Tompkins County

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Bradley J. Field, Director
Bureau of Oil and Gas Regulation
ATTN: Revised Draft SGEIS Comments
NYSDEC Division of Mineral Resources
625 Broadway, Third Floor
Albany, NY 12233-6500

RE: Revised Draft Supplemental Generic Environmental Impact Statement on the Oil, Gas and Solution Mining Regulatory Program: Well Permit Issuance for Horizontal Drilling And High-Volume Hydraulic Fracturing to Develop the Marcellus Shale and Other Low-Permeability Gas Reservoirs

Dear Mr. Field:

Thank you for the opportunity to comment on the Revised Draft Supplemental Generic Environmental Impact Statement ("rdSGEIS") for development of the Marcellus Shale. As we stated in our comments on the first draft of the dSGEIS, the Tompkins County Planning Department appreciates the work that went into the development of the rdSGEIS and the difficulties faced by NYSDEC in balancing the interest in protecting the environment while allowing for development of the State's natural resources. However, the rdSGEIS still contains so many serious deficiencies, even after considering the thousands of comments on the initial draft, that we are forced to conclude that the proposed drilling activities using current technology should not be permitted at all in New York State. That is the formal position of Tompkins County as stated in a resolution of the County Legislature adopted on December 20, 2011.

Nonetheless, we are providing our comments in two sections: the first are major conclusions that we have drawn and believe that the NYSDEC must address before the rdSGEIS can be considered complete and the second are specific comments corresponding to topic areas identified by the NYSDEC for electronic submittals:

1. Additional changes you think should be reflected in the final SGEIS
2. General Comments on the 2011 revisions
3. New sections on socioeconomic conditions, impacts and mitigation
4. New sections on visual and noise impacts and mitigation
5. New sections on existing transportation conditions, impacts and mitigation
6. New sections on community character, impacts and mitigation
7. New local government notification and coordination requirements
8. Prohibition on well pads in NYC and Syracuse watersheds and 4000 foot buffer
9. Requirement for site-specific SEQRA determination for certain water withdrawals
10. Passby flow: calculation methodology and well permit conditions
11. Requirements related to forest and grassland focus areas

12. Requirements for invasive species management plan & practices to reduce habitat/wildlife impacts
13. Air permit process & well permit conditions for avoiding or mitigating adverse air quality impacts
14. Greenhouse gas mitigation requirements
15. Comments on other revisions that are included in the 2011 dSGEIS

MAJOR CONCLUSIONS

1. The Revised Draft SGEIS does not comply with SEQRA. The rdSGEIS does not: a) evaluate all of the generic impacts of Marcellus Shale drilling on the environment and public health, b) require mitigation measures that sufficiently protect the public health and environment, and c) consider the impacts of the integral pipeline and pumping facilities necessary to carry the gas off-site; and d) most egregiously, the rdSGEIS does not address the cumulative impacts of gas drilling operations in any meaningful way.

2. The rdSGEIS fails to adequately address several classes of impacts. Perhaps most notably, it fails to adequately address the impacts on water resources, and fails to assess the cumulative life cycle impact of greenhouse gas emissions from natural gas development.

3. The rdSGEIS does not establish clear thresholds. While we acknowledge that people will disagree about which thresholds should be established, we dispute the claim that it is impossible to establish impact thresholds; the rdSGEIS should have done so and is a major failing of the rdSGEIS.

4. The permitting process should actively involve local governments. The rdSGEIS identifies several areas where local involvement would help to mitigate potential environmental impacts. However, although the rdSGEIS alludes to consultation with local governments when the applicant indicates that the proposed activity will not be in compliance with local plans or regulations, it does not propose any formal, consistent mechanism for providing that local input, nor does it clearly identify what authority local governments may have to impact the gas development process.

5. NYSDEC should have the resources required to enforce the required mitigation measures. The rdSGEIS identifies a number of mitigation measures that will require significant staffing to enforce. The rdSGEIS should clearly identify the specific resources that are required to implement its recommendations.

6. The rdSGEIS should have a sunset date. The technology utilized for natural gas drilling can and has changed. Establishing a sunset date on this activity would allow for the opportunity to require updates to technology that result in a reduction in negative environmental impacts.

ELECTRONIC SUBMITTAL TOPIC AREAS

1. Additional changes you think should be reflected in the final SGEIS

A) Assessing Cumulative Impacts

If the Marcellus Shale gas resource is as great as is estimated, then broad-reaching cumulative impacts to New York State are likely to occur. Although the past version of the SGEIS made some effort to evaluate the cumulative impacts of extraction of this resource, this rdSGEIS does not include dedicated sections addressing cumulative impacts. This is a significant failure of the document. Its failure to address cumulative impacts runs counter to the intent of a GEIS which is, in part, to assess impacts beyond just those that are site or project specific.

We believe that it is possible to estimate the rate of well development and to define the thresholds at which development results in adverse noise, visual, traffic, water quality, and community character impacts.Many

communities have undertaken this type of analysis as part of their comprehensive planning process. In contrast to gas drilling, most existing industrial land use was sited after years of careful planning at the municipal level and review of site plans for specific activities and sites. This planning process assured that industrial land uses were located in areas that have infrastructure sufficient to support the activity, including major highways and public water and sewer infrastructure, and do not conflict with valued natural resources. Gas drilling, on the other hand, is likely to occur in areas that are not designated for, nor suitable for, industrial land uses, that have little or no infrastructure adequate to support the activity, and that have not been subjected to a comprehensive planning process to evaluate the impacts of this development.

The Tompkins County Planning Department has quantified some of the potential impacts within Tompkins County. These analyses could be extrapolated statewide and calculated county by county.

- If built out to the horizontal drilling spacing standards outlined in the rdSGEIS, Tompkins County could anticipate one three-acre site per 40 acres or one five acre industrial site per square mile (640 acres). In Tompkins County, assuming that a five-acre multi-well pad is located every square mile (the development pattern that would create the least cumulative impacts), and assuming that well pads would not be located within city or village boundaries, a total of 512 well sites could be developed. Further assuming that eight wells would be developed on each well pad, we can begin to estimate the potential cumulative impacts of well drilling in Tompkins County.

- Over 2,500 acres of land could be directly developed as well pads and nearly 60 miles of access roads to the well pads could be built. This would double the total industrial land use in Tompkins County. In Tompkins County under these conditions, over 1,000 acres of forestland would be developed and the forested landscape would be further fragmented (over 150 miles of 'edge' would be created).

- According to the rdSGEIS, each well could utilize 5 million gallons of water for hydro-fracking activities. Under the build-out conditions in Tompkins County this would result in total water usage of over 20 billion gallons. The three major water supply plants in Tompkins County together use 7.17 MGD or 2.6 billion gallons of water per year. In other words, even if Marcellus Shale development was spread over 30 years, the potential use of water for the hydro-fracking activities would be equivalent to 25% of all the water supplied by these public water supply systems during that time. If the build-out occurred over 10 years, the water used would equal 77% of the water supplied by these public water systems.

