS, any proposed lease for HVHF under state forests, and wildlife management areas must have a hybrid tract assessment that would evaluate the surface disturbance and impacts of HVHF operations on private lands adjacent to state land. These hybrid tract assessments should be predicated on the reality in the field that ecosystems, wildlife habitats and communities often exist on both public and private lands.

A recent report released by the Nature Conservancy titled an Assessment of the Potential Impacts of High Volume Hydraulic Fracturing on Forest Resources in Tioga County found that there are 56 species that occur within the Marcellus Shale area, of that 16 are Species of Greatest Conservation Need (SGCN), while also covering a portion of the known distribution of ten federally listed threatened and endangered species. In many cases populations are already declining, fragmenting our State Forest or the private adjoining lands that provide contiguous forest tracts will only compound the problem of dwindling populations.

A concern many of our members have voiced to us is that, for years houses located around the perimeter of State Forest and Wildlife Management Areas were highly desirable due to the protection afforded to these lands. People purchased these houses not wanting to see a neighborhood pop up behind their property, never mind an industrial site. The negative impact this will have not only to community character, but to the value of these homes is something that should be considered in the analysis of socioeconomic impacts.

While the rdSGEIS' socio-economic impact analysis asserts that private landowners will be benefited by the opportunity to sell their natural gas rights, it fails to discuss the downside of HVHF leasing to private landowners. The SGEIS is fatally defective in that it completely ignores

[5] Hazen and Sawyer Report, p. 32 .

the issue of the impact of leasing natural gas rights on the landowner's legal title and real property interest in his/her fee estate. Even more egregious is the failure of the SGEIS to explain the legal implications of the compulsory integration process on a landowner's legal title and real property interests. See the article and footnotes entitled, Homeowners and Gas Drilling Leases: Boon or Bust by Elizabeth N. Radow in the November/December 2011 issue of the New York State Bar Journal.

The SGEIS and the 6NYCRR proposed regulations prohibit HVHF on state owned lands to protect the natural resource values of state lands, the prohibition does not include accessing subsurface resources from adjacent private lands. The SGEIS and the Regulatory Impact Statement for those said proposed regulations are fatally defective as a matter of law because there is no analysis of the impacts of HVHF drilling to access state owned natural gas from those adjoining private lands.

Local residents have been attracted to the tranquility, and recreational opportunities State Forests have to offer. In these communities, businesses have also developed to cater to the demands of tourists. Transforming these once quiet communities into industrial areas will have a negative impact on the local economy that was not analyzed, or accounted for in the rdSGEIS's socioeconomic impact study.

An analysis of the DEC Strategic Plan for State Forest Management and individual Unit Management Plans for State Forests and Wildlife Management Areas reveals that many owners of private properties adjoining these public lands manage their own lands to augment and increase the ecosystem and natural resource values of the state lands. Many adjoining owners intentionally bought lands adjacent to State Forests and wildlife management areas because they wished to protect their properties from development threats on adjoining private lands. Despite the extensive admissions by DEC in Section 6.4 of the SGEIS, especially 6-4.4, of the impacts of HVHF operations and forest clearing on the ecosystem, the SGEIS lacks any discussion or analysis of the obvious fact that in order to tap the natural gas from under state owned lands, HVHF surface activities will have to be concentrated on the periphery of state lands.

Many homeowners, who have spent years enjoying a tranquil setting, are uncomfortable with the DEC not only be the agency in charge of determining whether or not an area is suitable for drilling, but also being in a position to collect royalties from leasing their own mineral rights. Frustrating this process further, is that there is no commitment in the current rdSGEIS that there will be a public process if leasing of state land is to occur. ADK would expect that if the DEC does intend to lease its mineral rights, at the very minimum, this process should be open for the public to participate.

