STATE OF NEW YORK
DEPARTMENT OF STATE
OFFICE OF RENEWABLE ENERGY SITING

COMMENTS ON
Draft Regulations
Chapter XVIII, Title 19 of NYCRR Part 900
Subparts 900-1 – 900-14

On Behalf of Save Ontario Shores, Inc.
and named signatories across upstate, western and
the Southern Tier of New York

Appendix B

- Review and comments regarding water and wetlands from Karen Schneller-McDonald of Hickory Creek Consulting LLC
- Review and comments regarding wildlife from Karen Schneller-McDonald of Hickory Creek Consulting LLC

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Proposed regulations and policy changes: Renewable energy siting
Review and initial comments regarding water and wetlands
Presented to Kate Kremer
November 12, 2020

I've reviewed the proposed regulations Chapter XVIII, Title 19 of NYCRR Part 900 Office of Renewable Energy Siting, Subparts 900-1 – 900-5; 900-7 – 900-14 with regard to wetlands, streams, and other water resources. Several general themes emerged from this review.

Wind and solar farms, while sources of renewable energy, can adversely affect land and water systems that contribute to local climate change resiliency— unless these systems are adequately protected. Adequate protection of water resources requires attention to impacts on the interconnected network of all wetlands, streams, and waterbodies affected by these projects, not just a subset of these resources. For example, limiting impact assessment and mitigation to only DEC-regulated streams and wetlands (a fraction of the total) also limits water protection: It is like trying to protect water quality in only one segment of a river.

Impacts from wind farms and solar farms are largely due to the scale of these projects and the details of their siting, operation, and maintenance. A wind (or solar) farm is an industrial land use; while the energy source is renewable and doesn't pollute air and water, project construction and infrastructure can have significant effects on surrounding land and water. I recently reviewed the Alle-Catt wind farm with a project area of 106 sq. miles; its roads crossed more than 400 wetlands and streams (many of which are unprotected) and fragmented significant blocks of interior forest habitat. Each wind turbine rests on a concrete pad that measures 30-50 feet across and is 6-30 feet thick— and can weigh over 2 million pounds (1000 tons). The turbine adds 165-300+ tons to the pad weight, depending on size. Wind farms include construction of miles of roads, many of which must be reinforced to withstand enormous loads during transport of turbine parts and equipment. Projects include supporting infrastructure like transmission lines and equipment staging areas. Obviously, several serious adverse environmental impacts result from such projects.

Solar farms are smaller in size in terms of acreage, but impact on land and water is more concentrated within that area, and most trees must be removed. For example, one site comprised 3800 acres for approximately 600,000 solar panels plus access roads and the electrical collection system.

I applaud New York State's efforts to increase production of energy from renewable sources. However, the promotion and approval of renewable energy projects does not negate New York State's responsibility to continue to adequately protect the state's land and water resources and the benefits they provide for our communities (clean water, flood reduction, water supply, habitat). It is reasonable to expect that the proposed standards would be at least as protective of the state's water and wildlife resources as Article 10 and existing state wetland and stream regulations, while making the review process clearer, less redundant and more efficient. After reviewing the proposed regulations, I find that is not the case; protections overall have been substantially decreased.

The need to provide adequate protection for our water is underscored by development pressure and climate change effects including increased flooding and water quality and supply issues. As the federal government has decreased its oversight, NYS has initiated efforts to step up state protection of water resources via proposed legislation and encouragement of local protection initiatives. These issues make it even more important that the proposed regulations maintain or even improve current levels of protection.

The network of small wetlands and streams across the landscape is the natural infrastructure that helps us achieve resilience to climate change effects. Many of the wetlands and streams are hydrologically connected within a common watershed. Wetlands collectively serve as 'sponges' that store flood waters, and streams distribute them gradually across the landscape. Only a portion of this natural infrastructure falls under state or federal jurisdiction. Since groundwater, wetlands and streams are interconnected, protecting only some of these wetlands and streams but not others, leaves our communities' resources vulnerable to impacts.

The effort to expedite the approval of these projects, through these proposed regulations, unfortunately is being advanced at the expense of adequate environmental protection— providing less protection, for fewer wetlands and streams. The proposed regulations contain numerous attempts to short-cut environmental reviews that in many cases conflict with the recommendations of ecological science, wetland science, and stream / watershed best management practices. Alternative means of streamlining project review should be implemented, keeping in mind that in some cases review delays have been exacerbated by applicants' refusal to provide pertinent information in a timely manner and resistance to implementing sound environmental protection practices necessary for adequate resource protection.

The proposed regulations do not reflect an understanding of environmental science and now-conventional methods to review and mitigate environmental impacts. Many sections read like they are written by someone with little or no understanding or experience with wetland science, watershed management, ecology, and best practices for stream protection. This does not serve the best interests of the people of NY state and protection of our water resources. These regulations must be based on sound science and best management practices, and should retain the involvement and authority of NYS DEC natural resource professionals throughout the environmental impact review process and in decisions that affect wetlands and streams.

More detail should be provided on an applicant's pre-application obligations to conduct adequate natural resource surveys and investigations, as appropriate, in consultation with NYSDEC. Without more detailed pre-application requirements, applicants have no incentive to submit an application that is ready

for review. The 12-month time frame for application review will predictably result in the inability of agency staff and the public to meaningfully understand the impacts of project proposals.

Municipalities in NY State have been encouraged to develop their own water protection ordinances or regulations because state and federal regulations leave many streams and wetlands unprotected. The right to do so must be protected.

Long after wind and solar farms are decommissioned or replaced with more efficient alternatives, residents of NY will be stuck with the impacts from these projects on our water and wildlife. NYS needs to ensure that these resources are adequately safeguarded during project review, siting, construction, and operation.

Review of Chapter XVIII, Title 19 of NYCRR Part 900 Office of Renewable Energy Siting

Summary of comments

1. The proposed regulations require maps of wetlands, streams and waterbodies that do not consistently call for inclusion of all of these resources, but rather are limited to jurisdictional groups, ie NYS-regulated waters. All wetlands and streams in the study area should be mapped for numerous reasons: water resources are hydrologically interconnected; NYS protects only a fraction of our wetlands and streams; federal wetland jurisdiction sometimes depends on a wetland's proximity to a stream, so we need to see them on the same map. Through the review process, wetlands and streams can be examined more closely to inform subsequent decisions regarding which wetlands to delineate, and which wetland and stream impacts will require federal, state, or local permits.

2. Similarly, all state, federal, and locally protected wetlands and streams should be included in impact assessment and mitigation analyses. To minimize the number of wetlands and streams to be evaluated is to minimize the protection of wetland and water resources, and the well being of the people of NY state. Watershed science documents interconnections among groundwater, streams, lakes, and wetlands throughout the landscape, so protecting only some of these resources from impacts does not ensure protection of the remainder.