- According to the rdSGEIS, the development of a single well would generate 1,200 truck trips. According to the Ithaca-Tompkins County Transportation Council, the Metropolitan Planning Organization for Tompkins County, there are 602,250 heavy truck trips annually on State highways in Tompkins County. Thus the development of nearly 4,100 wells in Tompkins County would generate the equivalent of a 27% increase in heavy truck traffic on State roads in Tompkins County, if it occurred over 30 years and an 82% increase in heavy truck traffic on State roads if it occurred over 10 years. What is even more significant is that very little of the current heavy truck traffic utilizes local roads, but it could be expected that virtually all of the trips generated by well drilling activity would use county and local roads for a portion of those trips.

In analyzing any proposed development, particularly industrial uses, a host of qualitative and quantitative analyses are required. These include analyses of viewshed and traffic impacts of large-scale projects to assist in assessing if they should be permitted and, if so allowed, what mitigation measures should be required. NYSDEC should conduct a "full-build out" analysis of the cumulative impacts that wells, gathering lines, water storage facilities and roads will have on the New York State landscape. NYSDEC should clearly assign a major role to local governments to review site plans for well pads, just as it does with other land uses. However, NYSDEC has asserted that local authority to review such activity has been precluded by the State

of New York. The result will almost certainly be the degradation and fragmentation of our natural areas and rural landscape with serious negative impacts on a rural quality of life. The failure to address cumulative impacts on the landscape and on communities is a fatal flaw that undermines everything else in the rdSGEIS.

We appreciate that the rdSGEIS provides a State-wide methodology for identifying and addressing cumulative water withdrawal impacts and is assessing recent annual withdrawals in the Pennsylvania Marcellus Shale region. The recently enacted Water Resources Law will most certainly be useful by providing for NYCDEC's statewide regulation of water withdrawals over 100,000 gallons per day. However, we note that proposed regulations for the new Water Resources Law are not yet enacted, and to ensure the safety of groundwater resources, these must be in place prior to issuing any permits for gas drilling. Proposed regulations have recently been released for review. The implementation schedule of when businesses are required to get permits for withdrawals is unacceptable. Under the proposed regulations, the DEC will address the largest water withdrawals first (millions of gallons per day) and operations withdrawing closer to the 100,000 benchmark will not have to get a permit until February 2017.

B) Mitigating Cumulative Impacts

The rdSGEIS is silent on the question of how cumulative impacts of gas drilling can be mitigated. There are several ways to address some of the identified cumulative impacts. The following are offered as examples of how several of the more obvious cumulative impacts could be addressed. We believe that this aspect of the rdSGEIS needs to be completed and re-submitted for public comment.

Fragmentation of our forested landscape is one clearly identifiable cumulative impact with resulting adverse impacts on wildlife, watersheds and outdoor recreation, among others. State Parks, Forests and Wildlife Management Areas are the foundation of our State open space system. While we applaud the newly proposed prohibition of surface drilling in New York State Parks, Forests, and Wildlife Management Areas, we also recommend a prohibition of new roads and pipelines in these areas, in order to prevent the adverse edge effects on wildlife and ecosystems that are well documented in the rdSGEIS (Page 6-74). Furthermore, drilling should be prohibited underneath these important state-owned lands. Adverse impacts of drilling on public lands can be clearly seen in the experience in the Allegheny National Forest in Pennsylvania. These should be avoided in New York State to protect the public's long-term investment in our open space resources.

A complementary action could be to establish a land protection mitigation fund that would require well drillers to contribute monies to a state-operated fund that would protect targeted open space lands and help mitigate some of the impacts on wildlife due to habitat fragmentation. An appropriately funded land protection mitigation fund should be considered as a mitigation measure for those drilling impacts that would have an adverse impact on 150+ acre forest patches and 30+ acre grasslands, regardless of whether they are in the proposed Forest or Grassland Focus Areas, in addition to the Department's consideration of requiring easements and habitat enhancements (Page 7-86). This fund should additionally be considered for federal, state or locally designated important conservation areas which are not included in the SGEIS' established Focus Areas.

Similarly, if it can be shown that greenhouse gas emissions can be limited to an extent that would make the exploitation of this resource a viable energy alternative, a greenhouse gas mitigation fund could be established to pay for programs that achieve measurable reductions in energy use or carbon emissions to offset the increased emissions that will occur. The rdSGEIS does a thorough job of assessing the greenhouse gases that would be emitted from individual drilling operations. However, as with many other identified impacts, it fails to take the next step of adding up the cumulative impact over time. This is a particularly serious omission in the case of greenhouse gas emissions. For example, using the figures identified in the rdSGEIS, the Tompkins County Planning Department has estimated that the lifetime greenhouse gas emissions from one eight-well pad would be roughly equivalent to one year of GHG emissions from the Tompkins County community. A mitigation fund should be required to help offset these greenhouse gases

through new or existing NYSERDA programs or through direct grants for such purposes to municipalities in affected areas. Moreover, emissions thresholds should be established for each well as a permit condition and both best practices and emissions monitoring should be required to assure that the emissions threshold is not exceeded.

In a related vein, the issue of groundwater contamination could be similarly addressed. The rdSGEIS states that the risk of groundwater contamination from well drilling is small. However, given the potential scale of development in New York State, the sheer numbers involved will almost guarantee that somewhere, at some time, such contamination will occur. For example, if the chance of contamination were only one one-hundredth of one percent for any one well, and if 5,000 wells were drilled in Tompkins County, the chances of groundwater contamination happening at least once would be nearly 40%. The cost of cleaning up contaminated groundwater can be ruinously high. A fund for groundwater cleanup could be established with contributions from all well drillers. The State would then have funds available to help pay potential cleanup costs and to do so promptly.

We would like to emphasize that such mitigation funds would not be an unfair burden on the industry or upon those who hope to profit from natural gas development. Rather, such funding mechanisms would prevent the very real costs of such development from being transferred to the general public or private individuals. The funds will provide the resources necessary to mitigate the impacts that would otherwise degrade our commonly held resources. This could help assure that the costs of cleaning up from or offsetting the impacts of this development are borne by those who most benefit from it. If, as some in the industry have suggested, such mitigation funding requirements would discourage natural gas development or make it uneconomic, that is simply a tacit admission that the benefits of drilling do not outweigh the costs in environmental and community degradation.