Whether a landowner voluntarily enters into a "lease" of his subsurface gas rights or New York's compulsory integration law forces an owner who does not wish to lease their land into a drilling pool, the result is the same. The owner's fee estate is no longer a full bundle of rights; the subsurface natural gas rights are permanently alienated. This alienation severs the gas rights from the fee estate and permits a hazardous industrial process under the land that will result in the breach of many existing mortgages and could prevent access to mortgage loans, liability/casualty insurance and title insurance. HVHF activities would trigger the exclusions of most homeowner's casualty and property liability coverage. To quote Ms. Radow:

> "It is worth noting that Wells Fargo, one of [fracking company] Chesapeake's lenders, stands among national lenders that do not grant mortgage loans to homeowners with gas leases" See Radow, page 17, November/December 2011 NYSBA Journal.

ECL Section 23-0901 authorizes a driller, facilitated by a DEC hearing process, to force an unwilling property owner into a drilling pool unit if the driller controls 60% or more of the acreage in a spacing unit. To paraphrase Elizabeth Radow's legal analysis, DEC's compulsory integration law eliminates a homeowner's right to control the homestead, creates financial liability for the driller's actions by failing to hold the homeowner harmless for those actions in the DEC compulsory integration order and jeopardizes access to a mortgage or the ability to sell the property.

If New York State enters into a lease for DEC managed lands, the driller can easily use the leased state acreage to design spacing units to force a maximum number of unwilling landowners into the compulsory integration process. This is particularly egregious and unfair because the DEC Division of Mineral Resources (DMR) is the decision-maker on the issuance of a given state land lease. The same DMR approves the driller's desired spacing unit. It is the DMR that compels the unwilling landowners adjacent to state property into the forced pool and issues the legal order that alienates the unwilling landowner's natural gas rights notwithstanding any detrimental impacts on that person's legal title or real property interest.

The foregoing is an ethical and equitable reason for the DEC to refuse to enter into gas leases for natural gas rights under state forests, state parks, unique areas and WMAs. If DEC leases lands that are proposed as part of a spacing unit or forced pool, DEC is the financial beneficiary, prosecutor, and judge in the administrative law process that seizes an unwilling landowner's natural gas rights. This integration order jeopardizes his access to a mortgage, violates his existing mortgage and impairs his ability to sell his property.

In many cases of lands adjacent to state forest and wildlife management areas, the landowners are managing their lands to compliment the ecosystem and habitat management protection conducted by DEC. Thus, any proposed HVHF state lease must evaluate the impacts discussed in Section 6.4 of the SGEIS on the whole natural community or ecosystem, both public and private land where the proposed HVHF facilities and infrastructure would need to be located to fulfill the terms of the state HVHF lease, including all necessary roadways, feeder and transmission pipelines and compressor stations. The State should not enter into any HVHF leases which would require the construction of additional roads, gathering pipelines, transmission pipelines and/or compressor stations on state forests, state parks, and wildlife management areas.

The State should not enter into any HVHF leases that would cause any significant damage to forests, wildlife habitats and ecosystems that exist on both sides of these boundaries. ADK emphasizes that these tract assessments involving adjoining public and private lands would only occur if the State entered into a lease for HVHF gas exploitation beneath state owned land where the HVHF facilities and infrastructure would have to be on adjoining private lands of similar biodiversity and natural communities.

Moreover, the compulsory integration process provides no financial or legal remedy for the loss, diminution or impairment of the unwilling landowner's real property rights. The State's lease of gas rights in property that may become part of a "spacing unit" that includes unwilling owners is a serious legal conflict of interest. The compulsory integration statute does not give DEC any legal remedy to compensate unwilling landowners for the diminution of his real property's value.

The SGEIS utterly fails to analyze or discuss the impact of this intensive HVHF industrial activity right on the border of State Forests and Wildlife Management Areas. There is no discussion of the destruction or degradation of existing ecosystems and/or natural resource values where a landowner has maintained his land adjacent to the State Forests/Wildlife Management Areas to extend or expand the wildlife and forest communities of those public lands.