3. The proposed regulations contain multiple attempts to short-cut environmental reviews by 1. limiting the number of wetlands and streams mapped, delineated, and reviewed,; 2. using the NYS stream and wetland classification systems as a short-cut to evaluate wetland and streams; 3. promoting a mitigation plan that is not based on professional knowledge of wetland and stream functions; 4. assuming that the DEC has complete and updated information on all wetlands and streams; and 5. limiting aquatic organism review to only threatened or endangered species. These practices result in poor quality project impact review and mitigation, and an unacceptable lapse in providing adequate protection for NYS water resources.

4. Description of wetland functions and values is deficient. These evaluations should be based on wetland science, on-site conditions, and individual wetland types. The proposed regulations do not include descriptions of wetland habitats; this is important for assessing wetland functions including

whether rare wildlife species will be affected by the project. The sheer number of wetlands and streams that may be present on a large wind or solar farm site should not be cause to reduce or omit the information required for assessing impacts on each wetland and stream.

5. The proposed regulations do not require the assessment of the full array of all project activities' impacts on wetlands and streams. For example wetland impacts are limited primarily to placing fill. This deficiency needs to be corrected; the full array of project construction, maintenance and operation impacts to wetlands and streams must be addressed. These include, for example, the effects of siting and construction of turbine pads (ie 1000 tons of concrete and rebar), such as subsequent soil compaction and interference with groundwater and watershed drainage patterns; and effects of in-wetland road construction (including culverts) on the entire wetland ecosystem, eg changes in hydrology, vegetation, and water quality. Solar farm impacts can include significant tree removal, increased runoff and extensive use of herbicides that may be harmful to aquatic resources.

6. Mitigation plans for wetlands, streams, and waterbodies are inadequate in terms of addressing specific impacts and lack grounding in science and professional knowledge regarding practices that will effectively mitigate impacts. These plans lack criteria for success and science-based creation, restoration and enhancement requirements, and related ratios for mitigation. Wetland handbooks for federal and state wetland reviews and delineations contain useful information for describing wetlands and assessing impacts, and should be used in the development of these proposed regulations.

7. From mapping to mitigation, these proposed regulations do not simplify or streamline the process, but rather present an often disorganized piecemeal approach that would appear to make the review process more onerous for applicants. The tables are confusing, not based on wetland and stream science and research, and do not provide adequate information regarding wetland and stream mitigation.

Specific comments follow.

§900-1.3 Pre-application procedures

(e) Wetland delineation.

Delineation of wetland boundaries provides the basis for subsequent evaluation of project impacts on wetlands, and development of mitigation—therefore it must provide information that is as complete and accurate as possible. Valuable time is wasted when these resources are inadequately identified before project infrastructure sites are finalized, and must then be evaluated later in the process.

(1). The proposed regulations call for identification of all wetlands within 100 feet of areas to be disturbed by project activities. Article 10 calls for 500 feet. The proposed regulations should retain the 500 ft. requirement which is more realistic in terms of wetland science and hydrologic connections.

Requiring jurisdictional boundaries of all state regulated wetlands must include all wetlands that quality for state protection but may not appear on NYS wetland maps, in recognition of the fact

that current NYS jurisdictional wetland maps are incomplete and have in most places not been recently updated. NYS regulations only protect wetlands 12.4 acres or larger, which generally constitute about a third of the wetlands in the state.

(2) Article 10 language regarding maps should be retained (in addition to the files required by the proposed regulations) along with its requirement for an accompanying description of soils, hydrology and vegetation data. Without these more explicit guidelines, and recognizing the large number of wetlands likely to be affected by large scale wind and solar projects and within the study area, the state places wetlands at risk of being overlooked, minimized, or incorrectly delineated.

(4) and (5) Potential errors in wetland delineation are not uncommon; delineations should be reviewed by a wetland professional who is not employed by the project applicant, and typically this task falls to DEC. In light of this potential constraint, the sixty-day review period noted in #5 is unrealistic and unworkable. A wind farm can encompass several hundred wetlands. Review time will be affected by DEC staff availability, seasonal and weather conditions, and the size of the large scale renewable project under review. Recognizing that both expediency and accuracy are desired, a more reasonable limit would be one growing season (time between the first and last frost). That the DEC review of onsite wetlands will occur only when requested by the Office leaves wetland impact reviews open to error. The production of reasonably accurate wetland delineation maps by the project applicant will facilitate this effort. This level of quality control is essential to ensure that wetland resources are being correctly identified so they can be adequately protected.

(f) Water Resources and Aquatic Ecology

Mapping is the basis for all subsequent evaluation of project impacts on streams and aquatic biota, and therefore must provide information that is as complete and accurate as possible. Accurate early identification of wetlands and streams is critical to the impact analysis and mitigation processes. Valuable time is wasted when these resources are inadequately identified before project infrastructure sites are finalized, and must then be evaluated later in the process.

(1) As with wetlands, this recognizes that the location of water resources may affect the layout of the project's turbines and infrastructure. Cross reference §900-2.14 Exhibit 13 (b)(1).

The proposed regulations should retain Article 10 language which is more succinct and appropriately comprehensive "A map and identification of all surface waters, including intermittent streams, within the study area." The proposed regulations call for limiting this map to (a) regulated waters and (b) waters within 100 feet of project disturbance. This ignores watershed science and the behavior of water on the landscape, i.e. these waters are connected, and small streams (whether regulated or not) flow into larger streams and affect downstream flows and water quality. Mapping all waters within 500 feet of the area of disturbance would

match wetland mapping and provide the information needed to evaluate impacts and mitigation. The reasonable approach is to retain Article 10 language and map all of these waters within the study area, and from that information, identify water resources that fall under federal, state or local regulatory jurisdiction.

All streams and waterbodies within a solar farm project area should be identified and delineated so that increased runoff throughout the site can be assessed and mitigated.

(2) Because identification of stream flow is required here, it is assumed that "interconnections" means that all streams, perennial, intermittent, and ephemeral, and regardless of regulatory status, shall be mapped, with additional information required for those streams that fall under state or federal protections. Unless this is made clear, many small streams may be left out, leaving open the risk of impacts to the downstream waters into which they flow. While the proposed regulation's language is unclear, retaining the existing Article 10 language noted above is an appropriate reasonable solution.

(4) The sixty-day review period is unrealistic and unworkable. A large scale renewable project can affect numerous small streams. Review time will be affected by DEC staff availability, seasonal and weather conditions, and the size of the large scale renewable project under review. Recognizing that expediency is desired, a reasonable limit would be one growing season, when wetland delineations are also reviewed.

§900-2.11 Exhibit 10: Geology, Seismology and Soils

(a) 4 and 5. Karst features should be added to the list of site characteristics, with assessment of impacts from excavation and blasting. Karst formations are characterized by short, direct connections between surface water and groundwater and are therefore particularly susceptible to water quality problems. Water contaminants washed into surface waters in these areas may directly enter the groundwater.

§900-2.14 Exhibit 13: Water Resources and Aquatic Ecology

(b) Surface Water:

(1) Mapping. How does this map interface with the stream identification called for in 1.3 (f) (1)? They should specify the same requirements.

