The Proposed Development of the Big Tupper Ski Area: Economic Salvation or Environmental Stewardship?

Leah Quinn, Sarah Rohrs, Sarah Spadaccini
Conservation Biology
St. Lawrence University
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**Table of Contents**

Summary......................................................................................................................1

Local History.............................................................................................................2

Problem Definition.....................................................................................................5

Human Impacts...........................................................................................................8
  Pollution....................................................................................................................9
  Human Recreation Increase.......................................................................................12
  Habitat Alterations..................................................................................................14
  Effects of Marina Development & Increased Boat Traffic.....................................19

Governmental Issues...............................................................................................20

Identification of Stakeholders...................................................................................25

Development of Solutions to the Problem...............................................................33

Parameterized Solutions............................................................................................36

Potential Solutions....................................................................................................40

Idealized Solution.......................................................................................................43

Implementation...........................................................................................................45

Bibliography..............................................................................................................47

**Appendices-**

**A-** Adirondack Park Agency Act §580.2 Determination to conduct public hearing.

**B-** Adirondack Park Agency Act §805 Development considerations

**C-** Aerial photo draped over topographical relief of current ski area

**D-** Aerial photo of Lake Simond Rd. area and OWD landholdings

**E-** Adirondack Park Agency Land Use Classifications

**F-** Roads and Land Use Classifications for Tupper Lake area

**G-** Topography of Mt. Morris and Land Use Classifications
Summary:

When the Big Tupper Ski Area closed several years ago, the community of Tupper Lake, New York felt harsh economic effects. Tourism and the money it brought into the community decreased drastically, and area hotels and restaurants suffered. The ski area was designed with families in mind, and was a major source of recreation for Tupper Lake residents and visitors alike.

Lately the ski area has again become the “talk of the town”, as developer Michael Foxman, a member of an investment group called “The Preserve Associates”, outlined a proposal to buy the ski area and adjacent acreage and develop the ski area as well as adjoining accommodations. Tupper Lake is within the boundary of the New York State Adirondack Park, and thus is subject to zoning laws and regulations administered by the Adirondack Park Agency. While some Tupper Lake and Adirondack Park residents, as well as local businesses and government are enthusiastic about the prospect, there is another segment of the public that is concerned about the wide-scale development that is being proposed. Those who support the project are excited that the ski area will once again be operational, and that it will serve as a source of recreation and give the area an economic boom. People in opposition to the project are concerned with the degradation of the natural surroundings that have defined the character of the town. They contend that the disruption of the natural ecosystems will cause unnecessary damage to the environment and landscape, and that the goal of the Adirondack Park is to maintain and preserve the integrity of the natural world.

Our report examines the situation and delineates what we believe to be an acceptable compromise for the developer and conservation. In doing so, we examine the
downfalls and contradictions of the project with major themes of conservation biology. This analysis also includes an examination of the Adirondack Park Agency’s assessment of different components in the proposed development. As a State agency designed to direct the development of private lands within the park, they have a responsibility to recognize that development will occur, but they also make every attempt to limit the impacts and refuse development that has undue adverse impacts. However, some applications that receive a permit contain developments that conservationists believe contradict the mission and goals of the Adirondack Park.

In our analysis, we have researched the various perspectives and opinions of the numerous stakeholders for the project. We have compiled our findings and have used these viewpoints to delineate what we consider to be an acceptable compromise and solution for the proposed development. While we realize that our proposal will probably not be the plan that is actually implemented, we hope that our suggestions for the limitation of adverse impacts on the environment, and our considerations given to preserving the integrity of natural landscapes and ecosystems will be accounted for in the final development strategy.

**Local History:**

Tupper Lake is located in Franklin County in upstate New York; a small, rural town with the year-round population estimated to be 3,900 in 2003. The population resides in about 1,839 housing units, which range from apartments and townhouses to private family homes. An economic analysis of the area illustrated that Tupper Lake is a somewhat impoverished area with a per capita income of $15,567, significantly below the
national figure ($21,587). One factor affecting these financial statistics is that only about 38% of adults (25+) in the Tupper Lake area hold college degrees (e-podunk 2005).

The area is currently attempting to expand its economy by creating interest in the natural surroundings through endeavors such as the construction of the Natural History Museum of the Adirondacks (NHMA). The museum is slated for completion in 2006, and will potentially increase tourism as well as education about the Adirondack Park. This museum is different from the Adirondack Museum located in Blue Mountain Lake, because it focuses primarily on the natural phenomena, flora, and fauna of the Adirondacks. Alternatively, the Adirondack Museum holds the cultural aspects of the Adirondacks as its central theme. The NHMA will house numerous exhibits that will address the natural landscape and ecosystems of the Adirondacks. There will be numerous educational programs at the museum, and it will potentially play host to numerous tourists who are interested in learning more about the outdoors (NHMA 2005).

There is also a group organizing a campaign to extend the current Adirondack Scenic Railroad so that it will include a station in Tupper Lake. Throughout the town’s history, the railroad played an integral role in transporting the area’s timber and lumber to markets elsewhere in the state and country. This endeavor hopes to restore the railroad between Tupper Lake and Saranac Lake so that tourists and residents alike can enjoy a scenic tour through secluded terrain in the Adirondacks. The projected cost of repairing the 18-mile line between Tupper Lake and Saranac Lake is estimated at $5 million. Proponents illustrate that restoring the historic route between Utica and Lake Placid will not only provide another recreational opportunity to residents and visitors, but it will also
be an eco-friendly way of getting people into and around the Adirondack Park (Rauch 2002).

Tupper Lake was settled around 1844, when lumberjacks and their families began to build homes along the Raquette River and on the shores of Big Tupper Lake. The area didn’t really experience a boom until John Hurd, son-in-law of PT Barnum began developing the Northern Adirondack Railroad. His purpose for development was for the transportation of lumber from his large sawmill operation. In 1918, the Oval Wood Dish Corporation (OWD) completed its facility, which produced wooden dishes for sale and distribution around the state and country. The company had a high demand for timber, and owned large tracts of land around the area of Tupper Lake, and employed numerous logging outfits to meet its high need (tupperlake.net 2004). The OWD has been in existence in Tupper Lake ever since its first opening, and has changed their manufacturing to create plastic utensils, plates, and cups. Despite the change in products, the land has continuously been logged by outfits who lease rights to the area for logging purposes. A significant portion of the land slated for development, owned by OWD, is also sub-leased to three separate hunting clubs; the Springhill Club, the Big Simond Hunting Club, and Sugarloaf Club all maintain separate leases on the property and have constructed small hunting camps without running water or electricity (Quinn 2005).

Tupper Lake residents enjoy the myriad of outdoor recreation opportunities that the immediate area affords them. Residents of the town enjoy hunting, fishing, cross-country skiing, snowmobiling, all forms of boating, swimming, camping, hiking, as well as many others. Members of the hunting clubs are saddened to see the end of what has been a long-time familial tradition; their leases will be terminated with the purchase of
the OWD tract. This apprehension is felt by many local recreationists, and will be discussed further in our stakeholder issues portion of the paper.

