

COMMENTS AND QUESTIONS RELATED TO THE
BELLEAYRE MOUNTAIN SKI CENTER UNIT
MANAGEMENT PLAN AND ITS ENVIRONMENTAL
IMPACT STATEMENT (UMP/DEIS) AND THE MODIFIED
BELLEYARE RESORT AT CATSKILL PARK
SUPPLEMENTAL DRAFT ENVIRONMENTAL IMPACT
STATEMENT (SDEIS)

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These comments and questions are submitted as authorized in the Wednesday, April 17, 2013 DEC news release entitled “DEC Now Accepting Public Comments on Belleayre Projects Through June 24” [later extended to July 24, 2013]. These questions and comments were prompted by review of the following documents:

- 1) Announcement of the Review
- 2) SDEIS and DEIS for proposed resort
- 3) Agreement in Principle from 2007 [lays out the general parameters of resort-BMSC connections, including snowmaking for Highmount Ski Center (HM) trails]
- 4) Wildlife Survey Report from SDEIS (contains nothing about fish)
- 5) 5BMSC UMP DEIS SECTION 4 ENVIRONMENTAL SETTING, POTENTIAL IMPACTS AND MITIGATION INCLUDING AQUATIC HABITAT and 4.5 TERRESTRIAL AND AQUATIC ECOLOGY)
- 6) Selected BMSC UMP appendices AA, AB, AC, and AH

Most of the questions relate to the impacts on trout streams in terms of both groundwater and surface water. First, however, it needs to be noted that the narrative on the economics of the proposed expansion and new development at Belleayre Mountain or nearby is not considered in light of those amenities already available and established in the towns of Hunter and Windham, both in Greene County, New York. Those other facilities are relatively near to Belleayre and also accessible by car on roadways connecting with the New York Thruway. Additionally that same narrative does not consider either fishing or hunting in the Catskill Park to the degree that those activities contribute to the Catskill economy. Fishing in particular has historical significance as the Catskills are thought by many to be the birthplace of fly-fishing in the United States. Further, the Esopus Creek, the East Branch of the Delaware River, the East Branch principal tributary Beaver Kill and the West Branch of the Delaware River are all trout fishing attractions.

Specifically, most of the questions to be answered during review are environmentally grounded. They are directed at serious concerns for the fishes that use the trout stream headwaters immediately adjacent to the project area, all in the New York City west of Hudson watershed and part of two major New York watersheds, either the Middle Hudson River watershed or the Delaware River watershed. They are principally concerns for groundwater protection as it relates to fish habitat.

BACKGROUND

Groundwater is key to trout presence, abundance and wellbeing. It moderates water temperature in flowing streams and provides sustained summer and winter flows. Stream flows are sustained by these groundwater flows, even in the absence of surface runoff, such as during times of drought or freezing. Groundwater provides water temperatures generally similar to the average annual air temperature of the watersheds that are its sources and stays at that average annual air temperature year round. This is a fact especially germane to coldwater fishes, trout in the instance of the project watersheds, and current climate change.

The Esopus Creek watershed above the Ashokan Reservoir and the East Branch of the Delaware River watershed are home to brook, brown and rainbow trout. While all three species may not occur in all the tributaries, one or more are generally found in each. Brook Trout, the New York State fish, are the only native salmonid in either watershed. Brook Trout are emblematic of Catskill and Adirondack streams and living indicators of the presence of cold, well-oxygenated water. In both drainages impacted by the projects, Brook Trout are generally restricted to the most upstream reaches of the watersheds and consequently spend their entire lives there. Brown Trout and Rainbow Trout move much more freely throughout the respective watersheds as water conditions and life history requirements demand. All three species of trout in both watersheds are dependent on coldwater sources when ambient flow temperatures become intolerable. Groundwater is that lifesaver, alone in the upper East Branch Delaware but sharing that trout saver role with coldwater releases from the Schoharie Reservoir at the Portal in the Esopus Creek at Shandaken.

Additionally, ground water may focus Brook Trout on spawning habitat in streams; it does so in some lakes and ponds. Natal fidelity or homing to areas where spawned, if groundwater sourced, may occur and certainly would have survival advantages for Brook Trout. When needed those cold water sources could be easily located by a sense of smell, imprinted on the fish when they leave the gravel of their nests (redds). The homing of Pacific salmon to their birth waters was shown to be a function of smell a number of years ago. Trout are salmonids. The portion of the salmonid brain responsible for smell is second in size only to the optic lobes and could certainly therefore guide Brook Trout to their birthplaces, where groundwater discharges to streams. Although possible and probable, natal fidelity and homing on ground water seeps by Brook Trout is speculation. The use of those ground water seeps as thermal

refugia during times of high stream temperatures is undeniable. Ground water seeps are solely responsible for the survival of some populations of Brook Trout at those stressful times.