There is no cost benefit analysis in the SGEIS of the impact of HVHF driven forest fragmentation and habitat destruction on plant and animal communities that span the private-state boundary. ADK anticipates that the concentration of HVHF well pads around the periphery of public land to maximize the recovery of state owned natural gas will result in the concentration of roads, gas feeder and transmission pipelines and compressor stations around the periphery of State Forests and Wildlife Management Areas. Since many State Forest Units are not that large in area, this concentration of HVHF facilities and activity around State land boundaries will seriously degrade the visual aesthetics, forest character and susceptibility to invasive species of the state lands.

The SGEIS fails to discuss this very substantial environmental impact of any state decision to lease natural gas under State Forest and Wildlife Management Areas. No mitigation is discussed and no alternatives are evaluated. The SGEIS fails to provide any environmental analysis of the very serious impacts to State Forests and Wildlife Management Areas which would be the consequence of any state leases for gas exploitation by HVHF. ADK believes the state should abandon the idea of leasing subsurface natural gas rights because we believe an honest, objective assessment of the environmental impact of concentrating HVHF facilities and operations on the edge of public forests and wildlife refuges will reveal that the impacts can not be mitigated. These unavoidable environmental impacts are as egregious as if the well pads and infrastructure had been allowed on state land.

For the reasons herein set forth, ADK submits that the State cannot legally enter into a lease authorizing HVHF natural gas exploitation of State Forests, State Parks, unique areas and Wildlife Management Areas because of the failure to discuss, analyze and respond to the environmental, legal and ethical issues and consequences of these leases in the SGEIS. The complete failure of the SGEIS to address the greater environmental setting of state lands subject to HVHF gas leases and adjoining private lands that constitute common ecosystems, habitats, surface, and groundwater protection is a fatal defect.

The designated State Forests are in DEC's own words: "highly valued for the recreational opportunities and for their contributions to ecosystem health." These areas are used by the public for hiking, mountain biking, snowmobiling, horseback riding, snow shoeing and cross country skiing. There are also portions that are used to protect and enhance rare threatened or endangered

species. DEC's sustainably manages these lands for multiple benefits including clean water, recreation, wildlife and scenic beauty. The DEC encourages New Yorker's to visit its wildlife management areas boasting the scenic vistas and reminding us that these lands are our lands. Drilling in these areas would go against the purpose for which they were created and would rob New Yorkers of the opportunity to utilize the special areas that they have invested in.

Accordingly, Parts 52 and 190 of 6 NYCRR should be amended to prohibit the leasing of state-owned land for surface and subsurface activities associated with HVHF. This prohibition would expressly prevent the Department from leasing state land to allow subsurface access to state owned natural gas and other mineral rights from locations adjacent to state owned land.

The 1992 GEIS stated that the impacts of gas drilling activities on visual resources of statewide significance are addressed on a case-by-case basis during the permit review process.[6] Included on that list are State Parks. ADK believes that all publicly owned lands should be included on the list as areas of statewide significance, and should be looked at case-by-case

We would also allege that the State is not subject to "forced pooling" of its lands under the provision of Section 23-0901 of the Environmental Conservation Law by virtue of the doctrine of sovereign immunity. The Legislature has enacted no law signed by any Governor specifically and unequivocally making the State (DEC) subject to the compulsory integration process. Such a specific and express statute would be necessary to abridge the strong presumptive defense of sovereign immunity.

In the event of an attempt by a driller to incorporate state forests or wildlife management areas into a spacing unit or forced pool, DEC could and should refuse to commence the ECL Section 23-0901 process. DEC is ultimately responsible for denying the driller a HVHF drill permit if the drilling activity would cause harm to ecosystems and habitats as outlined in Section 6.4 of the SGEIS, whether that harm occurred on state land or private lands adjoining state land.