C. Establish Environmental Impact Thresholds

The rdSGEIS should establish clearly stated, mandatory, measurable environmental impact thresholds. That the rdSGEIS did not do so is a major failing. One approach to this issue is to compare potential rates of development that could reasonably be expected based on what is known of the resource, the industry, and experience in the development of similar energy resources. The impacts of varying rates of development could then be assessed and either the pace controlled through the permitting process, in order to mitigate identified impacts of rapid development, or additional mitigation measures could be identified that would be required if the pace of development reaches specified thresholds.

To take just one example, there can be no doubt that there is a traffic impact on a community from the large number of truck trips required to develop even a single well. The fact that this will be deemed as a significant community impact is indisputable. The recent experience and public outcry over trash-hauling trucks in the Finger Lakes region is testament to the public's attitude toward and the very real impacts of increases in heavy truck traffic. Those trucks were much fewer in number that is projected from the gas drilling activity and were traveling almost exclusively on State highways.

D. Incomplete Information

There are several places in the rdSGEIS that acknowledge that reports and studies being undertaken by others would have been helpful in assessing and mitigating the potential environmental impacts of the gas drilling operations. These include the proposed state invasive species management plan (page 7-88) and the need to better understand the variability of NORMs in the Marcellus formation (page 7-119). The rdSGEIS should not have been issued until the reports that are underway were completed so that the public would have had an opportunity to review them and make comment based on the information contained within them. Completion of the SGEIS should be suspended until an additional supplement can be prepared to include this information.

E. Sunset Provision

The technology used by gas drilling operations is constantly evolving. We have heard of trial efforts in Canada to use propane rather than water for well fracking. This has the potential, at least, to limit some of the adverse environmental impacts associated with hydraulic fracturing activities. We understand that the rdSGEIS could not address these potential future technologies. However, the SGEIS can, and should, establish a regular review of technological advances that have the potential to reduce adverse environmental impacts of gas drilling activities. We suggest a five-year time period for NYSDEC to undertake these reviews in order to help protect the state's natural environment.

2. General Comments on the 2011 revisions

A. Non-compliance with SEQRA

The Revised Draft SGEIS does not comply with SEQRA. The rdSGEIS does not: a) evaluate all of the generic impacts of Marcellus Shale drilling on the environment and public health, b) require mitigation measures that sufficiently protect the public health and environment, and c) consider the impacts of the integral pipeline and pumping facilities necessary to carry the gas off-site. Most egregiously, the rdSGEIS does not address any of the cumulative impacts of gas drilling operations in any meaningful way, fails to adequately address the impacts on water resources, and fails to assess the cumulative life cycle analysis of greenhouse gas emissions from natural gas development.

a) Generic Impacts - The Marcellus Shale resource is fundamentally different from prior natural gas development in New York State in that it is anticipated to be of relatively uniform distribution within a broad geographic area, which is likely to lead to more intensive well development with the attendant network of access roads, pipelines and other facilities. It also requires a tremendous amount of water with chemical additives resulting in an additional anticipated infrastructure impacts and energy use to both deliver water to the site and address wastewater treatment issues. These are likely to result in cumulative impacts of a scale and intensity unlike any prior natural gas development in the State, requiring an in-depth cumulative impact analysis that is lacking in the rdSGEIS. Such a cumulative impact analysis would point out conflicts between the proposed activity and the New York State Open Space Plan and the State's Greenhouse Gas Emission reduction goals and strategies. These conflicts are not even identified or acknowledged, much less addressed, in the document.

b) Mitigation Measures - The rdSGEIS is incomplete because it inadequately addresses the impacts and mitigation measures required for those aspects of the process that are addressed in the rdSGEIS. In several instances, the rdSGEIS identifies potential environmental impacts of proposed drilling operations but fails to recommend any mitigation measures to address those impacts. In other cases, although mitigation measures are identified or alluded to, they are left as suggestions for operators to implement and not required. The NYSDEC could either ensure that mitigation measures are permit requirements for operations, or require that operators select an array of Best Management Practices that achieves clearly stated, mandatory, measurable environmental impact thresholds set by the NYSDEC. As these mitigation measures are found in various areas throughout the document, it is difficult to identify all of the sections where required mitigation measures should be incorporated into the regulations. The draft regulations should not have been issued prior to completion of the SGEIS.

The rdSGEIS is inadequate in addressing the impacts on water resources. The primary difference in the process for extracting natural gas from the Marcellus Shale versus conventional drilling is the tremendous amount of water used consumptively in the hydraulic fracturing process and the huge volumes of wastewater resulting from the process. Although a number of measures are identified in the rdSGEIS with respect to addressing impacts on water resources, they are generally not sufficiently protective of this precious resource. The NYSDEC should, in all cases, require the most protective measures identified to mitigate potential adverse impacts on water quality. For example, the rdSGEIS should treat all municipal water supplies equally. The hydraulic fracturing ban proposed for the New

York City and Skaneateles Lake Watersheds should apply to the watersheds of all municipal water supply systems.

Perhaps most problematic among the water resource issues is the manner in which flowback water is to be handled, where the treatment option requires a characterization of the flowback water that cannot be accurately conducted until drilling has occurred and wastewater has been generated. This creates the prospect of wastewater needing to be stored indefinitely in holding structures with no adequate treatment option available.

Additionally, the rdSGEIS admits that threats to drinking water supplies from accidents, construction activity, runoff and surface spills in Primary and Principle aquifer areas cannot be fully mitigated and "partial mitigation would be unacceptable due to the potential consequences posed by such impacts. Therefore, the Department concludes that high-volume hydraulic fracturing operations have the potential to cause a significant adverse impact to the quality of the drinking water resources provided by Primary and Principal Aquifers, even if the risk of such events is relatively small."

c) Segmentation of the Action - The rdSGEIS also improperly segments the SEQR process by failing to address the impacts of development of pipelines and pumping facilities necessary to transport the natural gas from the well sites to major transmission lines. The Public Service Commission, which regulates those facilities, should clearly be identified as an involved agency and included in a coordinated review of the SGEIS process that considers all aspects of the process of developing the Marcellus Shale resource, including all cumulative impacts.

B. Necessary Enforcement Resources

NYSDEC should have the resources required to enforce the required mitigation measures. The rdSGEIS identifies a number of mitigation measures that will require significant staffing to enforce. One could infer that some of the hedging on whether DEC inspection of certain activities will be required may be the result of uncertainty regarding staff resources that will be available. The SGEIS should clearly identify the specific resources that are required to implement its recommendations.

3. New sections on socioeconomic conditions, impacts and mitigation

Page 1-11. The NYSDEC states that it will "consider whether significant adverse impact relating to land use and zoning would result from permit issuance." It is not stated who exactly will determine this and based on what criteria. Any use not in compliance with land use plans and zoning is by definition a significant impact if it does not go through a municipal review process. No single regulatory official should be able to make this determination which has been delegated to local municipalities by New York State law. The SGEIS should clearly indicate what will happen if the answer is "yes".