As thermal refugia for trout during the summer and perhaps the winter also, groundwater needs to remain unmixed in place for a time in the stream. Water moves fastest at the outside of meanders where the stream channel is also the deepest. Therefore, the greatest cooling effect of ground water is at the inside of bends where the stream is also the shallowest. That fact must be an important consideration when work is done that might change stream alignment or alter the bank at the inside of a bend. Additionally, the impact of any changes that might alter the entry point of ground water to the stream must be considered before planning or executing work in or near streams, ditching for example, again to allow discharge to the flowing stream where it is not immediately mixed and provides an area of cooler water.

Although apparently ignored as a reason for promoting development of the area for recreation, fishing in the Catskills is very important. Consequently, fish and habitat need to be emphasized in review of construction and operation of the proposals under consideration and provided as part of any application for permits to proceed.

QUESTIONS THAT NEED TO BE ADDRESSED:

PROJECT IMPACTS TO WATERSHED GROUNDWATER

What portions of the stream flows are currently provided by groundwater and what portion of those flows will be affected during construction and operation of the projects?

What portion of water flow in watershed streams currently watered by project watersheds are groundwater contributions from those watersheds?

How will that groundwater input change relative to changes resulting from the project watersheds: including but not limited to the following changes specifically?

Portion of groundwater in the stream flows

Seasonality of groundwater contributions

Chemical and physical (thermal) quality of groundwater

Location of groundwater discharge to flowing stream (outside or inside of bend and including changes caused by pipe to Pine Hill WTP, installation and operation)

Note that in this review, groundwater watershed refers to both the watershed of the surface contribution to the groundwater and the extent of groundwater and its influence subsurface.

Also, Pine Hill treated wastewater must be considered as a watershed contribution to the aquatic community impacted by the projects.

PROJECT IMPACTS ON SURFACE WATER

How will runoff quality and quantity from the projects change during the projects, including but not limited to the following aspects specifically?

Seasonality of runoff, including by season and long-term impacts from chemical treatment for snowmaking and maintenance of ski slopes and golf course

Portions of runoff intercepted and contributing to groundwater recharge and the distribution of chemical aspects of surface runoff chemicals to groundwater

Physical and chemical properties of runoff, including thermal properties and contributions of chemicals from flocculation and snowmaking, as well as maintenance of golf courses and ski slopes (e.g., herbicides, pesticides and fertilizers)

PROJECT WETLANDS

Is the wetland proposed as mitigation for the loss of other wetlands in the project areas expected to provide the same amount and quality of groundwater recharge as the wetlands lost through project construction and operation?

Will the habitat provided by the proposed mitigation wetland be the same or very similar to the habitat loss that it is supposed to mitigate?

How will aquifers and wetlands in the project area be affected by increased uses of water for snowmaking and golf course irrigation?

Will the proposed mitigation wetland provide for equal or greater groundwater recharge than that from the wetland(s) lost from project development?

Will the mitigation wetland recharged groundwater be of equal or better quality for trout habitat compared to what will be lost from project development (in terms of physical and chemical attributes)?

Will the proposed mitigation wetland provide similar wetland habitat for biota as the wetland(s) lost from project development?

What will the mitigation wetland biota include as expected in the type of habitat created, plants and animals?

How does the expected mitigation wetland biota compare to wetlands lost from project development that it is proposed to mitigate?

Are any of the wetlands that will be lost due to project construction or development vernal pools?

If there are no vernal pools currently in the project footprints, has the construction of vernal pools been considered for development as mitigation?

BIOLOGY AND ECOLOGY

Has the fact that young of the year Brook Trout, Brown Trout and Rainbow Trout have all been collected in unnamed Emory Brook tributaries D-70-80-12-3 and D-70-80-12-2, immediately down slope of the ski trails at Belleayre been addressed in the UMP/DEIS/SDEIS and Cumulative Impact?

Note that in terms of classifications and standards of NY waters the subject area for the modified projects (DEC Region 3 and DEC Region 4) contains streams and tributaries lacking upgrades despite abundant and longstanding documentation by DEC natural resources staff in support of those upgrades and the ever present need. Specifically, fishery surveys have shown that most of the smaller tributaries to Birch Creek of the Ashokan watershed and Emory Brook of the Pepacton watershed (both NY City watersheds) are, in fact, trout spawning waters and therefore eligible for trout spawning, T(s), status and the protection that such distinction in law provides. Moreover, documentation has been prepared for the upgrade of standards subsequent to those fishery surveys. Therefore, for the purposes of review of these projects under SEQRA, waters whose recent surveys support upgrade to T or T(s) levels as trout or trout spawning waters should be treated as if officially upgraded and protected by the law as such distinctions allow. These waters should be upgraded officially, at the earliest opportunity, and this upgrade strategy should be applied in future hearings for other waters statewide where stream classification and standard upgrades are supported by existing documentation but official reclassification lagging.