(2) Please identify the information that should be included in reports "detailing the results of stream delineation surveys." Wetlands- but not streams- are formally delineated, using well defined parameters and usually for purposes of regulatory protection. It is not clear what is meant by "stream delineation."

(5) Article 10 includes "an analysis of the impacts of the construction and operation of the facility and interconnections on such surface waters… an identification and evaluation of

reasonable avoidance measures and, where impacts are unavoidable, mitigation measures regarding impacts on such surface waters…" This is a reasonable progression of impact and mitigation evaluation and is clearly stated.

The proposed regulations omit the analysis of impacts and limit the discussion of mitigation to jurisdictional streams (it can be assumed that this includes all federal, state, and local protected streams, but this should be clearly stated to avoid ambiguity and confusion). The proposed regulations call for mitigating impacts [only] to jurisdictional streams by siting all project components more than 50 feet from "delineated NYS protected waterbodies." This further attempts to limit the streams subject to impact analysis and mitigation. Streams are interconnected; the proposed regulations ignore watershed science and do not protect all waters.

The prescriptive avoidance of impacts by siting all components more than 50 ft from surface waters does not suffice to protect water resources in all situations. For example, project activities that affect water quality in tributaries will also affect the streams into which those tributaries flow. Therefore, Article 10 language in section 1001.23 (b) should be retained for clarity and improved water protection.

Analysis of impacts from solar farms should be based on watershed science which correlates vegetation removal (especially removal of forest cover) with subsequent changes in groundwater replenishment, stormwater runoff and its sediment/contaminant load, erosion, water quality changes including temperature, changes in drainage patterns, and increased presence of invasive species. Vegetation control and maintenance may include application of herbicides, which are washed into wetlands and surface waters; some of these (eg glyphosate and atrazine) present a high risk of contaminating water quality and affecting aquatic life.

(6) Because impacts, streams, and site conditions vary, there is no one-size-fits-all mitigation for impacts. It is reasonable to expect that these proposed regulations should be amended to discuss the full array of project impacts on streams before discussing mitigation- which must necessarily address specific impacts in order to be effective. While it is helpful to list some possible mitigation measures, appropriate mitigation is site specific and keyed to specific impacts, and additional mitigation measures may be needed. "Best management practices" often refer to stormwater management and related efforts to maintain healthy streams; mitigation addresses specific impacts (beginning with avoiding them). The list below this section confuses the two; it should be amended accordingly.

The proposed regulations are deficient in that they don't require a full assessment of all impacts, but limit the scope of assessment in terms of both the range of impacts and the number of streams that may be affected. All impacts on all streams that fall under state, federal or local protection should be included, for example: grading; soil compaction; changes in floodplain function and flooding patterns; disturbance of banks or riparian buffers including vegetation

removal; riparian zone soil compaction, deposition of fill or debris (including cleared vegetation debris); degradation of adjacent wetlands or headwaters; improperly sited or poorly maintained stormwater management practices; land disturbance in areas of karst formations; changes in natural drainage patterns due to turbine pad weight, siting and construction; degraded water quality; and effects on sensitive aquatic species like trout.

Regarding (i) first order streams (ie headwaters) are critical to watershed function; solar panel racking or perimeter fence should not span any stream.

Mitigation options for significant impacts are then developed. The current list designated as (i)-(vii) is inconsistent, and should be re-written to include a complete list of measures that will address the impacts.

(7) Table 1 Waterbody Mitigation Requirements. This table does not simplify mitigation review. Does it include streams as well as waterbodies? Also, project activities impacting streams and waterbodies that are subject to federal, state, or local jurisdictional regulations will have to comply with existing permit requirements that are explicitly described elsewhere.

Unless these proposed regulations are proposing standards in addition to existing regulations, this table is unnecessary, confusing (eg its numbering system is inconsistent) and does not contribute to streamlining the project review process. A reasonable approach might be to provide a summary, in table form, of the existing local, federal and state permit requirements that deal with mitigation. A table showing all potential impacts of project activities on streams, and appropriate mitigation to address those impacts would also be useful. Well-designed tables could save time and help expedite the review process.

(e) Aquatic Species and Invasive Species:

(1). The proposed regulations call for “an analysis of the impacts… on biological aquatic resources” but do not describe a science-based method for identifying where sensitive or rare species are likely to be found in the study area. Many NYS streams have not been assessed for aquatic species of concern (including trout). These proposed regulations arbitrarily omit species designated by NYS as Species of Greatest Conservation Need. It is reasonable to expect that SGCN be added to this section, since this list includes aquatic species of particular concern in NYS. For example, although trout are not listed as threatened, endangered or special concern species in NYS, but are afforded special protections, the brook trout (wild populations) is listed as SGCN. The Hellbender, considered for uplisting and currently an SGCN is a species of particular concern in NYS and is only found in a limited number of watersheds. Presence of these and other rare aquatic species is often unknown unless surveys for them are conducted on-site in streams affected by project activities.

§900-2.15 Exhibit 14: Wetlands

(a) Maps. All wetlands (regardless of jurisdictional status, and including vernal pools) should be mapped as described in comments listed under 1.3 (e)1. DEC wetland maps show approximate boundaries but may not include all wetlands that quality for state protection. Federally protected wetlands are not mapped, but the National Wetland Inventory provides maps of many small wetland habitat areas. The proposed regulations don't mention vernal pools (habitat for species of concern), or small wetlands of "unusual local importance" protected under state regulations.

(b) Description of wetland characteristics including vegetation, soils, and hydrology data collected for all wetlands affected by the project is called for in Article 10. It's reasonable to expect that the proposed regulations require the same basic wetland information- which will facilitate the impacts analysis and review process.

(c) Wetland functions. While Article 10 calls for a qualitative and descriptive wetland functional assessment "for all wetlands delineated as above" the proposed regulations amend this to "all delineated wetlands that would be impacted." This is another attempt to cut corners by limiting the number of wetlands that are evaluated for project impacts. Article 10 language should be retained, since wetland functions information is needed for identifying impacts such as the location of habitat for sensitive species. Identification of wetland functions should be based on commonly accepted methodology such as that described in the US Army Corps of Engineers Highway Methodology Workbook: Wetland Functions and Values, A Descriptive Approach.

(d) Off-site wetlands may be affected by onsite activities, and these effects may extend more than 100 feet beyond the limits of disturbance, depending on wetland and site-specific characteristics. The 100 foot limit is arbitrary, not based on wetland science, and should be removed.