Page 6-209. Although the rdSGEIS uses a scenario where well development increases until year 30 and then ends, it also states that "In actuality, well development would more likely gradually ramp up, reach peak and then gradually ramp down .... This assumption ... does not significantly affect the socioeconomic analysis." This statement is incorrect. The boom and bust aspect of natural gas development is among the most significant factors impacting communities. Moreover, DEC itself recognizes that the pace of development in an area does make a difference. See sec. 7.8 p. 7-120. The SGEIS should develop more realistic scenarios regarding the actual likely pace of development and the associated impacts.

Page 6-224. Projects peak production in 2043, just seven years short of the year during which carbon emissions must be reduced by 80% per State climate change goals. The question should be asked and answered, "Is this level of production consistent with that goal and would it even be possible to achieve it with this level of natural gas production and use?"

Page 6-230. States that "some industries may contract …" and specifically identifies tourism and agriculture but doesn't mention higher education, high tech and health care where the ability to attract qualified staff may be adversely impacted by industrialization. These are among the key regional assets and opportunities noted in the Southern Tier Regional Economic Development Council Strategy. There is no serious attempt to quantify any of the adverse economic impacts. Also, no attempt is made to address the larger economic issue of what the boom and bust gas economy does to attempts to establish a healthy sustainable economy based on clean energy, diverse agriculture, technology, higher education and health. Industrialization of the landscape and adverse impacts on communities from drilling activity undermine and run counter to all of those community economic development goals.

Page 6-231. The rdSGEIS mentions an example of a healthy tourism economy in Cattaraugus and Chautauqua counties despite 3,900 wells. These are not high volume horizontal hydrofracked wells and were not developed at the pace expected with Marcellus Shale development.

Page 6-232-233. Many assumptions about development are made without reference to actual experience in other areas, actual experience that is often at odds with those assumptions.

Page 6-233. It is stated that the initial workforce will be largely transient representing 77% of workers in year one and with absolute number of transient workers peaking in year 10. This impact would come when communities are least prepared to deal with it. The analysis projects peak population increase of 60,803 in New York State in Year 30 but that number declines to 14,829 in Year 40. Where do those people go? Since by year 30 90% of the workforce is projected to be permanent residents aren't they likely to remain and contribute to a high unemployment rate? If they do leave what does that do to the housing market, schools etc. in the Marcellus Shale region?

The analysis cites projected population declines in Region A (Broome, Tioga and Chemung) stating that gas drilling growth would offset 47% of projected population decline. This assumes that the region will be unsuccessful in creating a sustainable economy over the next 20 years. Also, the assumptions and conditions in all of the regions analyzed – stagnant population, higher residential vacancy rates, available lodging, high unemployment – do not reflect conditions in Tompkins County. In fact, generally, the opposite conditions exist across the board. Therefore, the socioeconomic analysis is of no value in assessing impacts upon Tompkins County where housing vacancy rates are low and costs already high, where unemployment is relatively low with a quarter of the workforce commuting from outside the county, where lodging occupancy rates are high and related vacancy rates nearly zero at many times of the year, and where population is growing. This clearly would require a supplemental environmental review of impacts for any gas permitting activity in Tompkins County.

Page 6-246. Large rent increases that have resulted in PA are recognized as a concern for low income residents. In Region A it is noted that 70% of vacant rental units and hotel/motel rooms would be occupied by transient workers. No attempt is made to actually quantify the negative impacts on resident renters and on tourism from this activity as well as impacts on government agencies providing social services and rental assistance and on room tax revenues and the programs they support. A true socioeconomic analysis would attempt to quantify these impacts and would recognize the social equity issues involved when a small number of landowners benefit immensely and a large number of people of limited means bear the brunt of the negative impacts.

Page 6-248. The rdSGEIS predicts an increase in the construction of housing. However, it does not evaluate the impact of this housing construction on the community. Transient housing is typically built to last about the length of the time it is projected to be occupied. According to the rdSGEIS this is probably less than 20 years with greatest demand occurring in the first 10 years. Given the time that it takes to design, permit and construct projects it is unlikely that transient housing needs will be able to respond in this time frame. Permanent housing may be built to some extent but the rdSGEIS does not address how the housing market

responds to a boom and bust economy. Housing prices are likely to rise dramatically with low vacancy rates and then fall precipitously as vacancy rates increase, neither of which contributes to a healthy housing sector which meets the needs of most residents. Entire age cohorts may find home ownership elusive for their families. Large numbers of children may grow up in communities without adequate middle to lower income family housing.

Page 6-251-253. Several studies suggesting drops in property values within 2 to 14 miles of gas wells are cited and a few studies with evidence of limited impacts regarding proximity to pipelines are also cited. From this the conclusion appears to be that proximity to a well could reduce property values but that the overall regional affect would be an increase in property values. No attempt is made to quantify the impact of, say, a widespread decrease of 5% in residential values vs. increases that may accrue to properties with gas leases. In Tompkins County it is estimated that only 6% of property owners have gas leases so, regardless of the cumulative impacts, which the rdSGEIS does not analyze, the impacts on actual residents could be widely divergent and the overall community benefit when considered in the context of individuals and families could well be extremely negative.

Page 6-255. With respect to State tax revenues the rdSGEIS states "However, given the many benefits in New York State tax code for energy companies … the taxable income from the natural gas industry would be greatly reduced. In addition, New York State offers an investment tax credit that could substantially reduce most if not all of the net income generated by these energy development companies." After acknowledging the potential limits of tax revenue to New York State the rdSGEIS then acknowledges but makes no attempt to quantify negative fiscal impacts on the state:

- Truck traffic resulting in increased highway maintenance.
- Need to upgrade roads and interchanges to handle increase in truck traffic.
- Increase in accidents.
- Increase in potential hazardous spills.
- Review and approval of transportation plans/permits.
- Environmental monitoring and oversight.
- Administration costs.

Local government costs are also acknowledged but not quantified:

- Road construction and repair.
- Emergency services.
- Public water supply systems.
- Education, health and welfare, recreation, housing, solid waste management

Page 7-120. The rdSGEIS states that DEC will monitor pace and concentration of development to mitigate adverse impacts at the local and regional levels. "The Department will consult with local jurisdictions, as well as applicants, to reconcile the timing of development with the needs of the community. Where appropriate the Department would impose specific construction windows within well construction permits in order to ensure the drilling activity and its cumulative adverse socioeconomic effects are not unduly concentrated in a specific geographic area." The DEC does not explain how this would be determined or by whom. These types of decisions are typically made by elected municipal boards or by planning and zoning boards of individuals appointed to represent their community. It is hard to imagine how anyone else could "reconcile the timing of development with the needs of the community." Moreover, because of the fact, recognized elsewhere, that this work, especially initially, will be done by transient workers there will likely be incredible pressure to intensively drill a given geographic area before moving on.