If so considered, how so for any necessary mitigation if habitat damages are expected from project construction or operation?

Has mitigation been proposed to allow the possibility of passage of trout beyond the small pond on Emory Brook tributary D-70-80-12-4?

Is a change in the composition of macroinvertebrates included in the biological assessment anticipated as a result of the impact of the project watersheds on that biota?

If that change is expected, will there be follow up assessment surveys during construction and operation of the projects?

If follow up biological assessments are proposed, when will they be done and what will be the outcome on findings from those surveys on the construction and operation of the projects, and future projects and their environmental assessments?

Has the fact been considered that the fisheries data included in the assessment only represent sampling that was done when conditions allowed (low to moderate stream flows and open and relatively clear water) and that the distribution and metrics of the fishes and their populations sampled during those times are expected to change seasonally, probably weekly and even day to day and certainly site to site (given that all biological systems are extremely dynamic)?

Has climate change been considered relative to the biology and ecology of the watersheds?

What, if any, mitigation is proposed for project impacts to the biology and ecology of the watersheds in relation to consideration of climate change?

Has a snowmaking schedule been written showing how much snow goes on each trail, in what order and how much water is needed to make that snow?

If not, why not and when will that be controlled?

Is it reasonable to expect the State to oversee the State?

If planned, what are the limits on snowmaking other than pumping capacity and weather?

Does snowmaking planning/scheduling as key to ski trail operation anticipate and address climate change?

Does ski slope budgeting consider costs for snowmaking or is that funding open ended?

How will melt from manmade snow differ from runoff from natural snow in relation to how, where and when it effects the receiving water that it drains into and in terms of runoff constituents?

What additives will be used with water to enhance snowmaking?

Will any snowmaking additives proposed for use in the future differ from any that might be used now?

Have snowmaking additives been proven to be innocuous?

If it is not known if snow-making additives are innocuous, what might be the impacts of those additives on biota that are exposed to them?

PROJECT CONSTRUCTION AND OPERATION

What was the purpose of the biological assessment of the nearby streams relative to construction and operation of the projects? Why does that assessment only reflect water quality measures such as low oxygen level or the presence of substances toxic to aquatic life?

Why is the transfer of wastewater to the Pine Hill wastewater treatment facility being considered rather than onsite? What are the expected impacts to downstream areas in terms of dissolved oxygen and the presence of toxicants?

Is construction or operation of the amenities of the projects expected to cause a loss of water quality that affects the populations of macro-invertebrates in the streams as sampled during biological assessments such as the ones reported (diminished oxygen also)?

Will or have the impacts of water use for golf course irrigation and snowmaking been considered relative to impacts on existing biota in the watershed?

Since operation of the golf course organically is not guaranteed, will golf course and/or ski slope construction or operation require the use of herbicides, pesticides, fertilizers, flocculants (e.g., chitosan sulfate), and/or other chemicals or products that are harmful to fish and other aquatic organisms?

Is or will the use of pesticides, herbicides, or flocculants that are deleterious to non-target organisms be permitted?

If herbicides, pesticides, or flocculants harmful to non-target organisms are permitted for use at either or both projects, will there be follow-up biological sampling in the streams of the watersheds subsequent to use of those products?

Have the impacts of pesticides, fertilizers and water additives for snowmaking been described for the construction and operation of both facilities relative to habitat for aquatic and terrestrial biota?

If follow up biological testing does occur and shows that pesticides, herbicides, flocculants, or snowmaking additives used on the project(s) are deleterious to aquatic organisms, what will be done to rectify that problem?

How will the use of water for snowmaking and golf course irrigation alter ground water recharge in the project watersheds?

Does the golf course design consider the need for water/irrigation?

Does golf course design consider impacts of climate change on golf course watering and irrigation?

Have water needs for golf course watering and irrigation been spelled out, after consideration of competing existing needs of biota currently needing that water?

Have limits been established on how much water is allowed for use for golf course watering and irrigation, particularly with regard to existing biota needs?

Do the project impact statements discuss the existing groundwater and surface water contributions to the surface water down hill and changes (quantity, quality and temporally (at very least seasonally) to that down hill surface water (flowing streams) subsequent to project construction and operation?