The following sections (e), (f) and (g) fail to provide sufficient protection for NYS wetlands and water. The proposed regulations do not contain clear guidelines that are informed by wetland science and organized in a manner that facilitates project review. Without some changes, they are not likely to provide adequate protection for water resources and wetlands, specifying that the full range of potential impacts from all project activities be considered— beginning with the placement of fill, but including many additional impacts— for example, from significant soil compaction and disruption of natural drainage patterns due to turbine pad weight and construction. Impacts should be evaluated for their effect on the wetland functions identified previously in the process— eg, placement of fill reduces flood water storage capacity. With a focus on wetlands that qualify for protection under federal, state, or local regulations, this information can be used to determine how proposed mitigation repairs the specific environmental damage to wetland functions produced by the impact. The proposed regulations should include a brief outline for mitigation requirements that includes: Criteria that will be used to determine mitigation success; science-based explanations of wetland creation, restoration and enhancement and recommended ratios in relation to the area impacted; and designation of responsibility for monitoring,

maintaining, and ensuring that the criteria for restoration/creation success are met. Mitigation banking is the alternative of last resort; it is not likely to address site specific impacts from wetland loss or degradation.

Specific mitigation may be tailored to meet regulatory requirements depending on federal, state, or local jurisdiction. For example, regulatory requirements for NYS protected wetlands also include 100 ft. buffers.

(e) Siting all project components at least 100 feet from wetlands will not avoid all impacts but will be much more effective if applied to all wetlands. The regulations need to clarify that this pertains to all wetlands, not solely NYS regulated wetlands.

(f) (3) This discussion of wetland functions displays a lack of expertise and knowledge about wetlands and their functions. Determining which wetlands have the highest value in terms of their functions is a qualitative determination and is not necessarily dependent on wetland size or the number of functions a wetland performs. In addition, the proposed regulations' hierarchy of wetland types/values from "forested" to "currently impacted" is scientifically erroneous and not supported by evidence. It is reasonable to expect that these regulations will be based on wetland science; this section needs to be corrected accordingly.

(g) Wetland Restoration and Mitigation Plan requirements

(2) Presumably Table 1 Wetland Mitigation Requirements was added to the proposed regulations to clarify mitigation requirements. However, this Table isn't based on wetland science or sound mitigation planning. While it would be reasonable to expect that a table would make it easier to present organized information to aid the planning of appropriate wetland mitigation, the table falls short of this expectation.

Examples of Table deficiencies include:

1. The table only addresses wetlands protected by NYS DEC without any corresponding guidance mitigating impacts to other wetlands mapped in the study area. The result is lack of mitigation for the majority of wetlands.

2. The table misrepresents the intent of the NYS Wetland Classification System by equating Class with functional value. This reflects a lack of understanding/knowledge about the purpose and limitations of the Classification system, wetland science, and the role of wetland function analysis in developing mitigation. The assumption that it's acceptable to degrade Class III, IV and unmapped wetlands because they have less value isn't based on sound information. (Refer to ECL 6 24-0903 for description of the wetland classification system purpose and note that permits are "required whether or not a classification has been promulgated.") Smaller wetlands not

evaluated by DEC provide important functions as well. The sole use of this system to determine which wetlands are most valuable results in inaccurate assumptions about wetland value, leading to ineffective mitigation.

3. The table information is based on faulty assumptions regarding mitigation ratios, reflecting a lack of understanding and knowledge regarding the extensive research documenting efforts to create, restore and enhance wetlands. To be effective, mitigation ratios must be specific to wetland types, impacts and site conditions. As used in the proposed regulations, they appear to be arbitrarily assigned. Criteria are poorly described. The "area of impact", for example (g) (i)(c)"3:1 mitigation by area of impact - creation only, broken down by cover type" To be useful, and expedite the review process, this needs to explain what is meant by 'area of impact' especially if the impact is indirect. If fill is dumped in half a wetland, the entire wetland will be affected: is that the area of impact or is it only the area that was filled? Also, what is meant by 'broken down by cover type'? How does cover type relate to wetland type or habitat? Does that mean every acre of forested wetland filled must be compensated for by creation of three acres of new forested wetland?

4. (g)(2)(iv) Creation, enhancement, and restoration descriptions in the proposed regulations reflect poor understanding of the basic science-based principles that underlie the success of these efforts, and because of this they are less likely to result in successful mitigation.

   - Successful wetland creation is informed by wetland science, and depends on replicating soil conditions and specific hydrological characteristics that will endure over time. This cannot be achieved by simply flooding or excavating non wetland areas. Will created wetlands seek to match the wetland types or functions that were lost or degraded? In addition, wetland creation requires monitoring and maintenance over at least three years to improve chances of success. During that time, re-planting may be required, and invasive species may need to be controlled. Who is responsible for these actions? Failure of wetland creation results in wetland loss which is not mitigated.

   - Restoration is not the same as reclamation; it requires understanding of wetland ecology, individual wetland types and site characteristics. Planting details depend on the type of wetland affected, and the goals of restoration. Wetland functions are not restored without considering wetland ecosystems.

   - Enhancement - does this pertain to the wetland, it's adjacent 100 foot buffer area, or both? Wetland buffers are not generally evaluated for functions and values as are

wetlands. The proposed regulations need to clarify how the need for wetland enhancement is determined, and how its success is measured.

5. The Table doesn't correlate specific project activities with impacts. For example, a "Wind Turbine" or a "Solar Panel" is not an impact and therefore cannot be mitigated. Construction, installation and operation of turbines and other wind farm infrastructure include many different types of activities, which in turn may affect wetland structure and functions in different ways. To be useful, the table needs to list impacts in more detail and match mitigation with these impacts. Activities such as vegetation clearing, grading, depositing fill, applying herbicides, draining, road construction and turbine pad construction may result in impacts that include decreased water storage capacity, changes in water quality, loss habitat for wildlife, changes in drainage patterns. Mitigation needs to address these impacts.

6. FWW and AA need to be defined as part of this table (eg NYS protects wetlands and their 100 foot buffers aka adjacent areas). Asterisks used in this table refer to 75 foot buffers: why not 100 feet, as required by NYS wetland regulations?

§900-2.24 Exhibit 23: Site Restoration and Decommissioning

In areas where project construction activities remove vegetation and compact soil, thus changing habitat, hydrology, and wetland functions, it is reasonable to expect that the proposed regulations will provide specific details about how these impacts will be addressed and mitigated. These details are not apparent in the current version of these regulations.

Chapter XVIII, Title 19 of NYCRR Part 900
Office of Renewable Energy Siting
Subpart 900-6 Uniform Standards and Conditions

General comments:

Wind and solar farms, while sources of renewable energy, can adversely affect the natural water systems that contribute to local climate change resiliency— unless these systems are adequately protected. To achieve this, state standards for the protection of wetlands, streams, and other water resources should be based on wetland science, watershed science, and stream/riparian best management practices. Adequate protection of water resources requires attention to impacts on all wetlands, streams, and waterbodies affected by these projects, not just a subset of these resources. For example, limiting impact assessment and mitigation to only DEC-regulated streams and wetlands (a fraction of the total), also limits water protection: It is like trying to protect water quality in only one segment of a river.