Socioeconomic Impacts Conclusion
The Socioeconomic assessment goes to great length to identify and quantify all of the purported positive economic impacts of high volume hydraulic fracturing in the Marcellus shale and almost nothing to identify and quantify the negative impacts, including cumulative impacts, of a boom and bust economy that handsomely rewards the relative handful of economic winners and spreads the negative impacts upon just about everybody else. The complete disregard for the conflict between this boom and bust economy and the sustainable economy that communities throughout the Marcellus shale region are trying to develop is remarkable. The complete absence of an approach that would result in a balanced socioeconomic analysis that adequately assesses the actual benefits and costs equally and identifies the distribution of those benefits and costs suggests that this analysis was not undertaken with an intent to produce such a balanced assessment of the impacts.

4. New sections on visual and noise impacts and mitigation

Visual Impacts
Page 7-121. The rdSGEIS restates visual mitigation measures that are related to design and siting as well as maintenance and decommissioning measures. Each of these measures should be required as a condition of the drilling permit in both areas that are and are not identified as "visually sensitive areas". NYSDEC should additionally develop a Best Practices Manual to assist the State, local governments, and drilling operations in identifying the types of mitigation measures that can specifically be required (i.e. earth tone colors of storage tanks, avoiding ridgelines, preserving natural vegetation and minimizing uplights) as a condition of the permit approval.

Page 7-122. The rdSGEIS states that "Depending on the location of the well pad and the resource potentially impacted, it may also be necessary to consult with additional state and federal regulatory agencies to develop measures to mitigate visual impacts on specific types of visual resources or visually sensitive areas, including but not limited to…consultation with local (town, county or regional) agencies for locally designated visual resources or visually sensitive areas that were identified on the EAF." NYSDEC should require, as a condition of a permit, that applications be reviewed by local government against established local plans and regulations, including scenic resources inventories. Local governments should be involved by assisting in the identification of appropriate mitigation and design measures to reduce adverse visual impacts as well as other environmentally sensitive features.

Page 7-122. The rdSGEIS discusses the situations in which a Visual EAF Form will be used to evaluate the potential for those projects that may have an effect on aesthetic resources". NYSDEC should require that a Visual EAF for each application and further require appropriate measures to mitigate impacts.

Noise Impacts
Page 7-130. The rdSGEIS lists a number of noise mitigation techniques "that can be implemented as site-specific permit conditions". These techniques include specifying daytime and nighttime noise level limits, the use of noise reducing requirements, installing temporary sound barriers, and providing advance notification of drilling schedule to nearby receptors. The site-specific permit process should clarify noise thresholds and standards related to these measures and require them as a condition of the permit. The SGEIS should further require the involvement of local government in the noise mitigation planning process.

5. New sections on existing transportation conditions, impacts and mitigation

Page 7-138. The rdSGEIS indicates that as a part of the permit process the applicant must submit a transportation plan, which details proposed routes, parking/staging areas as well as other details such as whether the operator has entered into road use agreements with local governments. Due to local government's authority to retain control over their roads, they should be included in the review of the required transportation plan. The rdSGEIS further requires that operators "attempt to obtain a road use agreement with the municipality or document the reasons for not obtaining one." Road use agreements would

include route selection for maximum efficiency and safety, coordination with emergency management and highway departments, and road upgrades for water transport routes. The SGEIS should require the development of road use agreements with municipalities, not just make an "attempt." This must include agreements with all municipalities, including counties, whose local roads will be utilized by vehicles servicing or transporting fluids or materials to or from a well site.

6. New sections on community character, impacts and mitigation

Page 7-144-145. One proposed mitigation measure in the rdSGEIS suggests that applicants be required to identify through an EAF Addendum whether or not the location of "the well pad or any other activity under the jurisdiction of the Department, conflicts with local land use laws, regulations, plans or policies. The applicant would also be required to identify whether the well pad is located in an area where the affected community has adopted a comprehensive plan or other local land use plan and whether the proposed action is inconsistent with such plan(s)." The rdSGEIS indicates that "the EAF Addendum would require the applicant to identify whether the location of the well pad, or any other activity under the jurisdiction of the Department, conflicts with local land use laws, regulations, plans or policies." The SGEIS should require that NYSDEC consult with municipalities and counties that have established plans to determine the extent to which the proposed gas drilling activity is consistent with or inconsistent with the established plans and to identify potential mitigation measures to bring the proposed activities into line with these established plans. The rdSGEIS goes on to indicate that when these conflicts are identified the Department "intends to request additional information in the permit application to determine whether this inconsistency raises significant adverse environmental impacts that have not been address in the SGEIS." NYSDEC should also require that the affected county and municipal governments have an opportunity to be involved in the review of these EAF Addendums, to ensure applicants and NYSDEC capture and accurately address all issues identified in local planning documents. Furthermore, NYSDEC should clearly outline the specific authority that local governments have in their planning processes, with relation to gas drilling activity and infrastructure.

The SGEIS should further analyze the cumulative impacts beyond the 10 square mile estimate described in the dSGEIS. NYSDEC should instead estimate the amount of well activity likely across the state based on both industry and scientific calculations and then analyze the cumulative impact of those wells across the New York State landscape. This analysis should further include a determination of what full build-out of wells would look like and what community costs, mitigations and benefits would be associated with it.

7. New local government notification and coordination requirements

The rdSGEIS identifies several areas where local involvement would help to mitigate potential environmental impacts. However, although the rdSGEIS alludes to consultation with local governments when the applicant indicates that the proposed activity will not be in compliance with local plans or regulations, it does not propose any formal, consistent mechanism for providing that local input, nor does it clearly identify what authority local governments may have to impact the gas development process. NYSDEC should establish a formal process for local governments to have the opportunity to address these issues prior to the issuance of any permits.

Furthermore, if the rdSGEIS is purporting to rely on "local policy making" as a response to certain impacts, the document should clearly explain what type of process is contemplated and the authority of local governments to undertake and implement such a process.

The rdSGEIS identifies many issues, potential impacts, and mitigation measures that could benefit from a partnership between NYSDEC and local governments. In particular, local governments have experience in reviewing site plans for development projects of all types, including industrial development. NYSDEC should develop a procedure for the review of gas drilling site plans that takes advantage of this experience. NYSDEC could identify the scope of local government review of site plans (including such topics as noise impacts, visual impacts, highway access impacts and community character impacts) and could base its permit

conditions on recommendations made by local governments. A portion of the well permit application fee should be provided to local governments to support this local involvement.