Mitigation Measures

DEC is woefully understaffed to monitor and oversee the anticipated level of HVHF drilling applications and monitor the life cycle of each HVHF well pad. DEC's Division of Mineral Resources, the Division of Water, the Division of Lands and Forests, and the Division of Fish and Wildlife will all need substantial staffing level increases to properly monitor and oversee each phase of the HVHF gas exploitation process. No funding means have yet been identified to finance the hiring of these additional staff people. Additional staff at the Division of Water will be necessary to implement the new water withdrawal regulations and in conjunction with Department of Health staff, carefully monitor and test the groundwater, wells and aquifers in the immediate vicinity of HVHF well pads. Additional Division of Water staff will also be needed to monitor the storage, transport and treatment of all backflow and produced water, drilling mud and cuttings associated with the HVHF drilling process. Division of Water staff must be available to carefully evaluate the wastewater treatment plan for each spacing unit to ensure that the disposal method properly treats the contaminated liquids and solids before release into the environment.

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[6] *dSGEIS*, Section 3.1.1

Though ADK asserts, for legal, scientific and natural resource protection reasons that the state should not enter into any leases for exploitation of natural gas under state lands, should the state consider this leasing, additional Lands and Forests and Fish and Wildlife staffing will be needed to do tract assessments of environmental impacts to the private and state lands proximate to the proposed well pads and associated infrastructure, including the harm posed by roads, compressors and pipelines that would be necessary to comply with the terms of the state gas lease.

Mandatory Substitution of Fracking Chemicals

In order to reduce the risk of contamination associated with spills or storage failures, the use of benzene, xylene, formaldehyde, heavy naphtha, diesel fuel and other petroleum distillates should be prohibited by regulation 6 NYCRR Part 550, and in all permit conditions. Requiring the use of less hazardous alternative compounds is a well accepted method of risk assessment. Functional and far less dangerous alternatives exist and are already in use by some HVHF drillers.

SGEIS 7.1.3 – Disclosure of Fracturing Fluids and Backflow Water Analysis

DEC, as a mandatory pre-requisite to any HVHF drilling permit application, must require a full and complete disclosure of any and all fracturing fluid components so that appropriate remediation measures can be taken if a spill occurs. DEC should use express language in Regulation 6 NYCRR, Part 550, to require a full disclosure of all fracking fluid components with no allowed exceptions whatsoever for so-called “proprietary” chemicals or formulations. DEC must require the testing and inventory of all flowback and produced water recovered from the drilling bore. DEC must also require a chemical analysis and inventory of all drilling mud and drill cuttings resulting from the construction and operation of the HVHF drill site.

Stormwater, Spills and Leakage

As discussed in Section 7.1.9 of the SGEIS, DEC must via permit condition and regulation, prohibit the use of reserve pits for on-site storage of fracking fluids, brine, flowback and produced fluids, drilling mud and drill cuttings. All cuttings and drilling fluids must be managed on-site with a closed loop system. Under no circumstances should any on-site pit or storage excavation, lined or not, be used for the storage of any fluid, solid components or waste associated with the HVHF drilling process. Open air pits present an unacceptable risk to wildlife, especially waterfowl and for leakage and spillage, especially during heavy rain storms and flooding events. Open air pits of brine and flowback waters also result in uncontrolled methane emissions into the atmosphere. Surface impoundments associated with HVHF operations should never be permitted in New York. No HVHF permit should contain waivers to permit the use of surface impoundments or pits.

Mitigating Ground Water impacts associated with HVHF Drilling Sections 7.1.4 through 7.1.6

ADK believes that the triple layers of surface, intermediate and production steel casings with cementing between casings should extend at least 500 feet beyond the deepest freshwater zone encountered or 250 feet into bedrock, whichever is deeper and deep enough to allow the blow-out preventer stack to contain any formation pressures that may be encountered. There should be no waivers granted for exceptions to the intermediate casing requirement.