Many of the comments I've compiled on the proposed regulations also pertain to the subject matter in these proposed standards and conditions. (refer to comments on the proposed regulations (Part 900 Subparts 900-1 – 900-5; 900-7 – 900-14, re: mapping, impact assessment, and mitigation for all wetlands, waterbodies, and streams with state, federal, or local protection. These standards and conditions should likewise include all of these wetlands and streams, and not be limited to DEC mapped wetlands or Class A and B streams. All general requirements listed here for wetlands, waterbodies and streams should be at least as protective of these resources as the corresponding federal, state, and local permit standards and requirements. Policy requirements should correlate with permit requirements, for consistency and ease of review.

Specific comments:

§900-6.3 General Requirements

(a) Local laws. The ability of the Office to determine that a local law is "unreasonably burdensome" raises the question of "Burdensome to whom? This infringes on the right of residents to protect their local resources, including wetlands and streams, which may be extremely important at the local level. The need for local protection is underscored by the fact that state and federal regulations do not protect all of our water resources.

§900-6.4 Facility Construction and Maintenance

(m) General Environmental Requirements.

(3) Blasting should be prohibited in karst formations. NYS DEC and DOH concerns regarding the sensitivity of karst formations to disturbance, including high potential for groundwater

contamination have led to the USGS current study "Statewide Assessment of New York's Karst Aquifers With an Inventory of Closed-Depression and Focused-Recharge Features" Updated maps (eg those that will be produced by this study) should be used to verify karst locations. Karst features such as sinkholes, channels, and caverns can locally transmit large amounts of groundwater into these formations, which can move quickly and over large distances with the potential of distributing contaminants and affecting potable water.

(p) Wetlands, Waterbodies, and Streams.

These procedures only apply to state regulated wetlands and streams, an approach that omits protection for the majority of small wetlands and streams in the landscape. Therefore, the procedures need to be amended to include all wetlands, streams, and waterbodies with federal, state, and local protection.

All of the provisions listed in this section should reflect the complete array of activities / impacts subject to regulation (permit applications included) eg NYS Environmental Conservation Law (24-0701. Permits.) and the federal Clean Water Act. For example, NYS ECL 6 24-0701 Permits, describes additional impacts as "…any other activity which substantially impairs any of the several functions served by freshwater wetlands or the benefits derived therefrom which are set forth in section 24-0105 of this article. These activities are subject to regulation whether or not they occur upon the wetland itself, if they impinge upon or otherwise substantially effect the wetlands and are located not more than one hundred feet from the boundary of such wetland."

(1) Provide reference definition/criteria for Environmentally Sensitive Area.

(2) Turbid Water." Define "substantial visible contrast" to facilitate consistent assessment.

(q) Wetlands.

This section refers only to wetlands and adjacent areas subject to ECL Article 24. These and additional protective measures should apply to all state, federal, and local protected wetlands, and include all requirements for permits by those entities. Refer to comments on the proposed regulations (Title 19 of NYCRR Part 900, 900 1.3 e and f, and 900 2.14 and 2.15) for details.

(1). *Construction in Wetlands and Adjacent Areas.* It is assumed that requirements listed here will be consistent with all local, state and federal permit recommendations and requirements. As written, it isn't clear whether they overlap, or are more or less restrictive than state, federal and local requirements, or whether they address the full range of project impacts.
This needs to be clarified.

(i). If this is an attempt to protect amphibians of conservation concern that breed in intermittent woodland pools (aka vernal pools) it is not based on ecological or biological science and will accomplish little protection as written. These wetlands are often quite small, substantially smaller than 12.4 acres; the wetlands and their surrounding

woodlands are critical habitat for pool-breeding amphibians. It is not clear from the proposed regulations how these wetlands are to be identified, included on wetland maps for the site area, and evaluated for project impacts and mitigation. This information should be provided.

The species of concern that require vernal pools are listed as NYS Special Concern—Jefferson salamander, Blue-spotted salamander, which breed in spring, and Marbled salamander, which breeds in the fall. The spring peak breeding season varies depending on specific location and weather conditions, and it can begin as early as late February.

"Additional measures" other than prohibiting construction in these wetlands that would prevent impacts are not identified in the proposed regulations or policy discussion; measures like silt fences to exclude salamanders from work areas will not work, based on species' behavior. To protect these species, protection of critical habitat (adjacent woodlands and the breeding pool itself) and seasonal migration pathways that cross roads have proven to be effective but are not specified here.

The remaining provisions in this part are subject to DEC review and approval as part of the permit process. Trenching, excavation, installation of underground collection lines are wetland impacts that should not occur in wetlands unless no alternative exists.

These provisions lack specific guidance regarding the use of herbicides for site maintenance during and after construction. This is particularly important in solar farms, where control of vegetation over a large area is necessary. Herbicides may seep into groundwater where it is shallow, or wash into wetlands and streams via stormwater runoff. To protect water quality, aquatic habitats and species, policy standards need to be more specific, eg: provide guidance for avoiding and minimizing the use of herbicides; allowing the use of only a list of specific herbicides that are proven to not be harmful to aquatic and wetland ecosystems; and ensuring adequate buffer vegetation (at least 100 feet) along streams and wetlands to filter stormwater runoff.

(2) Wetland Restoration.

(i) The proposed regulations' description of a Wetland Restoration and Mitigation Plan is inaccurate, incomplete, and is not based on wetland science or professional research regarding mitigation. Refer to comments submitted on proposed regulations Exhibit 14: Wetlands (g).

(iv) and (v). Plants used for revegetation of disturbed wetlands should match the wetland plant community / habitat that was disturbed or removed, with the exception of invasive species. Wetlands are of different types, with differing hydrologic regimes and plant communities that thrive in those regimes.

(3) *Piling cut vegetation* to form brush piles in wetlands will damage wetland functions (eg water quality, flood storage capacity, habitat). This demonstrates the lack of ecological understanding that underscores much of this section.

(4) *Roads through wetlands* should first be avoided if at all possible, for all wetlands. It is not clear whether these construction recommendations match all federal, state, and local permit requirements which may be more restrictive in certain types of wetlands.

(5) *Solar Panel Support Installation.* Solar arrays should not be installed in wetlands; in addition to the initial site disturbance, ongoing maintenance and access to panels would incur continued wetland impacts.

(7) *Fill Placement.* The provisions listed here demonstrate a lack of understanding about how wetlands work and how they are affected by fill. Wetland hydrology is not characterized by surface water flows or high flows, nor is it described as "conditions" between wetlands. Culverts can be an additional impact on wetland functioning, and will not necessarily mitigate impacts of fill placement. This misrepresentation of how wetlands work hydrologically will not serve to protect NYS wetland and water resources, and it should be revised. In addition, any work in a wetland that requires a federal or state permit will have to meet those requirements as well.

(8) *Concrete* placed in a wetland constitutes "fill" and should be evaluated as such in terms of impacts (eg water quality and water storage capacity) on the wetland.

(9) *Stormwater Setback*. To protect water quality, all stormwater infrastructure should be located at least 100 feet from any wetland or stream. Stormwater should not be discharged directly into any wetland or stream. Refer to NYSDEC Stormwater Management Design Manual for details.

(10) *Mitigation.* This Plan as currently presented in the proposed regulations requires significant improvements. See comments under 900- 2.15 Exhibit 14: Wetlands.