In all, the ski area will fit in nicely with the current plans to expand tourism, awareness, and education about this region of the Adirondack Park, and will also give the area somewhat of an economic boost in complementing these plans. However, the development will also mean a break from the traditions and typical way of life for many residents of Tupper Lake, in addition to, perhaps, other residents within the Adirondack Park.

**Problem Definition:**

The proposal of the Preserve at Tupper Lake is an extensive project consisting of several components, which if passed in its entirety will be completed by the year 2020. The immense scale of the development has sparked discussion amongst local business owners and potential employees over the economic potential that could be brought to the Town of Tupper Lake and surrounding villages, excitement for those residents and tourists who would be attracted by the reopening of the ski area and an expansion of the town residency in general, but also concern among residents and personnel of the Adirondack Park Agency and other environmental groups as to the biological implications of such a massive undertaking.

A primary focus of the proposed development by Michael Foxman is the reopening of the Big Tupper Ski Area, originally opened in December of 1960 and closed in 1999 after a series of ownership changes. At the time of its closing, the remaining buildings continued to be maintained in the hopes of opening the ski facilities again when
an owner of the property found it financially feasible. This amenity in addition to the availability of the adjacent land influenced Foxman’s decision for the project’s location in Tupper Lake (Foxman 2005). In its reopening, there would be a great deal of modifications, entailing a new base lodge, new lifts, trail improvements, upgrading of the snowmaking equipment, the rehabilitation of existing maintenance and storage facilities, a drop off area and new parking areas. Other expansion at the base of the mountain would include a spa, a learning center, art shacks, a health club with a pool, tennis courts, a ski patrol building, an amphitheater, kiosks, and a pond (Residents’ Committee to Protect the Adirondacks 2004). To accommodate the people, both visitors and potential landowners coming to the area, a number of residential components have also been proposed, including quads, triples, duplexes, and single family homes, a portion of which will be ski in/ski out housing. Within the residential plans there is an allocation for 25 “Great Camp” lots of about 80 acres each, which will be developed by landowners under the guidelines set forth in the proposal, including a maximum number of 4 attached units, a maximum 40 feet (3 story) building height, a maximum building length of 97 feet, and the minimum distance between buildings to be 50 feet. In addition to the “Great Camps” other proposed structures include a cluster of 4 condo hotels, totaling 90 available suites in close proximity to the mountain. (Table 1 shows a complete breakdown of housing buildings/units).
Table 1. Breakdown of Housing Building and Units Numbers

<table>
<thead>
<tr>
<th>Building Type</th>
<th>Number of Buildings</th>
<th>Number of Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quads</td>
<td>102 buildings</td>
<td>408 units</td>
</tr>
<tr>
<td>Triples</td>
<td>10 buildings</td>
<td>30 units</td>
</tr>
<tr>
<td>Duplex</td>
<td>24 buildings</td>
<td>48 units</td>
</tr>
<tr>
<td>Single Family Homes</td>
<td>259 buildings</td>
<td>259 units</td>
</tr>
<tr>
<td>Great Camp Lots</td>
<td>25 home sites</td>
<td>25 units</td>
</tr>
<tr>
<td>Condo Hotel</td>
<td>4 building clusters</td>
<td>9 (90 suites)</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td><strong>779 building rights, 860 units</strong></td>
</tr>
</tbody>
</table>

The buildings will be built in an “Adirondack architectural style” so that the buildings can blend more into the surroundings and consistent theme found all within the Adirondack Park.

The residences would be maintained by town and village sewer, water, and other municipal services, with the exception of the “Great Camps” whose construction would include water and sewer facility installation at the particular site. In addition to the development of the ski facilities and surrounding area, 50-60 boat slips and a new marina would be created in place of the existing McDonald’s marina, and a canoe launch would be created on Lake Simond. In order to accommodate the growing number of tourists an extensive project like this would bring to the area, the introduction of a new access road to the area would be constructed off New York State Route 30 near Blue Jay Campground. Existing hiking trails would be utilized, and “if necessary” would be adjusted in terms of width, etc. for logging, which has been a fairly lucrative practice in the Tupper Lake area. The proposal states that 1,700 acres will be left without development, dedicated to preservation of the biological value of the area.

Mr. Foxman had the following comments about the enormity of the project:

The mountain needs beds to survive. It is small and somewhat remote. Skiers have to sleep somewhere.
The local area has only 90 beds. The infrastructure cost is high and requires a substantial number of lots/houses to justify it. The ski area must be self-sustaining or close to it to survive the vagaries of weather. Therefore, we need a significant number of lots (beds) to support it. Each lot is assessed about $840 a year for the benefit of the ski area. In addition, the cost of reopening the ski area is significant. The profit from lots sales provides that money. The potential profit justifies the risk of reopening a failed ski area (Foxman 2005).

The Village of Tupper Lake must annex the residential homes to the municipal sewer and water systems through a joint hearing and approval from the town and the village, and then must refer the issue to the Franklin County Planning Department for an advisory recommendation. A Class A permit must be obtained from the Adirondack Park Agency in conformance with Section 572.3 of their guidelines, which presents the process for hearings and approval of projects regarding land in the Adirondack Park (see section on Governmental Issues). There must be a site plan review approval from the Village and Town of Tupper Lake as per zoning laws and subdivision regulations, the Department of Environmental Conservation approval for stormwater management, shoreline activities, and stream crossings, and the Department of Transportation approval for the new Route 30 access road to the area. In deciding on a course of action to take, the APA and other permit-granting institutions must consider all the beneficiaries of the proposal.

**Human Impacts:**

A large concern of the Big Tupper project that has a large portion of stakeholders in a state of unrest is that of the potential impact that the development will have on the environment. One of the biggest overall factors affecting the environment today is that of
human impact, so it is no surprise that people are questioning what the outcomes could potentially be when this project begins. Such detrimental results of human impact include a decline in the amount of many species and populations, declines in the amount and quality of certain habitats, or a radical alteration of the habitat structure (i.e. food web dynamics, or a presence of species during a particular season). Although there have not been many studies within the actual town of Tupper Lake that examined the effects of human impact on nature, there are still numerous case studies which have been conducted in similar areas like that of Tupper Lake, such as Yellowstone National Park, the Rocky Mountain region, and other areas within the Adirondack Park. These studies have shown a great amount of data leading to the notion that developments will ultimately lead to some form of habitat or species decline