Treatment and Disposal of Waste Water and Brine from HVHF drilling operations, Section 7.1.8 – 7.1.8.1 of the SGEIS

Every HVHF well creates millions of gallons of contaminated fluids that contain highly concentrated brine, heavy metals like barium, strontium, bromides, total dissolved solids, aromatic hydrocarbons, VOCs and radioactive materials (NORMS) including radium. HVHF fluids, backflow, and produced waters and drill cuttings should be defined, treated and disposed as "hazardous wastes" under 6 NYCRR parts 370 – 373.

Municipal sewage treatment plants (POTW's) in New York are not designed or equipped to remove NORMS and separate dissolved salts and heavy metals from flowback fluids or wastewater. Highly briny wastewater can and does kill the bacterial cleaning component of POTW's. The DEC proposes to use the State Pollution Discharge System (SPDES) permit process to regulate the treatment and discharge of HVHF wastewater. The Department should not issue any SPDES permit for HVHF drilling unless the driller can demonstrate that a properly equipped wastewater treatment facility is capable of actually cleaning and treating the wastewater so it can be safely released into surface waters without <u>any</u> threat to human use or harm to aquatic ecosystems. Release of briny effluent from POTW's will damage freshwater ecosystems and is totally unacceptable. Equally unacceptable is treatment of highly contaminated HVHF wastewater simply by dilution without removal of the brines, heavy metals, NORMS, and hydrocarbons. Disposal of radium enriched solid waste from POTW pre-treatment of flowback water must be regulated and treated under 6 NYCRR Sections 360 and/or 380.

DEC must strictly enforce the effluent limitations for POTW's and private wastewater treatment facilities to ensure that release of pre-treated and treated flowback water and production brine does not, in any respect, exceed the maximum allowable concentrations or ranges under established physical, chemical and biological safety parameters to ensure that there are <u>no</u> harmful impacts to the receiving water body, its suitability for human consumption and its aquatic ecosystems.

Not a single POTW or private wastewater treatment facility in New York exists today that can treat and safely dispose of HVHF flowback water to the foregoing SPDES standards.

Deep Injection Disposal Wells

DEC should not issue any HVHF drilling permit where the drillers' wastewater disposal plan is the transport of these badly contaminated waters to a deep injection well. This method of disposal lets the driller off the hook for bearing the cost of properly cleansing and treating the water taken from New York surface sources and releasing the cleansed water safely back into regional water bodies. Deep well injection disposal of HVHF wastewater has recently been shut

down in Ohio as the link to earthquakes and seismicity is evaluated. New York should not dispose of highly contaminated HVHF flow back water and brine by contaminating the geological formations of another state. There has been insufficient study of the potential for future groundwater contamination and increased seismicity for New York to rely on this method of disposing of our HVHF drilling created wastewater and production brine.

7.1.9 Solids Disposal

Drilling cuttings should never be managed by means of a liquid reserve pit and the driller should never be permitted to bury them on site. They must be treated and disposed of at a DEC approved landfill that is constructed to prevent leaching, especially of acid rock drainage, into groundwater supplies. Annular disposal of HVHF drill cuttings should never be permitted.

SGEIS Section 7.1.11 Setbacks

DEC recognizes that setbacks provide a critical margin of safety should the operational mitigation measures fail. ADK asserts that 6 NYCRR 750.3.3 should be amended to require a 5,000 foot setback from the closest edge of a wellpad to any public or private water well and domestic water supply springs.

For multi-well pads and HVHF wellpads, the site disturbance associated with such operations should be separated by a 5,000 foot buffer from the boundary of any state forest, state park or wildlife management area. This would require an amendment of the currently proposed language of 6 NYCRR Sections 560 and 6 NYCRR 750-3-3.

ADK asserts that the buffer between any proposed wellpad and a perennial or intermittent stream, storm drain, lake or pond be not less than 1,000 feet and that a site specific SEQRA review be required for any proposed wellpad to be located with 1,000 to 1,500 feet of a perennial or intermittent stream, storm drain, lake or pond.