In fact, there are many ways in which local governments can help to address some of the potential environmental impacts that have been identified in the rdSGEIS. Some of these include

- Helping to identify the existence of public or private water wells and domestic-supply springs near proposed drilling locations (page 7-71)
- Reviewing required visual impact mitigation plans (page 7-122)
- Reviewing existing comprehensive, open space and/or agricultural plans with regard to proposed drilling operations (page 7-144)

Of course, this will require that NYSDEC give local governments adequate notice of and time to review proposed plans as well as resources with which to undertake this activity. NYSDEC should require that applicants provide an adequate number of site plans for NYSDEC to provide to local governments, including County governments and regional planning agencies, for their review. Local governments should be given at least 60 days to review these plans and to submit their comments to NYSDEC. NYSDEC could then determine the appropriate measures to require of the applicant prior to the issuance of permits.

One of the most puzzling aspects of the rdSGEIS is the emphasis on the importance of local government planning, but it fails to explain the authority which local planning efforts and regulations retain in the review process. A proposed mitigation measure suggests that applicants be required to identify through an EAF Addendum whether or not the location of "the well pad or any other activity under the jurisdiction of the Department, conflicts with local land use laws, regulations, plans or policies. The applicant would also be required to identify whether the well pad is located in an area where the affected community has adopted a comprehensive plan or other local land use plan and whether the proposed action is inconsistent with such plan(s)" (Page 7-145 (Section 7.12)). The rdSGEIS goes on to indicate that when these conflicts are identified the Department "intends to request additional information in the permit application to determine whether this inconsistency raises significant adverse environmental impacts that have not been addressed in the rdSGEIS." NYSDEC should require this analysis and further involve the affected county and municipal governments in the review of these EAF Addendums to ensure that applicants and NYSDEC capture and accurately address all issues identified in local planning documents. Furthermore, NYSDEC should clearly identify the specific authorities that local governments have in their planning processes in relation to gas drilling activity and associated infrastructure. Several private legal authorities have suggested that local municipalities retain land use regulatory authority for aspects of drilling activities such as lighting, visual impact, noise, and site plan review, that do not directly regulate the drilling process. NYSDEC should further clarify the legal and regulatory authority at the local level.

Tompkins County and its municipalities, as an example, are not included in the rdSGEIS's defined "places" assessment of impacts on Community Character (Section 2.4.15) even though they are located in an area underlain by the Marcellus Shale in New York State. It is necessary to acknowledge that local governments across New York have expended time and resources defining and preserving distinct local community character, including in Tompkins County. Local governments should be priority partners that are involved when considering natural gas drilling, which will most certainly have local impacts..

Page 7-71. The rdSGEIS states that the "EAF addendum for high-volume hydraulic fracturing will require evidence of diligent efforts by the well operator to determine the existence of public or private water wells and domestic-supply springs within half a mile (2,640 feet) of any proposed drilling location." Evidence of diligent efforts should require contacting municipal and county officials for information.

8. Prohibition on well pads in NYC and Syracuse watersheds and 4000 foot buffer

Page 7-56. The rdSGEIS proposes a ban on hydraulic fracturing in the New York City and Skaneateles Lake Watersheds, though not in any other watersheds that are the sources of drinking water for municipalities across New York State. The hydraulic fracturing ban proposed for the New York City and Skaneateles Lake Watersheds should apply to the watersheds of all municipal water supply systems.

9. Requirement for site-specific SEQRA determination for certain water withdrawals

Page 7-5. The rdSGEIS states that the consumptive use of an average of 5 million gallons of water per day will require notice to the Great Lakes Basin Council. However, it is unclear how this will apply to gas drilling operations. Individual wells will not average 5 million gallons of water per day over a 90 day period but gas drilling operations as a whole may very well consume that much water. The SGEIS should clarify what specifically would be required. We recommend that permits be tracked in a way that allows notice to the Great Lakes Basin Council of cumulative use of water that meets or exceeds this threshold. Has this changed with law regulating water withdrawals? In 2011, the New York State Legislature passed and Governor Cuomo signed into law a bill that would better regulate water withdrawals in New York State. Now the Department of Environmental Conservation (DEC) is in the process of adopting new regulations to implement this law. Now for the first time, permits would be required for water withdrawals over 100,000 gallons per day for any commercial, manufacturing, and industrial purpose. However, the implementation schedule of when businesses are required to get permits for withdrawals is unacceptable. Under the proposed regulations, the DEC will address the largest water withdrawals first (millions of gallons per day) and operations withdrawing closer to the 100,000 benchmark will not have to get a permit until February 2017. Any permitting of water withdrawals for gas drilling should be required to comply with the regulations utilizing the 100,000 gallon threshold.

Page 7-6. The rdSGEIS states that the "Great Lakes Commission does not have regulatory authority similar to that held by Susquehanna River Basin Commission (SRBC) and Delaware River Basin Commission (DRBC) to review water withdrawals and uses and require mitigation of environmental impacts." This is true. However, NYSDEC can and should establish a similar mechanism to use for gas drilling withdrawals within the Great Lakes basin as a mitigation measure to address the potential impacts on water resources from gas drilling. This is another example of a cumulative impact that was not adequately addressed in the rdSGEIS.

10. Passby flow: calculation methodology and well permit conditions

Page 7-25. The rdSGEIS states that the "Significant adverse cumulative impacts would be addressed by the NFRM (Natural Flow Regime Method) described above because each operator of a permitted surface water withdrawal would be required, via permit condition and/or regulation, to estimate or report the maximum withdrawal rate and measure the actual passby flow for any period of withdrawal." Although it is not clear that this would be sufficient mitigation, NYSDEC should require this as a mitigation measure for all surface water withdrawals. Water withdrawal requests should be tracked and reported on a watershed basis.

11. Requirements related to forest and grassland focus areas

Though a few of Tompkins County's state parks and the Connecticut Hill Wildlife Management Area are represented within the protected "Forest Focus Area" as depicted on the Key Habitat Focus Areas Map (Figure 7.2, Page 7-80), several portions of or entire state forests and parks are missing. These include all of Shindagin Hollow, Newfield, Cliffside, Yellow Barn, and Potato Hill State Forests. It can be surmised that the 2009 New York State Open Space Plan was not utilized as a resource for developing the rdSGEIS, as that document identified Tompkins County State Parks Greenbelt and the Emerald Necklace (also omitted from mention in the rdSGEIS) as regional priority conservation project areas. This established NYS Open Space Plan could provide the basis for use of a land mitigation fund. Finally on this point, we believe that the Forest Focus Areas where mitigation is proposed are an example of misuse of areas designated for another purpose.

While these areas represent intact forested landscapes that are likely to be more resilient in the face of disturbances over time, other smaller forest patches are, by definition, less resilient and more likely to be degraded by gas drilling activity. In the face of climate change New York State has identified species migration as a key issue to allow species to adapt. These smaller forest patches will be critical stepping stones as species are forced migrate north in the face of a warming climate.