**Pollution**

1. **Air.** With the increase in recreation within the Tupper Lake region, there will be an increase in the amount of recreational vehicles. Yellowstone National Park is a very well known protected park in the United States, yet park officials are still facing situations in which human activity is a large detrimental effect on the area. Officials want to have visitors within the area, but are hit with the harsh reality that too many visitors and too much action within the park are affecting the structure and integrity. In Yellowstone, the fight between access and environment involves traffic around the bases of giant sequoia trees that have been damaging the shallow roots, and snowmobiles in the backcountry causing haze pollution. In addition to snowmobiles, personal watercrafts (i.e. jet skis), all-terrain vehicles, and
sightseeing overflights are big contributors to air pollution as well. Off-road vehicles produce a wide range of dangerous pollutants, such as carbon monoxide, nitrogen oxides, hydrocarbon, particulate matter, benzene, methyl tertiary butyl ether (MTBE), and compounds known as polycyclic aromatic hydrocarbons (PAHs), all of which contribute to global warming (Nature Trails and Water Coalition 2002). According to the U.S. Environmental Protection Agency (EPA), the average two-stroke motor dumps 25 to 30 percent of its fuel mixture unburned into the air and water, and based on research by the California Air Resources Board, using a jet ski with a two-stroke motor for one day produces as much smog-forming pollution as driving a car 100,000 miles. The EPA estimates that air pollution from off-road vehicles increased from 17 to 22 percent of the nationwide total produced by mobile sources between 1989 and 1998 (Nature Trails and Water Coalition 2002).

2. **Water.** With the addition of boat slips at the marina in Tupper Lake, there will surely be a boost in the amount of water pollution going into the Raquette River and other bodies of water surrounding Tupper Lake. Amplification in personal watercrafts and boats will ultimately affect the aquatic wildlife due to the discharging of unburned fuel. At the Lake Mead National Recreation Area in Arizona and Nevada, the National Park Service estimates that two-stroke engines alone discharge as much as 27,000 gallons of unburned fuel into the lake per day during peak summer weekends (Nature Trails and Water Coalition 2002). In addition, a comprehensive report issued in May 2002 by
the National Research Council concluded that jet skis and other boats equipped with two-stroke engines are a noteworthy source of oil pollution throughout North America (Nature Trails and Water Coalition 2002).

3. **Noise.** With an increase in the amount of vacationers, there will be a greater amount of noise coming from certain forms of recreation, including snowmobiles, all-terrain vehicles, and jet skis. Noise pollution is of a main concern to ecosystems. Certain animals use sounds to mark their territory, find mates, or communicate with one another about impending danger. With the addition of outside noise, communication is disrupted along with these major habits (Lavendel 2002). It has even been studied that road noise can negatively affect birds at distances up to 1,000 meters (Jordan 2000). In addition to a disruption of ecosystems, an increase in noise will take away some of the natural experiences that vacationers are looking for in the first place. For example, when there is a series of snowmobiles cutting through a quiet afternoon, animosity may build up within other vacationers or locals over the unnatural and obnoxious sound (Watkins 1999).

4. **Light.** The Big Tupper Ski project is looking to provide nighttime skiing during the winter, as well as nighttime mountain-biking in the warmer seasons. Light pollution can have many effects on varying species of animals, including frogs and salamanders. It has been found that if nocturnal frogs are exposed to artificial light, their normal feeding patterns are suspended as well as their reproductive behaviors. These species will even sit motionless after
the light has been turned off, leaving the frogs susceptible to predators (Harder 2002).

**Human Recreation Increase**

The Ecotourism Society claims that there is an explosion of tourism based on nature, wildlife, and adventure travel (Tenebaum 2000). This alternative attracts individuals who are looking for peace and serenity while vacationing. Due to Tupper Lake’s small size, it is very possible that the building of the attractions will inevitably cause an overabundance in human recreation both on land and in the water. With human presence, several factors may be the demise to animal populations.

Snowmobiling and other land recreational activities are strong key factors in the reduction species present within an area. During the winter, small mammals that dwell under the snow can be significantly affected by snowmobiles because the machines compact their surrounding snow environment. Death may be cause directly by crushing, or indirectly once the insulating value of snow decreases after it has been compacted down (“Effects of Recreation on Rocky Mountain Wildlife” 1999). In addition, shrubs and young trees are particularly vulnerable to physical damage by snowmobiles that may run over or into shrubs above the snow or plants underneath the snow (“Effects of Recreation on Rocky Mountain Wildlife” 1999).

As for aquatic species, the effects of watercrafts are of particular concern. Watercrafts, such as boats, erode the shoreline, pollution from the engine, stir up any toxins present at the bottom, damage aquatic vegetation by the propellers of the boat, and increase the frequency of turbid waters. Wakes by boats may also wear away den
entryways and muskrat canals, and reduce the integrity of aquatic mammalian homes (“Effects of Recreation on Rocky Mountain Wildlife” 1999).

One of the occurrences that may happen within hiking areas, or other areas that may come across some small wildlife are that of removal of the organisms. Removing an animal has the potential to do a lot of harm to the overall population. By removing several organisms, there is a reduction in both the number of species, and the reduction of variety within the gene pool. For example: in a case study of wood turtles (*Clemmys insculpta*) in Connecticut, almost one turtle seemed to be removed from the property for every 19 hiking permits that were issued (Garber and Burger 1995). In the case of Big Tupper, Foxman plans on having an increase in the amount of hiking grounds and boats on the lake (directly related to the increase in the amount of boat slips in the marina), which might be potential areas of collection by visitors. With the definite increase in the amount of vacationers and hikers, there might be a possibility in which these people might find a small animal and bring it home with them.

Hikers and vacationers often enjoy taking their dogs with them on their adventures, which may negatively affect wildlife habitats even in the company of the dog’s owner. Most domestic dogs that are not chained have instincts to hunt and/or chase other small animals such as birds and little mammals. Even if dogs are controlled by a leash and not allowed to chase wildlife, their very presence can be disruptive to many wildlife species, especially during winter when harassment by dogs results in excessive energy expenditures by other animal species. During spring and summer, pregnant wildlife and newborns can be particularly vulnerable to harassment or attacks by domestic dogs. Domestic dogs can potentially introduce diseases (distemper, parvovirus,
and rabies) and transport parasites into wildlife habitats that can decrease populations (“Effects of Recreation on Rocky Mountain Wildlife” 1999).

Not only will vertebrates be affected, but plants will also be hit with a major hurdle to overcome, especially on the ski slopes. With the use of tractors, bulldozers, skiers, and walkers, there will be a destroying of vegetation and an increase in soil erosion. Vegetation has a chance to become less healthy on the heavily used parts of the ski ground, with a higher proportion of grass than anything. Fertilizer can shift, causing other vegetation nearby to become taller and greener (Watson 1979). With a decrease in vegetation on the mountain, there can become a decrease in the amount of bird and small mammal species that had the chance to establish themselves after the first initial shutting down of the mountain.