Flood Plains

As a result of recent storm events, when DEC's floodplain maps are updated 6 NYCRR Sections 500 and 750.3 should be amended to prohibit HVHF within 200 year flood plains.

Hurricane Irene not only brought devastation to New York, after two "100 year floods" in Schoharie in less than ten years it has become painfully obvious how out of date New York's floodplain maps are. We support the DEC commitment to:

> "Require, through permit condition and/or regulation, that high volume hydraulic fracturing not be permitted within 100-year floodplains in order to mitigate significant adverse impacts from such operations if located within 100-year floodplains."[7]

[7] rdSGEIS 7.2 Protecting Floodplanes

However, we are also concerned about the Department's ability to identify where these flood plains are before these maps are up to date. Because of recent frequent flooding episodes, all of New York should be treated with the precautions afforded to floodplain areas until these maps are up to date.

In consideration of New York's recent highly variable weather, there should be no exceptions for allowing open wastewater pits. Even up to date maps cannot ensure that an area will not flood, and creating a threshold of 300,000 gallons under which none of the proposed regulations would apply is arbitrary when considering the potential contamination if a pit were to flood. The rdSGEIS would leave drillers under 300,000 gallons without any regulations at all, giving operators the ability to skirt regulations designed to protect citizens from water contamination.

Freshwater Wetlands

ADK asserts that the regulatory buffer between any wetland indentified and protected as a "wetland" under the State's Freshwater Wetlands Program should be not less than 750 feet from the edge of the wellpad to the wetland area and that all wellpads proposed to be located between 750 and 1500 feet from said wetland be subject to a site specific SEQRA review. The proposed language of 6 NYCRR sections 560 and 750.3 should be amended accordingly.

ADK concurs with proposed Section 750-3.12.2 that requires the drill permit applicant to demonstrate that all flowback water and production brine will be treated, recycled or otherwise disposed of consistent with ECL Sections, Article 15 and 17 to ensure that there are no discharges of wastewater and production brine into state surface- and ground-water. However, ADK submits that the driller must also comply with 6 NYCRR parts 370 – 373 because these badly contaminated waters should be treated as "hazardous wastes".

Part 750-3.21(g) lists activities that are ineligible for coverage under the General Permit, but may be eligible for coverage under an individual SPDES permit. These proposed activities include construction of a centralized open air flowback impoundment, construction of HVHF on steep slopes, HVHF operations at certain depths of hydraulic fracturing and HVHF operations within certain buffers to water resources. ADK strongly opposes all of these proposed variances from Part 750—3.21 standards which were designed to protect the state's surface and groundwater resources. 750-3-21(a) must be amended to preclude these HVHF activities under any and all circumstances.

ADK believes that Part 750 should prohibit HVHF drilling where the top of the fracture zone at any point along the entire proposed length of the well bore is shallower than 2,000 feet below the surface and/or where the top of the target fracture zone at any point along the proposed length of the well bore is less than 1,000 feet below the base of a known water supply. ADK believes that these activities pose such substantial risk to principal, primary aquifers and groundwater supplies that they should be prohibited with no exceptions authorized by individual SEQR site specific assessment and permitting.

ADK believes Part 750-3.21 should be amended to prohibit an applicant from proposing a wellpad within 2,000 feet of a principal aquifer because the groundwater table in the principal

aquifers is overlain with sand and gravel and generally ranges from 0-20ft below the ground. Because these aquifers are often located in unconsolidated sand and gravel deposits, the high permeability of soils that overlie principal aquifers and shallow depth to the water table make these aquifers highly vulnerable to contaminations from spills, accidents, and wastewater/produced water overflows of HVHF operations. The 500 foot buffer proposed in the SGEIS is woefully inadequate and must be replaced by the said 2000 foot buffer.