12. Requirements for invasive species management t plan and practices to reduce habitat and wildlife impacts

Page 7-89. The rdSGEIS refers to work being done that will recommend a four-tier system for non-native animal and plant species. It then goes on to say that the Department has the authority "to prohibit and actively eliminate invasive species at project sites regulated by the State." The SGEIS should clarify that the Department will prohibit introduction of invasive species at well drilling sites and will require well drillers to actively eliminate any that are established.

Page 7-90. The rdSGEIS states that an invasive species survey be submitted as a part of an EAF Addendum. If the invasive species survey indicates the presence of invasive species, NYSDEC should require each of the identified BMPs before, during and after ground disturbance. These surveys and related plans should further be made available for on-site Department inspector review in addition to being available to the public.

13. Air Permitting process and well permit conditions for avoiding or mitigating adverse Air Quality impacts

Page 7-108. The rdSGEIS outlines several different mitigation measures to protect air quality (Section 7.5.3). We support NYSDEC's proposed emissions restrictions for both well pads and off-site gas compressors. NYSDEC should additionally require stack heights to be at least the recommended 30 feet . Additionally, the NYSDEC should work more actively with the New York State Department of Health to conduct a Health Impact Analysis which should include a more detailed analysis of both local and regional air quality impacts.

14. Greenhouse gas mitigation requirements

A. Cumulative GHG Emissions Impacts to Tompkins County

Using the figures identified in the rdSGEIS, the Tompkins County Planning Department has estimated that the lifetime greenhouse gas (GHG) emissions from one eight-well pad would be roughly equivalent to one year of GHG emissions from the entire Tompkins County community.

The rdSGEIS looked at three well types for GHG emissions: single well vertical, single well horizontal, and 4 well pad – horizontal at the same site. In preparing these calculations, we chose to double the results for the 4 well pad to look at the impacts from the anticipated 8 wells per pad. Also, applying the figures provided in the rdSGEIS for the single well vertical and single well horizontal to 8 wells produces much greater emissions numbers, so the 8 well pad was a conservative figure to use. Finally, the natural gas industry is saying each well will be operational for 30 years, so that's what was used.

TCPD Summary Table for 8-Well Pad

Four-Well Pad	CO2e (tons) Annual	CO2e (tons) Over 30-year Life of 4-Well Pad	CO2e (tons) Over 30-year Life of 8-Well Pad
Total First Year Emissions	23,951	23,951	23,951 x 2 = 47,902
Annual Emissions during years 2 – 30	20,300	20,300 x 29 years = 588,700	588,700 x 2 = 1,177,400
Total GHG Emissions	NA	612,651	612,651 x 2 = **1,225,302**

All numbers pulled from Appendix 19 of the rdSGEIS

For comparison, Tompkins County Community Emissions in 2008 was 1,292,920 short tons CO2e. Therefore, one year of all community emissions (1.29 million tons CO2e) is roughly equal the emissions from the life of one developed well pad (8 wells) (1.23 million tons CO2e).

B. Cumulative GHG Emissions Impacts to New York State

Chapter 2 of the SGEIS states that in NYS "An average year may see 1,600 or more applications. Development of the Marcellus Shale in New York may occur over a 30-year period."

If one assumes 1,600 wells drilled per year for 30 years = 48,000 wells. This translates into 6,000 eight-well pads over the 30 years in New York State (48,000/8 = 6,000).

Applying the GHG emissions from the rdSGEIS of 1,225,302 short tons CO2e over the 30 year life of the 8 well pad, then 1,225,302 x 6,000 well pads = 7,351,812,000 short tons CO2e, or 7,352 million short tons CO2e. Lifetime production for buildout over 30 years may actually be spread over 60 years, i.e., 30 years from last well drilled. Total emissions divided by 60 would be 125 million short tons CO2e/year average over 60 years.

According to a PowerPoint presentation found on the NYS Climate Action Council website, titled "NYS Scenarios to 2050" by Gerald Stokes, Associate Lab Director, Brookhaven National Laboratory and President of NY Energy Policy Institute: 1990 emissions for NYS were 277 MMT CO2e (converted to short tons for this analysis: 277/0.9071847 = 305.3 million short tons CO2e). 2050 Business as usual CO2e emissions are projected to be 360.5 MMTCO2e (397.4 million short tons CO2e). Goal Emissions in 2050 are 80% of 1990 levels: 277 (0.20) = 55.4 MMT CO2e (61.1 short)

This requires emissions reductions from 1990 to 2050 of 305.1 MMTCO2e (360.5 – 55.4 = 305.1) from business as usual) (397.4 – 61.1 = 336.3 million short tons CO2e). The addition of 125 million short tons CO2e annual emissions from natural gas drilling and production will make it impossible to meet these New York State greenhouse gas emissions goals.

C. GHG Emissions Mitigation

While it is a requirement to construct and operate a well site in accordance with a Greenhouse Gas Emissions Impacts Mitigation Plan as a required mitigation, the rdSGEIS never states the levels of emissions that are acceptable, nor is it a requirement that the DEC review the plan or its adequacy. To make such mitigation effective, the SGEIS should set a threshold for total CO_2e emissions per well (or well pad) using a production life of 30 years, and the Greenhouse Gas Emissions Impacts Mitigation Plan should be required to detail how each BMP described in the plan shall reduce emissions so that the well project or well pad meets the established emissions threshold. Such an emissions threshold should be calculated so that it may still be possible for New York State to meet Executive Order 24, which established New York State's goal to reduce greenhouse gas emissions from 1990 levels by 80 percent by 2050. It is essential that a cumulative life-cycle analysis of greenhouse gas emissions resulting from Marcellus Shale development be conducted and included in the SGEIS.

Furthermore, although Chapter 9 discusses some aspects of the New York State Energy Plan, which was released in December 2009, the rdSGEIS does not address how high volume hydraulic fracturing (HVHF) would impact all five policy objectives of the 2009 Energy Plan, but especially how it will help "Support energy and transportation systems that enable the State to significantly reduce greenhouse gas emissions, both to do the State's part in responding to the dangers posed by climate change and to position the State to compete in a national and global carbon constrained economy."

In addition, the rdSGEIS should evaluate how the goals laid out in the New York State Climate Action Council's New York State Climate Action Plan Interim Report, November 2010, will be achieved in light of

GHG emissions associated with shale gas drilling. Even though emissions associated with HVHF shale gas were not included in the emissions forecast for the state that was developed for the report, the Executive Summary still states that ". . . this Climate Action Plan Interim Report makes clear that achieving the 2050 GHG reduction goal will require dramatic change. New York State's government, its residents, and businesses must embrace the goal of wise use of clean energy. To meet this goal, we must transform the way we make and use energy—we must maximize efficiency and make a major shift toward zero-GHG emissions in electricity generation, smart electric transmission and distribution systems, low-carbon buildings, and zero-emission vehicles, and increase options for alternative modes of travel and land use." How will such an achievement occur when the GHG emissions quantified in the rdSGEIS are included in the forecast? Based on the figures provided in the rdSGEIS, it appears to us that if Marcellus Shale exploitation takes place, there is virtually no way that NYS can meet its GHG emissions goals.