(r) Work in NYS-protected waters.

All state, federal, and local protected waters should be subject to these conditions. Streams are interconnected; impacts on a small stream may affect the larger stream into which it flows. It is reasonable to expect that all of the items listed in this part can match state, federal, and local permit recommendations and requirements and address the range of impacts from project activities.

(2) *In-Water Work Windows.* These are designed to protect trout; there should be no exceptions to this unless approved by the appropriate NYS DEC fisheries staff.

(3) *Stream Channels*. Restoration plans for stream channels will depend on specific stream conditions, and should be reviewed and approved by the NYSDEC. Seeding disturbed stream banks may not accomplish restoration, and may be subject to erosion and wash-out. Any bank

planting plan must take into account bank slope, stream flood flows, and incorporate woody vegetation as needed for long term bank stability. There is no one-size-fits-all restoration treatment. This policy should stipulate that all seeding and planting will be native vegetation suited to on site stream conditions.

(6) Sizing of culverts and climate change; it is known that the predicted effects of climate change will increase flooding potential in many local streams, and increase the occurrence of "100-yr" storms and flooding downstream. Newly installed culverts that do not have the capacity to convey this flow can increase on-site and downstream vulnerability to flooding.

(11) See previous comments regarding changes needed to the Stream Restoration and Mitigation Plan section 900-2.14 Exhibit 13 (f).

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Proposed regulations and policy changes: Renewable energy siting
Review and initial comments regarding wildlife
Presented to Kate Kremer
November 6, 2020

I've reviewed the proposed regulations Chapter XVIII, Title 19 of NYCRR Part 900 Office of Renewable Energy Siting, Subparts 900-1 – 900-5; 900-7 – 900-14 with regard to wildlife. Several general comments emerged from this review.

NYS's goal to increase renewable sources of energy is well supported and commendable. However, the state still has a responsibility to protect our natural resources including wildlife and habitat. This is done by regulating the interaction between large scale wind and solar projects and the ecology they are ultimately intended to protect. These large projects can fragment or degrade significant areas of wildlife habitat. Wind turbines also kill birds and bats. The degree to which these large projects harm wildlife and habitat depends directly on how they are sited, operated, and maintained. Thus it is reasonable to expect the proposed regulations to guide those actions to ensure that other state resources like wildlife are protected. The proposed regulations do not meet this expectation.

To protect NYS species that are at risk, it is reasonable to expect that the proposed regulations will identify these species as the focus of impact assessment and mitigation. Article 10 includes a requirement to assess impacts and mitigation for NYS state listed Special Concern species, and NYS listed Species of Greatest Conservation Need. While it is reasonable to expect the proposed regulations to do the same, they instead focus on a very small group of threatened or endangered species (1.3(g) and Exhibits 11 and 12) This is an unacceptable omission, not based in science but apparently to expedite project review and applicant convenience, at the expense of wildlife protection. The need for impact assessment for these species is underscored by NYS definitions in the NYS Wildlife Action Plan of 2015, and make the case for why these species must be included in the proposed regulations and standards:

- Species of Greatest Conservation Need —High Priority. "The status of these species is known and conservation action is needed in the next ten years. These species are experiencing a population decline, or have identified threats that may put them in jeopardy, and are in need of

timely management intervention or they are likely to reach critical population levels in New York."- NYSDEC

- Species of Greatest Conservation Need. "The status of these species is known and conservation action is needed. These species are experiencing some level of population decline, have identified threats that may put them in jeopardy, and need conservation actions to maintain stable population levels or sustain recovery"- NYSDEC

Bats are a good example of why the proposed regulations and standards need to include SC and SGCN species. Of the nine species of bats found in NYS, eight of them are at risk and listed by the State: 1 is Endangered, 1 Threatened, 1 Special Concern, 2 SGCN High Priority and 3 SGCN. All 8 are experiencing population decline, and these will be further reduced if large scale wind wind farm impacts are not mitigated effectively. Wind farms kill bats in significant numbers - the smaller the local population, the greater the impact.Research on bat behavior, esp. around wind turbines, and bat mortality studies (beyond those generated by the industry) are discovering improved methods for reducing wind farm mortality for all bat species. NY State risks substantial cumulative loss of 8 of its 9 bat species, while the proposed regulations focus on only 2 of them (1 threatened, 1 endangered). It is reasonable to expect that the proposed regulations serve to better protect our wildlife by requiring protection for all of these at risk species.

Wind turbines also kill birds. The proposed regulations ignore the fact that all birds are not affected equally by this mortality, and that it is more serious for birds whose populations are are already in decline; many of these are NYS listed as SC or SGCN.

The assumptions that underlie the proposed regulations and the accompanying proposed standards are not consistently based on wildlife biology and reflect a lack of understanding/ expertise in that field. NYS DEC and the US FWS have funded numerous studies and reports compiled by wildlife professionals, and resulting in identification of at-risk species and their habitats (NYS Wildlife Action Plan) and detailed guidelines for the onsite surveys and mitigation needed to protect at risk species from the impacts at large scale renewable projects.

It's reasonable to expect that these proposed regulations rely on wildlife professionals' expertise for review of project details, wildlife survey methodologies, site specific identification of critical habitat, and mitigation plans— but this is not the case. Instead, the proposed regulations and standards delegate most of this review work to the Office and DPS.

The proposed regulations cut corners in wildlife reviews to expedite project approval —at the expense of wildlife protection— for example, proposing formulas for mitigating impacts on grassland bird habitat instead of relying on site specific recommendations from wildlife experts. NYS DEC identifies 11 species of at risk grassland birds (1 Endangered, 4 Threatened, 3 SC, 3 SGCN); all populations are in decline. The NYSDEC also identifies 8 statewide Grassland Focus Areas for critical habitat. The proposed regulations and standards mention none of this. Another short cut referenced repeatedly in the

proposed regulations and standards is offering the choice of payment to the Endangered and Threatened Species Mitigation Bank in lieu of physical mitigation.

The need for clean sources of energy in NYS does not negate the need to continue to protect NYS wildlife resources. Long after wind and solar farms are decommissioned or replaced with more efficient alternatives, residents of NY will be stuck with the impacts from these projects.

These proposed regulatipns set a precedent that will likely be used beyond NYS. It is reasonable to expect that they are at least as protective of wildlife as article 10 and current NYS environmental regulations. As currently written the proposed regulations do not meet that standard.

§900-1.3 Pre-application procedures

(g) ***NYS threatened or endangered species*****.**

(1). These proposed regulations do not provide adequate protection for NYS listed species of Special Concern and NYS listed Species of Greatest Conservation Need (SGCN) as described in the NYS Wildlife Action Plan. As these groups are included in Article 10 it is reasonable to expect that impacts from project activities on species listed as SC or SGCN also be included in these proposed regulations, but this is not the case. They are afforded little if any protection in these proposed regulations.