**Habitat Alterations**

When a habitat undergoes fragmentation, many factors that accompany fragmentation may affect a variety of species. Habitat fragmentation may have an effect on the mobility of an animal, further causing a disruption in the dispersal, colonization, reproduction, and foraging ability. With a fragmentation of a habitat, populations are then split up into several areas, which may reduce the populations, causing a decrease in the size and genetic make-up of the populations. Some populations, if they are in fact very small, may actually be driven to extinction because of insufficient numbers within the population. When examining the Big Tupper Project, APA staff member Sunita Halasz raised a significant point dealing with habitat fragmentation: “There will likely be an increase in wildlife and plant species diversity—the classic ‘edge effect’—with such
development. However, these species would likely be habitat generalists and non-native domesticated plants and animals, while the habitat specialists, such as forest interior birds, are displaced” (Mann 2005). Michale Glennon, a biologist with the Wildlife Conservation Society and a Saranac Lake resident, echoed these notions saying that “roads, traffic, lights, noise, pets, and lawns all tend to scare away animals that shy away from people, such as pine marten, but attract other species that thrive in edge habitat, such as deer…the Great Camps might displace the wood thrush…and attract robins and blue jays” (Mann 2005).

With a habitat conducive to thriving deer populations, and a limitation and decrease of hunting activities in the region, we can expect to see a large boom in the number of deer inhabiting the area. Currently, there are two times as many deer in the lower 48 states than only a decade ago; estimates predict the total deer population to be approximately 25 million white-tailed deer (*Odocoileus virginianus*).

Along with increased human-deer interactions, the fragmented landscape limits hunting according to regulations regarding firing a weapon within a certain range from both roadways and dwellings, thus limiting potential hunting activities. According to an annual newsletter published by the Big Simond Hunting Club, there have been 144 deer killed on their park between the 1987 and 2004 hunting seasons (Farrell 2005). With the disappearance of this club and two others like it, we can expect to see out of control deer populations. Unregulated growth of deer is due to a lack of hunting, a lack of natural predators, the fact that deer are habitat generalists, and the fact that a single doe and her offspring produce about 100 fawns over the course of an average 10-year lifespan (Nelson 1994).
This drastic increase in deer populations can lead to many problems. The increased presence of human homes in a fragmented landscape means increased human and deer interactions which include the destruction of ornamental shrubbery, gardens, and lawns. Increased feeding by deer can reduce understory vegetation so that birds and numerous other species reliant on the vegetation are forced elsewhere. Human presence also eliminates natural deer predators, and typically the anthropogenic predator is personal vehicles (Nelson 1994).

Edge effects can bring about both negative abiotic and biotic factors that can alter the composition of an ecosystem. The biotic factors of edge effects include the relationships between species, such as an increase in predation, or competition of food sources. As for the abiotic effects, microclimatic changes (i.e. sunlight, rainfall, wind, humidity, temperature) can have effects on many species of plants and animals. Breeding birds may become adversely affected by edge effects, including decreased nesting near trails, increased predation by cowbirds, skunks, and other scavengers which may spot the birds in cleared corridors. With open edges, species may become hesitant to cross a barrier or man-made trail that has bare soil. (Jordan 2000).

A prime example of edge effect and habitat fragmentation involves road construction. In the Big Tupper plan, there is a call for an increase for some roads, yet Michael Foxman does not want a lot of roads built, but rather shared by loggers and vacationers. Yet, with an increase in road density, there could still be a problem especially with the native plant and animal species of Tupper Lake.

Roads, although beneficial to human travel by acting as a way to get from one place to another, may in fact do the opposite for many species. Within the Adirondacks,
Michale Glennon conducted a study that examined the relationship of land use management to distribution and community structure of two faunal communities: moles (Order Insectivora) and birds (Class Aves). The focus of her project was to examine how the structures of small mammal and bird communities change along a gradient of human impact in the Adirondack Park (Glennon 2003). In her study, she found that old growth forests contained a significantly higher abundance of total small mammals (i.e. chipmunks, Tamias striatus), than managed forests or areas of residential development. In the proposition of Michael Foxman, areas of Tupper Lake would in fact transition from this old forest to a managed forest area with residential development. Looking at Glennon’s study, one would be led to believe that there could potentially be a decline in the amount of smaller mammals in areas of Tupper Lake. Another finding by Glennon was that of the integrity of several bird communities within the Adirondacks. There was a strong relationship between roadlessness and abundance of birds, along with the fact that birds responded primarily to the distinction between residential and undeveloped lands (Glennon 2003). Glennon also stated that there is a great importance of the open space resources provided by some of the private lands because they serve as prime places for species diversity. Yet, these private lands are particularly vulnerable to potential development plans that may overtake the area. In a study conducted in Ontario, Canada, increasing hard surface roads by 2 m/ha has the potential of reducing the herptile richness by 19% and bird species richness by 14% (Watkins et. al. 2003). Again, with the increase in road density, there could be an alteration of the food-chain or of the overall species diversity.
With an increase in road density, there is also a greater chance of more exotic plant species invading road sides. In a study conducted by Watkins et. al. (2003), creating new roads gives rise to exotic species that can inhabit these new areas. New roadsides have lower canopy cover, allowing for more light to penetrate to the ground, which is unlike the thick inner core of a forest, and will cause the composition of that roadside to become radically different. In addition to an increase in light, there is a decrease in the amount of natural litter (leaves, twigs) on the side of the road. Both conditions are favorable to exotic plant species. With exotics becoming fully established in this area, there also is a development of an increased chance that these roads could act as a facilitator for the exotics to move their way into the forest. With this inward movement, exotics and natives will ultimately begin competing more for space, light, and other nutrients (Watkins et. al. 2003).

In addition to having possible increases in exotic plant species, there is a high risk that small animals will be run over by automobiles and killed with the increase in road density. Logging trucks on the same roads might pose to be a bigger problem because they are, obviously, bigger than a family sized minivan, and they may be unable to steer at the last minute if there is an animal spotted on the side of the road.

Lastly, unpaved roads may cause sedimentation erosion on mountains after rainfalls (Tenebaum 2000). With erosion comes sediment draining into nearby lakes and streams, which can be detrimental to aquatic life. In the proposition of the Big Tupper Project, the road will be paved, which will decrease the amount of sedimentation erosion on the side of the mountain.
Effects of Marina Development and Increased Boat Traffic

Very often, when we think of water pollution, we think of huge tankers spilling oil into the oceans or similar scenarios. Many fail to realize the implications of recreational boating on lakes and waterways in the United States, which has been deemed in regards to the environment as a “death from a thousand cuts” (Fields, 2003). According to the 1996 EPA fact sheet, 12 million marine engines power watercraft, which are among the leading sources of hydrocarbon and nitrogen oxide emissions, precursors to smog and ground-level ozone (Fields, 2003). Aromatic hydrocarbon is one of the principal carcinogens found in cigarette smoke (Deep-Sixing Two Strokes, 1998).

Emissions in the past have been attributed to waterway acidification, leading to decreased algal species diversity and biomass and consequently a high water transparency, or in the cases of acid tolerant algae, the species may grow to cover the entire surface of a body of water (Brönmark and Hansson, 2002). In addition to the threats of emissions are the effects of petroleum leakage during filling and operation, just a thin layer of which on the water’s surface can block the light that aquatic plants and photosynthetic organisms depend on, and reduce aquatic oxygen concentrations (Fields, 2003). The amounts being leaked are not miniscule either. “If you do the numbers, there is the equivalent of at least 15 Exxon Valdez oil spills going on in America’s waterways every year” (Fields, 2003).