The Department recognizes on page 21 of the Regulatory Impact Statement that surface contamination of primary and principal aquifer areas from HVHF accidents and surface spills could reach the aquifer and result in a permanent degradation of drinking water supplies. Wellpad accidents, major flood and storm events could result in surface spills of fracking fluids, flowback and production waters. The Department's own analysis demonstrates that 500 feet is an inadequate buffer for the degree of risk involved and ADK strongly suggests that 6 NYCRR Part 750 be amended to require a buffer of no less than 2,000 feet between a wellpad and the edge of a principal or primary aquifer.

For the same reasons cited above, no HVHF wellpad should be permitted, after a site specific analysis, any closer than 2,000 feet of water resources such as streams, ponds, and wetlands.

ADK strongly contends that there is simply no justification for, and great risk, in permitting open air flowback impoundments. Breaches of these impoundments from rain and flood events, risk to wildlife, especially waterfowl, release of methane from the open air pits are all proven events in other states. There should be no exceptions whatsoever for requiring that all fracking fluids, flowback wastewater and produced water be stored in closed loop metal storage tanks between site delivery and transport from the wellpad site.

As observed in the rdSGEIS the production and transmission phase of HVHF result in the leakage and venting of methane, ethane and propane, very harmful greenhouse gasses and volatile organic compounds (VOCs) including BETX volatiles (butane, ethylbenzene, tolune, and xylene. The BETX volatiles are vented as waste at natural gas compressor stations. Flowback, brine and produced water open pits or lagoons emit substantial quantities of natural gas, chiefly methane, into the atmosphere. Compressor stations are usually diesel or methane powered. Diesel engines running the hundreds of compressor stations necessary to transfer natural gas to consumers will emit air pollutants including BTEX.

The rdSGEIS does not analyze or discuss the cumulative impacts of these harmful emissions from the potential thousands of HVHF wellpads, pipelines, compressor stations, and hydraulic pumps in addition to the emissions generated from the 18 wheeler trucks that will be traveling to and from these sites. New York already has seriously compromised air quality from coal and oil power generation in the states to the West of New York. The rdSGEIS does not attempt to estimate the cumulative impact to New York's air quality from HVHF drilling infrastructure.

ADK does not believe that any permits authorizing HVHF should be issued until this critical air quality evaluation is done and mitigation measures are identified and mandated. One obvious mitigation method, running compressor stations with electricity, is never discussed.

ADK is encouraged that DEC proposes to conduct a rule making process that will formalize final SGEIS recommendations, permit conditions, and requirements in legally enforceable regulations. However, we strongly oppose the DEC's plan to process and issue permits authorizing HVHF before these regulations are legally adopted. Public health, safety risks, and New York's air quality will only be adequately protected if HVHF regulations are legal, adopted and enforceable before the first permits are issued.

Despite our concerns, there have been several improvements to the latest version of the rdSGEIS, however we remain concerned about the issue of local control. Since the dSGEIS released in 2009 it appears the department's position has changed. In the 2009 draft DEC stated that "limitations on development are more appropriately considered in the context of policy making, primarily at the local level, outside of the SGEIS."[8] Since the 2009 draft, several local governments have enacted zoning regulations that would preserve the character of their communities. However, in the most recent draft, it sounds as if the DEC has changed its position. Now DEC will be taking the policy making done at the local level "into consideration" while still retaining the right to issue permits even if those permits would be in violation of local zoning. For other extractive mining operations, the courts have held that localities, as long as they are not attempting to regulate the process, do have the right to control zoning, and we believe this the final Environmental Impact Statement should reflect that more clearly. See Frew Run Gravel Products, Inc. V. Town of Carroll, 71 NY2d 126 (1987)

Improvements were made to the previous draft with a commitment to prohibiting the industry from storing flowback water either in reserve pits on the well pad or in centralized impoundments without site-specific environmental review.[9] ADK believes that a thorough review of the impacts involved with these types of pits will reveal that these impoundments pose an unnecessary risk to the environment that could otherwise easily be mitigated with watertight tanks located within secondary containment.