Section (ii) needs to clarify what is required as 'habitat suitability'- is this based on an assessment of onsite habitats? This section also needs to specify that "listed" includes Threatened, Endangered, Special Concern (SC), and Species of Greatest Conservation Need (SGCN).

The section omits migration routes but these also concentrate birds and are critical to impact assessment.

(3) This section demonstrates a lack of understanding/ expertise in wildlife biology. The requirement of conducting a habitat assessment will not provide definitive information on species presence/absence. It takes much more than one habitat assessment of unspecified detail and methodology to prove that a species is not present in a suitable habitat area. Rare species are often hard to find, require the use of specific methodologies for detection, and may be present only seasonally. If suitable habitat for a rare species is present and in good condition it is reasonable to expect that the species could be present—this approach will expedite project review. Proving otherwise can be time consuming and costly, requiring multiple surveys over multiple years.

§900-2.12 Exhibit 11: Terrestrial Ecology

(a) This description of plant communities should cover the entire project area so that significant habitat fragmentation and loss can be identified and avoided/mitigated.

(d), (e), (f) These sections should apply to all species in terms of biodiversity, and identify impacts and mitigation (avoidance, minimization of impacts) for all Threatened, Endangered, Special Concern and

SGCN that may be found in the study area. Threatened and endangered species are then subject to additional federal and state regulatory requirements.

SGCN, particularly the listed "high priority" species includes species that have not yet been designated as T, E, or SC but are in decline and likely candidates for future listing especially if their habitat is not protected. Focusing on these species rather than long lists of common species will take less time, and provide more effective protection of valuable resources. The proposed regulations are reasonably expected to include the Article 10 language that specifically identifies these species.

Mitigation for loss of habitat as per the proposed regulations or policy standards applies only to selected threatened and endangered species. This is a gross omission and indicates a lack of understanding / expertise regarding biology and ecology. Evaluation of project impacts such as forest fragmentation and habitat changes, degradation or loss are not required. Large scale renewable energy projects can affect all of these habitats unless care is taken to avoid them or mitigate loss; solar farms in particular can remove signifiant contiguous areas of habitat including forest, to be replaced by seed mixes for low growing vegetation.

Site maintenance and mitigation of impacts are not mentioned in these proposed regulations. For example, to meet Article 10 criteria for water quality protection—and also with regard to wildlife species impacts— biocides that are toxic to wildlife (eg bees) should not be used. All seed mixes and plantings should consist of native species that are appropriate to the site and that have habitat value so they can be part of a site specific mitigation plan. For example, wildflowers have been incorporated into site design at some solar farms, with the goal of maintaining pollinator species.

§900-2.13 Exhibit 12: NYS Threatened or Endangered Species

(d) The proposed regulations do not provide consistent assessment of the effects of this project on NYS listed Special Concern species and SGCN. The regulations state: "…as well as any unavoidable potential impacts to NYS threatened or endangered species or species of special concern…" As in Article 10, it's reasonable to expect that the full array of species at risk should be evaluated.

(e) These regulations need to identify the standards used for determining "de minimis" impacts- otherwise it is likely that all impacts will receive this designation from the project applicant. This section is designed to limit the review of impacts on species of concern by discounting records more than 5 years old, assigning review of applicant-conducted studies to the Office rather than to DEC wildlife professionals, and ignoring wildlife science. Species' use of a suitable habitat area may vary due to climate and population fluctuations, and often rare species will not be sighted unless they are specifically searched for. DEC does not have the resources to survey for these species regularly in all possible locations where suitable habitat is found. In addition, the attempt to again limit consideration of species to only threatened and endangered is further compounded by the reference to downlisting to Special Concern. This can be remedied by including Special Concern species as well as SGCN consistently throughout these reviews.

Chapter XVIII, Title 19 of NYCRR Part 900
Office of Renewable Energy Siting
Subpart 900-6 Uniform Standards and Conditions

Refer to comments submitted for Chapter XVIII, Title 19 of NYCRR Part 900 proposed regulations with regard to wildlife. The following pertain to these proposed standards as well:

- Large renewable energy projects are industrial developments that can dramatically alter habitats across the landscape.
- Proposed standards limit review of impacts and development of mitigation to only threatened and endangered species and omit evaluation of NYS listed species of Special Concern (SC) and Species of Greatest Conservation Need (SGCN), endangering at-risk species.
- Many provisions lack a basis in wildlife biology/ professional expertise in reviewing impacts and mitigation requirements, including omission of reference to NYSDEC and US FWS wind farm guidelines, NYSDEC Wildlife Action Plan, and specific data regarding grassland birds and bats.
- Some of the proposed short-cuts to improve expediency occurs at the expense of wildlife and habitat protection.

The proposed standards fall far short of the necessary measures needed to protect bats, in terms of protection of maternity roosting trees, curtailment standards, and accommodation of emerging research regarding improved methods for bat protection.

These proposed standards ignore the wind turbine mortality toll on migratory and breeding bird species- particularly those in decline. This can have devastating impacts on species that are already rare, or whose habits make them especially vulnerable to wind turbine mortality. In the US we have lost 30% of our birds since 1970. It is reasonable to expect the proposed standards to afford birds maximum protection from wind turbine mortality as well as from habitat loss due to large scale renewable projects.

The Endangered and Threatened Species Mitigation Bank Fund is over-used throughout these standards as a short cut to impact avoidance/ minimization and other physical mitigation. For example, see 6.4 (o) (1)(vi); (2)(i); (3)(viii); (5); (6)(iii) below. It is reasonable to expect that the proposed standards will not be less protective than Article 10 and other NYS environmental regulations, but this is not the case. Paying into the Bank will not bring back or compensate for dead birds or bats, and species decline. We have no assurance of how this money will be used to compensate for such loss.

Mitigation ratios (eg for impacts on grassland bird habitat) do not appear to be based on science and NYSDEC information but instead appear arbitrary and minimal- and if that's the case it sets a dangerous precedent for allowing habitat destruction without adequate mitigation. And since overall grassland

habitat patch size is important, how do the mitigation ratios in these proposed standards factor in to providing sufficient habitat area as replacement? The advice of wildlife professionals/ DEC and other biologists to ensure real mitigation for loss of habitat appears to be absent.

Regarding turbine curtailment to protect bats, the proposed standards state that "Modifications to the existing curtailment regime that further decrease mortality may be proposed or negotiated. Any such modifications shall not be costlier than the existing curtailment regime, unless voluntarily supported by the permittee." This epitomizes the abdication of responsibility for wildlife protection, leaving it to what amounts to industry self-regulation (which does not work), leads to ineffective mitigation, wildlife loss, and is inappropriate for mitigating significant impacts to imperiled bats.

Ongoing research is discovering new and improved methods for reducing the impacts from large renewable projects on wildlife- specifically, impacts from wind turbines on bats. These standards are expected to reflect responsibility of NYS to modify required mitigation methods to methods that are more effective in protecting wildlife, as these new methods become available— such as thee TIMR smart curtailment approach for bats (Hayes, Mark et al. "A smart curtailment approach for reducing bat fatalities and curtailment time at wind energy facilities." Ecological Applications · April 2019).