Another problem with such high rates of recreational activity on the waterways comes from the human sewage that is carried either in marine heads (a nautical term for toilet), or in makeshift toilet apparatuses (like a bucket) that may be dumped overboard or drained into a holding tank at a marina. The implications of this are profound on both wildlife, and the health of swimmers, divers, and other boaters. Elevated sewage levels
can deprive water of vital oxygen, and the increased levels of nutrients such as nitrogen and phosphorus can contribute to algal blooms (Fields, 2003). The regulations against dumping sewage must be strictly enforced, and if a pump-out system is to be utilized at the marina, how will that fit into the sewage treatment capacity of the town? The proposal by Foxman certainly does not identify the specifics of waste treatment or the increased emissions and petroleum leakage, which are only a few of the numerous impacts of increased boat traffic on Tupper Lake. The quality of the boating experience must also be taken into consideration, since some may want a quiet day on the lake fishing, while others may want to rip around the lake in a powerboat or jet-ski.

**Governmental Issues:**

The governmental entity that is most directly involved with this project is the Adirondack Park Agency. The Adirondack Park started as a Forest Preserve of 681,374 acres in 1885. The area was designated on maps with a blue line; today that blue line is still in use and now delineates the Adirondack Park encompassing approximately six million acres. New York State, a leader in national conservation efforts past and present, established the Adirondack Park Agency (APA) in 1971 in order to create an organization devoted to the planning and management of the State park. The Adirondack Park is unique in that it is comprised of both public and private lands, and there are 130,000 year-round residents in the Park with another several million seasonal residents and short-term visitors to the Park annually.

While the APA has its own legislation for zoning within the park, the area proposed for development is also subject to zoning ordinances administered by the
municipality in which it is located. The more stringent of the two sets of zoning restrictions are implemented according to the Adirondack Park Agency Act (APA Act 803-a). In the case of the proposed development in Tupper Lake, the stricter of the two governing bodies is the Adirondack Park Agency, and thus their legislation will guide the approvability of the development. Perhaps most importantly, the APA cannot approve a permit application if the municipality does not grant its approval. As part of Agency legislation, the last page of the application for major projects is a document sent and signed by the zoning officer for the municipality, insuring local officials’ awareness of the permit application sent to the APA (Application for Major Projects… 2003).

The Adirondack Park State Land Master Plan classifies what level of human activity is permissible on State lands, but this report addresses the Agency’s regulatory authority in the private land sector. The Adirondack Park Agency is responsible for overseeing development within nearly 3.4 million acres of private land. The Adirondack Park Land Use and Development Plan categorizes private land into six different land use classifications: Hamlet, Moderate Intensity Use (MIU), Low Intensity Use (LIU), Rural Use, Resource Management, and Industrial Use. Within each of these designations there are various considerations for development relevant to the intensity within a certain plot of land (The Adirondack Park Agency 2005). The Land Use Plan as it applies to the area slated for development can be examined on the map included in the appendices. In lands classified Hamlet, for example, there are allowed to be more buildings per unit of land, whereas in Resource Management that number of buildings is significantly lower. Thus, the classification limits the amount and intensity of development for certain regions.
In Section 801 of the Adirondack Park Agency Act, State Legislators further detailed the responsibilities of the APA by saying:

The basic purpose of this article is to insure optimum overall conservation, protection, preservation, development and use of the unique scenic, aesthetic, wildlife, recreational, open space, historic, ecological and natural resources of the Adirondack.

In general, the staff within the APA makes recommendations to potential developers during the application process, so that the projects comply with Agency legislation, and the development results in “no undue adverse impacts”. This benefits both sides of the issue because, as for the Agency the application and permit process runs smoothly and timely, and the developer gets insight and suggestions for compliance with the laws enforced by the Agency (M. Sengenberger). APA Executive Director Daniel Fitts defined the conceptual review process in a memorandum to the Regulatory Programs Committee by stating: “The conceptual review process gives a project sponsor an opportunity to obtain non-binding recommendations and guidance from Agency staff and the Regulatory Programs Committee on a conceptual development proposal prior to submitting a formal project permit application” (Fitts 12.1.04 Memo).

Large-scale projects, such as the development of the surrounding areas and the ski area itself, are subject to a much more rigorous application process than, for example, the construction of a single-family dwelling.

Out of approximately 350 permit applications received last year, 300 applications were approved by the Deputy Director of Regulatory Programs within the Agency. The remainder was directed to the Board of Members, who either approved the project, or directed that a public hearing be held on the project. The Board can elect to send a
project to public hearing based upon several factors; the legislation refers to these factors as “substantive and significant issues relating to any findings or determinations the Agency is required to make pursuant to this section” (APA Act 809). *(For a complete listing of the criteria used by the Board when deciding whether to direct a project to public hearing, please see the appendices.)* Throughout the application process, public comment letters are gathered and considered by the Project Review Specialist, and are evaluated for concerns or considerations that the Agency should review during the permit application process. These letters are also useful during the public hearing, as many of the authors are parties to the hearing, and they range from outside conservation groups, to the local chamber of commerce, to adjacent landowners (M. Sengenberger). The public hearing allows parties to the hearing to comment in a formal, mediated setting, whereby they enter testimony to be considered during the review process. This testimony is recorded and transcribed and is available to all members of the Board before the final review of the permit application (M. Sengenberger).

The permit application process required by the APA is a rigorous set of analyses and surveys that are to be completed and explained by the applicant. In the case of Mr. Foxman and the Preserve Associates, the required assessments were completed by an outside firm, and detailed in their submission to the Agency (M. Sengenberger). The current proposal was prepared by the LA Group on behalf of Mr. Foxman; it was provided to Agency Members and staff for conceptual review. It will likely be required to be sent to public hearing based upon the level of public interest and the size of the development.
In all, there are 37 areas that must be evaluated and submitted to the Agency for consideration. The consultant provides the information and findings to the applicant, who must then submit the findings to the APA in their permit application (M. Sengenberger). The considerations broken down in greater detail are contained in Appendix B. These considerations aim to provide the Agency with enough background information so that an adequate assessment of the overall impact can be carried out, and that an understanding of these factors will compliment the approval of a permit application.

The Agency ensures the accuracy of the applicant’s findings by utilizing its staff to inspect their work, and often times conduct field visits to gain an appreciation and an understanding of the area where the proposed development will occur (M. Sengenberger).