In Pennsylvania we've seen first hand the severe environmental impacts open pits have had on the landscape. This wastewater not only laden with chemicals used for the fracking process, it is also returning to the surface with heavy metals like bromine, radium, and strontium, from beneath the earth. Watertight tanks located within secondary containments are necessity if this process is to be permitted in New York. Allowing for hazardous waste to sit in an open pit susceptible to flooding is a disaster waiting to happen.

New York is currently fortunate enough to enjoy an abundance of clean water. Looking into the future, availability of this necessary resource is a major concern to many New Yorkers. With the potential of thousands of wells across the state, each potentially requiring millions of gallons of water, the vast majority of which will not return to the surface this practice will inevitably have a major negative impact on our water resources. We are pleased to hear that the industry intends on recycling flowback water, however we would urge the DEC to take an active role in monitoring where water for this practice is coming from and going to rather than relying on the industry to maintain such records.

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[8] *dSGEIS*, Section 6.13.2.1, "Rate of Development and Thresholds"

[9] *SGEIS*, Section 1.1.1.1 Use of Reserve Pits or Centralized Impoundments for Flowback Water

Despite industry efforts to achieve 100% recycling, it is not the current reality, and waste water disposal must be technologically feasible and practical before HVHF is permitted. This flowback wastewater cannot be treated by conventional wastewater treatment plants. Only a handful of plants in the whole Northeast exist that can handle this briny and contaminated water. These plants are obviously too few and too limited in capacity to cleanse the anticipated billions of gallons of wastewater.[10]

The DEC certainly made a step in the right direction by requiring a disposal plan that must be approved by the department, along with treating the water as medical waste. However, ADK will continue to urge the DEC to classify and treat this water as the hazardous waste that it is. Also, without proper enforcement and monitoring there is no guarantee that these disposal plans are being followed. Under the current proposal the forms that track waste water would be held by the companies, leaving the DEC and the public without access to them. During the current moratorium the DEC has issued approximately 1,000 permits for vertical hydraulic fracturing; despite several requests they have been unable to answer where the water is going. This is unacceptable, all of the plans and reports should be held at a central office where the public has the ability to gain access to such files.

Moreover, desalinization plants require a great deal of energy to operate while generating air pollution and greenhouse gas emissions. The rdSGEIS fails to adequately address the serious gap between the amounts of flowback wastewater produced by the anticipated level of gas drilling operations in New York compared to the capacity of existing specialized wastewater treatment facilities that are able to properly clean waste water.

More concerning is that the DEC is still listing deep well injection as a possible disposal method. New York State's Geologist, Taury Smith, despite his strong advocacy for HVHF, concluded that New York's geology would not allow for this disposal method. If this is the State Geologist's position, it should be reflected in the final environmental impact statement that this is in fact not a viable option.

The natural gas located beneath New York's surface is not going anywhere. We have seen the devastating effects that Pennsylvania has suffered as a result of not understanding a practice they have been permitting. If there is one thing New York can learn from Pennsylvania it is that there is no need to rush this process. The EPA is currently studying this practices impact to drinking water with the preliminary results expected to be released this year.

The original intent of preserving State Forest areas is to provide a natural experience to the public for recreation, scenic and ecological values. These valuable public lands are currently managed for watershed protection, public recreation, wildlife habitat and open space conservation. With the DEC acknowledging that HVHF, and the siting of necessary infrastructure is in fact incompatible with the objectives for which these lands were acquired, we believe that the DEC should also conclude that leasing of these lands would be equally inappropriate.

[10] Hazen and Sawyer Report, p.44.

ADK understands the economic hardships facing New York State but stresses that we must not allow our unique historic and natural environment to be sacrificed to industrialization for short term energy resource opportunities.

ADK strongly believes that economic growth and environmental sustainability can be achieved with cooperation between state and local governments, residents, and the environmental community. Thank you for the opportunity to express our concerns and opinions. Please feel free to contact me with any questions.

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