Throughout these standards, biological reviews are referred to NYSDPS and the Office rather than to biologists/ DEC professional staff. This raises the likelihood of decisions that will affect species and their habitat being made to facilitate project review and construction rather than to actually protect the species. This is not in the public interest, and flouts all of our existing state and federal regulations that protect these species. It is reasonable to expect that this is corrected.

§900-6.4 Facility Construction and Maintenance

(o) *Threatened and Endangered Species.*

(2) and (3) Threatened and endangered grassland birds are treated separately from other T and E species, but these standards do not provide a reason for this, nor do they explain whether or not a standard NCBP is also required for these species. If this is meant to provide additional protection to these species and habitat beyond what is required in the NCBP that should be made clear. If these measures are in fact less protective of these species, they should be replaced with the requirement to adhere to NCBP regulations. In addition, a definition for "de minimis" impacts must be included to ensure consistent compliance with these standards.

The requirements for mitigation regarding grassland birds and their habitat are confusing as presented, and mitigation ratio formulas do not appear to be based on biological expertise and knowledge of the species affected. In addition, "the permittee shall coordinate with the NYSDPS and the Office to adjust limits of disturbance"- but it is reasonable to expect that this type of consultation should occur with those who have the biological expertise to properly evaluate these changes.

Where is the guidance for this environmental monitoring to ensure it follows sound biological science specific to the species? This should be reviewed and approved by DEC; if the wrong protocols are followed, the species may not be detected even though it uses the habitat in question. How does a replacement ratio of 0.4 acres for every acre lost begin to compensate for impacts to the species? What is the biological basis for this? And since overall grassland habitat patch size is important, how does this ratio factor in to providing sufficient habitat area as replacement? This needs to developed in conjunction with DEC and other biologists to ensure real mitigation for loss of habitat.

(3) (viii) The purpose of avoiding damage to critical habitat for threatened or endangered species is that many of these species are in trouble because of habitat loss. Suitable replacement habitat may be difficult to locate or restore due to surrounding landscape conditions. Contribution to the Endangered and Threatened Species Mitigation Bank Fund is being offered as a short cut allowing the applicant to buy the right to destroy critical habitat, with no guarantees that it can or will be replaced anywhere near the habitat lost. This is not how species protection works, and is obviously designed for applicant convenience rather than for actual wildlife protection.

(4) Bats

(i) How will these trees be identified so they can be avoided? This requires bat surveys and searches for roosting trees throughout the project area, but the proposed regulations and standards don't specify how this is to be accomplished. Most sites have not been surveyed, so there is little inventory of "known" roosting/ maternity trees. Once located, it is difficult to ascertain the species using a roosting tree. A more reasonable approach would be to keep all disturbance at least 500 feet from any roost tree.

(ii) Why is the evaluation of bat maternity/ roosting trees up to NYSDPS and the Office - why are the biologists at DEC not in charge of reviewing this matter? It is reasonable to expect that these standards are based on wildlife science to ensure species protection.

(iii) and (iv) These sections on tree clearing are inordinately complex and confusing, with so many conditions as to make compliance difficult and in many cases unlikely. Unless extensive onsite bat surveys are conducted by bat experts (including acoustic surveys), differentiating between roosting trees used by different bat species is almost impossible.
Similarly, restrictions on removing snags mean little if removal is decided by an unspecified "environmental monitor" during a time period that is not based on bat behavior (eg daylight hours) and thus is not based on science. The standards need to make it clear that these monitors are qualified bat experts who can identify species.

(v) The curtailment parameters in these standards are not those that have proven to be the most protective of bats. It is reasonable to expect these standards to require the most effective means of protecting bats, ie: the 6.9 m/s cut in speed, from May 1-Sept. 30 under specific temperature and timing conditions, is the preferred alternative as it results in turbines killing the lowest number of bats under specific wind speed, temperature, and timing conditions. It is reasonable to expect that these standards reflect the most protective measures, as recommended by bat experts,

until and unless research discovers improved methods of protection. These standards must have the flexibility to require compliance with the most protective methods as they are developed, subject to review and recommendations by bat experts and the DEC. “Modifications to the existing curtailment regime that further decrease mortality may be proposed or negotiated. Any such modifications shall not be costlier than the existing curtailment regime, unless voluntarily supported by the permittee.” This statement in the proposed standards exposes the intent of making the process less onerous for permittees, at the expense of imperiled species and this language should be removed from the proposed standards. Relaxation of known effective mitigation standards should instead be consistently resisted in favor of DEC professional judgement. Otherwise a precedent is being established to the detriment of species protection at other future sites.

(6) Bald Eagles. This section omits mitigation including siting turbines away from active nests and outside known flight paths to reduce likelihood of turbine mortality, and presents an incomplete procedure for minimizing impacts to this species. Paying into the Bank will not bring back dead birds. These proposed standards are expected to rely on and reflect guidance from NYS DEC and US FWS, and federal regulations including provisions of the US Bald and Golden Eagle Protection Act.

(7) This entire section is not based on science, but is developed to make it seem as though the project is minimizing impacts to threatened and endangered species. It was clearly written by someone without expertise or understanding of biology or ecology. Threatened and endangered species are rare. They are not likely to be seen unless searched for specifically, and even then the species may not be found depending on the species habits and behavior, season, habitat use (feeding, nesting, breeding, roosting), and time of day. Reporting species seen requires trained biologists who know what they’re looking for, onsite and searching throughout the project site and at all times of day or night. It is highly unlikely that many, if any, species will be observed under the conditions described here. This entire section needs to be replaced with realistic means of identifying species at the site.

(8) What is the expertise of the permittee’s ‘environmental monitor’ or ‘other designated agent’ that would qualify that person to identify the nests of threatened or endangered species?

Section (i) requires that if nests are found, the NYSDPS and Office shall be notified, while section (ii) requires that if nests or eggs are found, the NYSDEC and US FWS shall be notified. This is inconsistent and confusing and needs to be clarified in the standards.

Subpart 900-15

§900-15.1 Material Incorporated by Reference

(i) NYS DEC Add:

Guidelines for Conducting Bird and Bat Studies at Commercial Wind Energy Projects. NYS Department of Environmental Conservation, June 2016

Freshwater Wetlands Delineation Manual. NYS Department of Environmental Conservation, July 1995

New York State Wildlife Action Plan, NYS Department of Environmental Conservation, September, 2015.

(q) US Fish and Wildlife Service

U.S. Fish and Wildlife Service Land-Based Wind Energy Guidelines, March 2012.

Bald and Golden Eagle Protection Act, 16 U.S.C.668-668d.

(r) US COE

Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region. Wetlands Regulatory Assistance Program, US Army Corps of Engineers. 2012.

US Army Corps of Engineers Highway Methodology Workbook Supplement: Wetland Functions and Values, A Descriptive Approach. US Army Corps of Engineers New England District, September, 1999.