While these criteria do not encompass by any means all of the biological implications of development, they do give a general, summarized statement of the overall impacts of the project. When interviewed as to why conservation issues such as habitat fragmentation are not encompassed by the Agency’s legislation, Deputy Director of Regulatory Programs Mark Sengenberger stated that the Agency reviews applications with the information and studies available. There is a distinct timeline that has to be followed in the Agency’s review of a permit application, and as more information is forthcoming about various other applicable conservation issues, then other development considerations may be added in the future (M. Sengenberger).
Identification of Stakeholders:

The development of the formerly operational ski area has many implications far beyond the biological considerations we are concerned with. This section of the paper identifies the major groups or individuals who have a personal tie to the project, and represents their perspectives of the project, and any major concerns or suggestions they would have in terms of the implementation of the development in the Tupper Lake area. The major stakeholders to be discussed include: Michael Foxman on behalf of the investment group known as the Preserve Associates, local business owners, those in search of employment opportunities, adjacent landowners, recreationists presently utilizing the area, residents of Northern New York (primarily residents of Tupper Lake), the Adirondack Park Agency, and many conservation groups focused on the Adirondack region.

One group of stakeholders are the investors looking to develop the Big Tupper Ski Area. According to their firm, The Preserve Associates LLC, there are several key goals and ultimate benefits to The Preserve on Tupper Lake Project. Led by Michael Foxman, the main goals of the project are to resurrect the Big Tupper Ski Area “as a self sustaining entity”, and bringing in a development that offers a residential space for vacationers and time-share owners “with the preservation of existing forest and open space resources” (LA Group 2004). All commercial uses in the area “will be moderated to that the most retail and commerce will be directed to the Village of Tupper Lake” (LA Group 2004). Therefore, with the re-opening of the Big Tupper Ski Area, Foxman and his partners hope that the town will be able to benefit from not only the recreation, but also the influx of travelers in the area who can add to the improvement of the local economy.
The partners of Foxman include James Treadwell, Mark McGreevy, Dan McGreevy, Kenneth Anton, Christopher DiGeorge, and Elio Colavita who are all businessmen not from the North Country, but rather from the areas of Philadelphia, Pennsylvania, and Delaware. All of these men have high expectations for the project. In a telephone interview, Colavita stated, “If you look at the Village of Tupper Lake and how it sits in relation to the mountain, I can see it being another Vail or Aspen” (Rauch; January 25, 2005). The biggest rival for this project would be that of nearby Whiteface Mountain found within Lake Placid, NY. Colavita, who visits Lake Placid annually and skis on Whiteface, said that the less-daunting terrain at Big Tupper would be a prime place for skiers who find Whiteface too extreme, and just want to have fun with their families and “who don’t want to worry about breaking a leg” (Rauch; January 25, 2005).

Another stakeholder group is that of the politicians of Tupper Lake. Jon Kopp, the Executive Director of the Tupper Lake Chamber of Commerce, applauded the efforts of Michael Foxman for stepping forward with his plan. “Over the past 5 years, community leaders have worked hard to re-invigorate the Village. We now have a community revitalization strategy that outlines the direction of Tupper Lake growth that recognizes the value of our natural resources and historic past…We believe the Foxman plan for the development of the Tupper Lake Preserve is a well thought out strategy that puts value on the importance of our natural resources as well as increasing our tax base” (Kopp personal letter 2005).

Another group of stakeholders are the residents within and outside of Tupper Lake that agree with the proposed plan. David S. Kelly, a seasonal resident of Tupper Lake from Hummelstown, PA, wrote a personal letter to Adirondack Park Agency in
favor for the Big Tupper project. Kelley writes, “I am a seasonal resident of Tupper Lake, and I can tell you that the town has gone downhill over the last 20-30 years. Main Street is a poor example of its former self…The potential economic boost to the area far outweighs any minor environmental impact…This development may be the last and best opportunity to save this region from further decline and oppressive property taxes” (Kelly, personal letter 2005). When the project was passed, State Senator Betty Little (R-Queensbury) stated: "This is such a tremendous boost for the community because Big Tupper really has been missed. It was great skiing, and I look forward to skiing there again" (Rauch; February 19, 2005). Resident Heidi Cheney not only grew up on Big Tupper, but her children did too. Cheney said that the loss of the Big Tupper Ski Area four years ago was a very serious blow to the community’s spirit and economic standings. Cheney said, "It was a way of life. You lived in Tupper Lake, you had a ticket to the mountain and you skied whenever you could. It would be unbelievable to have that place open again. It’d be the best thing that could happen to this town right now” (Rauch; February 19, 2005).

The economic benefits of the modifications to the ski area and the additional developments could potentially be far reaching in not only the economic community of Tupper Lake, but in the mountain towns and villages adjacent to the area. The APA Regulatory Programs Committee noted “the proposed project will impact the economy of the Tupper Lake community and its surrounding area through direct employment in project operations, secondary employment based on local circulation of revenue from the project, and through the generation of state/local tax receipts” (Adirondack Park Agency Regulatory Programs Committee 2005). The added tourism and seasonal residents would
create more business for vendors and small business owners locally, in addition to the revenue generated by the ski area itself, although people have been wary of the dangers of such a hit or miss enterprise.

There is an acknowledgement of the potential for large economic gains, but also the threat of huge losses. As Dan McClelland noted, “ski areas are financially delicate beasts – always prone to the vagaries of weather and the economic climate” (McClelland 2004). Other dangers include competition from other local ski areas in both New York and the Vermont area. The number of jobs opened up would be beneficial as well, not just in the sheer number, but in the wide variety of employment opportunities that the plan would create. There would be jobs created in the maintenance of the ski area, the trails and open spaces, the marina, and the anticipated influx of tourists to the area would most likely place a demand for employees at the Natural History Museum currently under construction.

Additional museum employees could be utilized in educating not only the general public, but especially visitors who may have a tendency to abuse nature, instructing them regarding ways to leave a lesser impact on the ecosystems of the area. In short, there would be jobs created for both year-round employees and seasonal employees (i.e. summer jobs, winter employment). The economic stimulus of the Preserve at Tupper Lake would be augmented by the other projects in the area, including the Natural History Museum of the Adirondacks, the proposed Adirondack Observatory, and the proposed extension of the Adirondack railroad from Saranac Lake to Tupper Lake (Adirondack Park Agency Regulatory Programs Committee 2005).
Most agree that there is a great need for economic revitalization in Tupper Lake, but is there a limit as to how much growth would be beneficial, after which its existing intrinsic value to local residents would be compromised. Scott Chartier, a native hunting enthusiast noted that at the hearing in the Town of Tupper Lake, a representative of the proposal stated Tupper Lake was “the ‘last frontier’, and the time was ‘ripe’ for development here because places like Lake Placid and Saranac Lake were busting at the seams” (Chartier 2004). Residents of and visitors to Tupper Lake have been drawn to the area not for its potential to be another crowded, tourist town in the Adirondack Park, but to enjoy the fairly peaceful and protected atmosphere that this small mountain town has offered in the past.

Vincent Giuseffi, commented to the APA, and noted the positive spin placed on the plan both by the proposal developers and local business owners, which he sees as wrongly persuading everyone to believe “the financial windfall would help every villager and businessman, and it is the solution to years of economic depression” (Giuseffi 2005). He believes all the issues should be addressed thoroughly and explained to the people of Tupper Lake and that “the goal of monetary gain should not be the key priority when dealing with adverse environmental consequences that may be irreversible” (Giuseffi 2005).