Have project impact statements discussed climate change on all impact aspects?

Who is going to monitor and control water use by both projects?

What other negative impacts to the watersheds other than those listed are expected from construction and operation of the golf course and the ski slopes and what mitigation is proposed for those impacts?

How will stormwater management during construction and operation of the projects alter the quantity and quality of groundwater?

Have long-term plans for the facilities been described in the event that either or both do not meet expected goals for use and need to be shut down or managed at less than profitable levels?

WASTEWATER MANAGEMENT

Why is wastewater from the resort proposed to be handled by the Pine Hill waste water treatment facility operated by the New York City Department of Environmental Protection (NYC DEP), out of the immediate project watershed, rather than onsite in septic fields, which would also remove pollutants not currently being removed at the NYC DEP facility and would allow for ground water recharge in the project watersheds?

What are the impacts to the aquatic biota of Birch Creek from additional treated wastewater from the Pine Hill facility?

Has staging of construction at both facilities been described, for example construction done so that construction activities are done in a descending order so that impacts are somewhat ameliorated for subsequent construction activities?

Has the use of onsite treated wastewater been considered for either snowmaking or watering/irrigation of the golf course?

Would the cost of pipeline construction for the transfer of wastewater to Pine Hill and maintenance of that pipeline be borne by private developers or taxpayers of the state?

Have the effects of pipe trenching and placement from the project sites to the wastewater treatment facility at Pine Hill been considered relative to the impact of those activities on groundwater supply to the immediate watersheds?

Has onsite treatment of wastewater been considered or seriously ruled out as less fish-friendly than transfer of wastewater to Pine Hill? Would onsite treatment from septic fields prevent loss of groundwater recharge?

Has the benefit of onsite treatment of wastewater with septic fields and subsequent groundwater recharge been considered relative to the removal of harmful pharmaceuticals and other wastewater constituents that are not removed at the Pine Hill wastewater treatment facility (for example hormones from birth control pills)?

What is the likelihood that the Pine Hill DEP wastewater facility is unable to treat the wastewater from the projects due to natural or unnatural events including excessive input from the projects?

Have the impacts from untreated wastewater bypassing or flowing through the Pine Hill wastewater treatment facility been discussed?

How will construction and operation of the projects impact groundwater, recharge, quality and delivery to flowing water in the watersheds (see specifics below under groundwater)?

CLIMATE CHANGE

Has climate change been considered relative to project construction and operation?

If so what are the expectations for climate change impacts on the aquatic environment in the watershed areas, all as relate to project construction and operation?

If not considered, why not?

How will project construction and operation deal with climate change?

Are there limits set on use of watershed water for golf course irrigation and snowmaking? If so, what are those limits and how do they relate to water availability in the watershed, especially during times of drought or near-drought?

ECONOMIC IMPACTS OF PROJECTS

Has climate change been considered relative to change in tourism patterns, including angling and other nature-based activities, and those impacts on project economic expectations?

Have the economic impacts of the Route 28 projects been considered in light of similar established competing tourist amenities in the Towns of Hunter and Windham in nearby Greene County, New York?

Is review of the application for the private project construction and operation by regulatory agencies being paid for by the applicant or by the taxpaying public?

If application fees do not cover review expenses paid for with public monies, why not and when?

Are the project sites being considered for future development as a site for construction and operation of a gambling casino but not discussed?

If development of the private site is being considered relative to future development as a gambling casino site and not discussed, why not discussed?

AESTHETICS OF PROJECTS

How will the projects impact the aesthetics of the watersheds including appearances but also noise, air quality, weather and whatever other environmental aspects will be altered?

Who makes the determination of what is acceptable in terms of aesthetics? If the criterion is in “the eye of the beholder,” have the perspectives of anglers and other users of the streams and Catskill Forest Preserve been considered and the natural surroundings of the wilderness preserved?

SUMMARY

The questions posed above seek answers to what seems to be an almost complete lack of consideration for fisheries and fish habitat in the materials prepared for project applications. These considerations are vital not only based on the importance of the fish and fisheries to the history of the Catskills but also as an existing draw for ecotourism. It is simply unacceptable to neglect to consider the impact of the construction and operation of the projects on the habitat of the aquatic inhabitants of the watersheds impacted by the projects.

The specific habitat neglected in the entire consideration of these projects by all the applicants (i.e., the resort developer, the DEC, the NYC DEP and ORDA and other New York State agencies) is water -- ground water input to the streams and surface water from the watersheds of the projects as it impacts the streams directly and as groundwater recharge.

While this review pays less attention to other watershed project impacts and the far reach of those other impacts (economic impacts particularly), they nevertheless deserve consideration also.

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