Also, although the new Leak Detection and Repair Program proposed in the rdSGEIS is a positive step forward, it only addresses leaks from the drilling pad to the onsite separator's outlet. Leaks in distribution lines and transmission lines were not addressed in the document and overall, that separation of activities is a flaw in the rdSGEIS.

15. Comments on other revisions that are included in the 2011 dSGEIS

Water Impacts

Page 7-35. The rdSGEIS notes the importance of proper maintenance of pit liners. However, the rdSGEIS does not identify required maintenance procedures. The SGEIS should identify and require specific maintenance procedures.

Page 7-35. The rdSGEIS identifies the importance of basing the acceptability of pit construction and location on pre-site inspections. Also, the rdSGEIS states that the "Department may also approve an extension if … and the department has inspected and approved the storage facilities." Concern remains over whether or not NYSDEC will have adequate staff available to conduct pre-site inspections and to inspect and approve storage facilities that are to be used for an extended period of time.

Page 7-39. According to the rdSGEIS, the "volume of flowback water that would require handling and containment on the site is variable and difficult to predict, and data regarding its likely composition are incomplete. Therefore, the Department proposes to require, via permit condition and/or regulation, that flowback water handled at the well paid be directed to and contained in covered watertight steel tanks or covered watertight tanks constructed of another material approved by the Department." We appreciate that the rdSGEIS proposes a ban on open impoundment areas for flowback water and requires covered tanks for this purpose.

Given this acknowledgement that the likely composition of flowback water will be unknown and other indications that the quality of flowback water may vary with time, the rdSGEIS should require a sampling and testing regimen that would more clearly identify the constituents of flowback water in order to evaluate the effectiveness of disposal plans.

Page 7-45. The rdSGEIS will require that sampling and analysis of water well sampling will last occur one year after the last gas well is hydraulically fractured. This is inadequate in two regards. First, the sampling and analysis of groundwater is proposed only from existing drinking water wells within 1,000 feet (or, under certain circumstances, 2,000 feet) of the well pad. This procedure is inadequate to protect groundwater, which is the resource that should be considered in the rdSGEIS, not just drinking water wells. We suggest that monitoring wells be installed in close proximity around well pads in order to track possible groundwater contamination before it reaches any drinking water wells. Second, groundwater flows in some areas may be slow enough that contaminated groundwater may not reach water wells 2,000 feet away within the one year

testing period. We suggest that water well testing take place annually for three years after the last well is hydraulically fractured.

Page 7-59. The rdSGEIS states that generators, haulers, and receivers of flowback water will be required to maintain Drilling and Production Waste Tracking Forms. Copies of these forms should be required to be submitted to NYSDEC instead of requested by the Department, so that NYSDEC staff (as well as drilling operators) can monitor flowback water movement and disposal.

Page 7-75. The rdSGEIS states that "The Department's existing requirement for a Freshwater Wetlands Permit in wetland or 100-foot buffer zone" is required to mitigate the risk of surface water contamination. Other wetland resources should be considered as well. For example, in Tompkins County, there are approximately 5,630 acres of DEC regulated wetlands, while the National Wetland Inventory has identified about 19,800 acres of wetlands. All of these wetlands serve important roles to water quality, habitat, and other functions. Site-specific analyses should include mapping of all existing wetlands on a site and 100 foot setbacks from those wetlands should be imposed.

Public Health and Safety

Page 7-108. The rdSGEIS describes a number of restrictions designed to mitigate exposure to pollutants. One item that was not identified was the ability of separation distances to limit exposure. The SGEIS should specifically require a separation distance of at least 500 feet from occupied structures to limit exposure. However, even this appears to be a rather simplistic and too limited response to an impact of major concern to affected communities and individuals. Significant air quality impacts may occur on both a localized and regional basis. A more thorough and comprehensive analysis of these impacts and additional mitigation measures are required.

Page 7-119. The rdSGEIS states that data "shows significant variability in NORM content . . . During the initial Marcellus development efforts, sampling and analysis will be undertaken in order to assess this variability. These data will be used to determine whether additional mitigation is necessary to adequately protect the public health and environment of the State of New York." The SGEIS should establish a mechanism to suspend the permitting of new gas drilling operations once a certain number of wells have been sampled in order to give NYSDEC time to undertake the proposed analysis and to develop appropriate mitigation measures to protect the public health and environment.

Ecosystem and Wildlife Impacts

Page 7-77. In order to reduce impacts of individual wellpads on natural habitats, Best Management Practices should be required as a condition of permits; these practices should be considered the minimum standard. Additionally, NYSDEC should provide a detailed list of acceptable native tree, shrub, and grass species that should be used as appropriate in required revegetation efforts.

CONCLUSION

Once again, we appreciate the opportunity to comment on the rdSGEIS. The comments we have provided complement those submitted by the Tompkins County Legislature, Health Department, Environmental Management Council, Water Resources Council, and many other members of our community. We believe that the major omissions identified and many technical issues raised with the rdSGEIS require, at a minimum, a continuation of this process with opportunity for comment on additions to the SGEIS that are needed to comply with the SEQRA process. We also believe that the recently released regulations should be updated to reflect the comments received regarding and further revisions to the rdSGEIS and then re-released

to allow for subsequent public review. The regulations must include provisions that assure that all necessary mitigation measures to address the impacts of horizontal drilling and hydraulic fracturing in the Marcellus Shale are mandatory and not to be implemented at the discretion of a regulator.

Sincerely,

Edward C. Marx, AICP
Commissioner of Planning and Community Sustainability

cc: Governor Andrew Cuomo
NYSDEC Commissioner Joe Martens
NYSDEC Executive Deputy Commissioner Marc S. Gerstman
Chair of the Senate Committee on Environmental Conservation Mark Grisanti
Chair of the Senate Committee on Energy and Telecommunications George D. Maziarz
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New York State Senator James Seward
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New York State Senator Thomas O'Mara
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New York State Senator Thomas Duane
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Subcommittee on Environment and the Economy Member Diana DeGette
United States Representative Maurice Hinchey
United States Representative Richard Hanna
New York State Association of Counties
New York Association of Towns
New York Conference of Mayors.

Electronic copies to:
Tompkins County Legislature
Tompkins County Health Department
Tompkins County Environmental Management Council (EMC)
Tompkins County Water Resources Council (WRC)
Tompkins County Council of Governments (TCCOG)
Tompkins County Soil and Water Conservation District (TCSWCD)