Many have noted flaws in different aspects of the development, especially how the development will negatively impact the ecosystems and municipalities of Tupper Lake. There is concern about the strains which will be put on the community in terms of education, security, and emergency personnel/facilities, the already evident problems with electricity at the current rate of development, the construction and maintenance costs
of the new roads, and the effectiveness of existing water/wastewater management measures to accommodate additional residential structures or adapt to accommodate them (Adirondack Park Agency Regulatory Programs Committee 2005). Other concerns regarding the residential components are the relatively high elevations and steep slopes where construction is planned, and whether there will be “safeguards” imposed to minimize the visual disturbances and the potential for erosion and run-off that can be expected with the deforestation and development and general can cause (Ethier 2004). Also, it has been questioned whether building codes for the “Great Camp” lots will prevent the contamination of the nearby wetlands with septic run-off or chemicals used on lawns and gardens.

Financial concerns have been voiced by the people, especially over local school and property taxes. Certainly a portion of the housing is being built to suit the visitor, but there are also residences being constructed for seasonal and permanent living. The appeal of the area to families wanting to raise their children in such a safe and environmentally opportunistic region would increase school enrollment greatly, and the number of houses being added to the electrical grid and the water and sewer system would by no means be a small task for the struggling economy. As Quentin Kestner from Kestner Engineers (who service the water needs of Tupper Lake) noted, the development as proposed will require on average 200,000 more gallons per day (Kestner 2004). This figure is representative of the average for an entire year, and snow-making during the winter months would no doubt increase this figure greatly. The Residents’ Committee to Protect the Adirondacks noted that the municipal electric system cannot meet its current needs, with the area being prone to frequent blackouts from an inadequate power supply (Bauer
2004). These municipal and concerns and their potential solutions have not been addressed by the proposal from Foxman and the Preserve Associates, and there is an absence of a business plan for the ski area (and almost every other aspect of the entire development).

Tupper Lake cannot afford to invest substantial amounts of money into an underdeveloped plan which as mentioned before could have extremely good success or disastrous failure if the conditions are unfavorable. It has been stated by one resident, Curt Stiles, that “basing the recovery of infrastructure cost on future tax revenues is folly and bad economics for the Town of Tupper Lake” (Stiles 2004).

The likely social and economic effects of the development do not sit well with some residents, including Cathy DeGarmo, who states, “Do the residents of Tupper Lake want increased traffic in town? Do they want to see local business owners pushed out as new interests move in? Do they want to have their children crowded in existing schools? Do they want increased taxes to support additional infrastructure? Do they want to share their favorite fishing spot with 800 possible anglers? Do they want to let their kids swim in local waters with 800 new boats on the water? Do they want to squeeze into restaurants with throngs of people?” (DeGarmo 2005). The Tupper Lake community members, whether they are natives to the area, seasonal residents, or just occasional visitors who enjoy the pristine, relaxed atmosphere have voiced many environmental, demographic, and fiscal concerns over this development, and rightfully so in many cases.

One such resident of the community, Dania Abu-Shaheen, is worried about a number of consequences of the development on the area, stating “the sudden and massive congestion on the water and in town would simply be overwhelming and draining to the
few resources that the town possesses”, and it would be “nothing short of a social, environmental, and economic assault on Tupper Lake” (Abu-Shaheen 2004).

In letters written to the Adirondack Park Agency, many full-year or part-year residents of the Tupper Lake area noted the serenity and pristine outdoors that attracted them to the area in the first place. Peggy Barrett, a summer resident of Big Tupper, states “the proposal would not only destroy most of the forest on the mountain, but it would destroy much of the beauty of the area of the lake and those surrounding areas” (Barrett 2004). Residents of the area are concerned that the influx of visitors and new residents to the area will disrupt the harmony and tranquility of the region that they have valued and appreciated since the town’s existence. These stakeholders trust that the APA and other conservation organizations will work to maintain the “forever wild” quality of the development area.

Conversely, David Kelly, also included in his letter to the APA that “with a modern marina, I believe the boating pleasure for everyone would improve and it would attract more people to the area and help sell some of the townhouses that would be built” (Kelly 2005). By creating these paths, there will not only be less disturbance of the ground in the area, but also there will be more recreation for the vacationers and residents of Tupper Lake to enjoy.

There must be a compromise between those who have grown up with Tupper Lake and wish to see its integrity as a pristine wilderness preserved and Foxman’s group, which claims to be providing an opportunity to aid the ailing economy of the Tupper Area.
Development of solutions to the problem:

APA Findings:

As a result of the applicant’s request for conceptual approval relevant to The Preserve at Tupper Lake, the Agency has sent their initial findings and recommendations to Mr. Foxman and the Preserve Associates. These recommendations and suggestions indicate where the proposed development contradicts APA legislation, and possible solutions and recommendations to address the problems. The findings also detail what the applicant could do in order to ensure that the information provided to the Agency is accurate and in compliance with Agency legislation. Below are summarized findings by the Agency’s Regulatory Programs Committee (Townsend; Roberts 2005).

A. Intensity Guidelines

The applicant according to information obtained from tax map data complies with development intensity figures; however a more accurate assessment of development areas should be conducted through a perimeter survey. (Please see appendices for applicant’s data on development intensity compliance).

B. Land Use Areas

Moderate Intensity Use (MIU) areas planned for development should be strategically designed to avoid impacts to “wetlands, steep slopes, shallow soils and bedrock at or near the surface”. Caution should be exercised to consider identified resource restrictions. Resource Management lands should be developed in such a way as to protect the “open space character” of the landscape, and to
limit loss of forest cover. The current capacity and existence of recreational resources and state resources should be analyzed to project the potential impact of an increased population.

C. Open Space and Forest Management

In order to protect and delineate the use of forests, in particular the current commercial (logging) nature of the forested area, a forest management plan should indicate who, if at all, can utilize the area for commercial interests. Also, designation as to who will construct and fund the construction and maintenance of the proposed trails and facilities in the proposed open space area should be included. Additionally, it should be made clear as to who will be able to access this tract of open space.

D. Economic and Fiscal Considerations

For an accurate review, the Agency wishes to see all agreements between involved jurisdictions and the Preserve Associates. A financial report and prospectus should be outlined detailing costs for the infrastructure of the project, property tax assessments, and tax generation as the project progresses. Short and long term strategies used for the public financing of the infrastructure should also be made available for review. Should the Village of Tupper Lake assume responsibility for any of the amenities (sewer, water, electric), then the Village of Tupper Lake must be a listed as a co-applicant.
E. Education, Security and Emergency Services

The need for municipal personal such as fire and rescue, EMTs, and police should be predicted for each phase of the development. This will factor into the financial impacts analysis for the project, as it may add costs to the municipalities involved.

F. Water/Wastewater

Approval and projected costs should be discussed by the New York State Department of Environmental Conservation, and clarification regarding the implementation of new sewer and water supply routes should be presented. Any upgrades that must be in place in order to accommodate the growth of demand for these amenities should be indicated and included in a financial assessment.

G. Soils/Slopes

Careful review and consideration should be implemented when planned development involves ill-suited soils and slopes. Verification of the proposed development lots in relation to the suitability of soil and slope is important in permit review, as well as development of alternative proposals.

H. Wetlands

Development should be implemented in a fashion such that the development does not impede upon wetlands, and if development upon wetland areas is a necessity, then adequate mitigation efforts are executed.
I. Alternatives

The project sponsor should indicate clearly why alternative development schemes are not feasible, and should discuss why a different arrangement or magnitude of development is not being proposed. Agency staff and the project sponsor should identify site specific measures that may be taken to create alternative development strategies. Residential lots with substantial acreage should be compared with clustered development of residential areas with different designations of open space. Most importantly, these findings are a small portion of the recommendations by the APA, and further conservation issues should be examined and reported on in a more thorough fashion.

Parameterized solutions:

While the Adirondack Park Agency makes great strides in attempting to curtail numerous negative environmental impacts, the agency is not the end-all to conservation efforts. This section of the paper attempts to illustrate the additions to the APA findings from the conceptual review process that would need to be enacted in order for the existence of a more conservation-minded development strategy.

In addition to the APA findings, it is important to note that the organization is devoted to development with considerations given to conservation efforts, and their primary interest is in issuing approval only to appropriately developed private lands in compliance with the APA Act. Therefore, in order to more completely assess the solution to a compromised and alternative plan for development, one must look at the issue from a conservationist point of view.
The APA neglects to consider some major issues identified in the field of conservation biology. The proposed development complies with most of the APA’s legislation; however, this does not mean that the overall biological impact is minimal. The list of 37 development considerations for large-scale projects is lacking in the minds of conservationists in that it is incomplete, and therefore additional considerations should be made known by the other stakeholders in order to spread the value of conservation.

As detailed in the *Human Impacts* section of this case study, there are many populations and communities that have the potential to be displaced or disturbed at a great intensity. The integrity of the natural landscape including slope, forest cover, and the presence of wetlands, is also a primary concern. The fragmentation of the backcountry, which has previously only played host to hunting, logging, and other minimal recreational activities, also raises some concerns as to how sound this project will be in terms of the natural environment.

If the project was to appease all groups, then evidently major changes would need to be incorporated in the actual permit application. While the economic impacts must be factored in to present a clear picture of what the project costs and who will pay for these costs, it is not our primary concern as conservation biology students. We are most concerned with the issue of habitat fragmentation amongst the Great Camp lots. Sunita Halasz of the APA concurs with this sentiment siting classic edge effects in the area, which tend to increase habitat generalists and has the chance to bring in non-native species (including domesticated animals) to a region where there wasn’t a presence before (S. Halasz 2005). This alerts environmental stakeholders to the issue of species displacement and extinction. If the once occupied habitat becomes ill suited for the
populations, then we will see either a shift or decline in those populations. Due to the large tracts of land (80 acres) that the landowners will purchase, and the condition that there will only be a 5 acre area on which they can build their homes, it seems likely that these Great Camps will be built in such a fashion that they will be as far as possible from the other homes in the area. This leads one to conclude that despite having large tracts of land, the probability for increased edge, and decreased edge to core ratios will definitely create problems for the biodiversity and species present. With this development there are also issues that would affect the movement of animals within this region of development. The presence of “noise, light, odors, domestic animals, bird feeders, and other human additions to the landscape—is much larger than the dwelling itself” (S. Halasz 2005). Our acceptable attribute for a solution in this regard would be a closer clustering of the homes, perhaps on less acreage, but directly arranged in such a way that fragmentation is limited, and fewer roadways and dwellings are constructed in such a largely dispersed fashion.

We are also concerned with the spread of the development into intact parcels of forest. The development of the formerly operative ski area is not a large concern, because we would rather see development in an area where there was once an operating ski area than to have the developers move to a completely new and pristine region, and begin construction there. The damage has been done in this situation, and it makes no sense to conservation to have these developers take their project elsewhere. We are most concerned with the fact that the development is to occur over approximately 1,500 acres. It is important to note that the total acreage accrued by the project would encompass 6,229 acres, but 1600 acres is set aside for preservation, and 4,499 acres is to be
undeveloped contiguous forest (LA Group 2004). We are worried, in part, because it seems to us as though the development of the Great Camp lots, which are a good distance from the mountain and then developments at Mt. Morris itself, will cause further fragmentation and undue impacts to the natural plant and animal communities currently inhabiting the area slated for the Great Camps. For an acceptable design we would like to see the development clustered around the mountain, and the large portions of resource management lands left undeveloped.

Another major component for an acceptable solution that includes development and operation of a ski area would be to practice what is known as Sustainable Slopes. The National Ski Areas Association (NSAA) adopted a charter in 2000, which focused on the environmental issues related to the operation and management of ski areas. The purpose of the charter was to outline a detailed description of the best practices among ski area owners and managers. The organization and participation in the charter allows ski areas to gauge their progress and create future goals. The organization acts as a consortium of ideas and strategies that owners can implement on their own slopes (Baird 2004). There are twenty-one criteria that resort owners monitor and attempt to mediate; they range from water usage to waste management to air quality (Johnson 2004).

Many eco-minded tourists notice that the resorts are attempting to implement good environmental strategies, but the growth of resort areas into previously wild areas detracts from their good deeds. Environmentally minded visitors want to see ski areas that are as much a part of the ecosystem they belong to as they are a haven for tourists (Baird 2004). The Sustainable Slopes program entices resorts to do so by year-long campaigns on one environmental issue that heavily impacts the future success and
longevity of ski seasons and thus ski resorts. The 2004 Annual Report details the upcoming theme of “Keeping Winter Cool”, a program designed to educate and monitor global climate change, since the warming of high altitudes and suitable ski resort areas will eventually cause both shortened ski seasons, and loss in profit for ski resort owners. The report also indicates that 72% of all US ski resorts, or 175, have endorsed the charter and are participating in the program. (Sustainable Slopes Annual Report 2004).

Some argue that even without a program such as Sustainable Slopes, higher costs are demanding more reform in energy and water consumption, as well as waste management. Economists studying the tourism industry point out that the majority of resorts still use superficial symbols such as recycling bins and low-flush toilets to convince patrons that they care about the environment, but in actuality there is much more that could be done. A spokeswoman for Vail Resorts commented, “Financial success and environmental stewardship do not need to be mutually exclusive” (Johnson 2004).

**Potential Solutions:**

The most feasible solution would be to downscale the project. Certainly there can be compromises between Foxman’s group, the Adirondack Park Agency, and the Town and Village of Tupper Lake to tailor the project to realistically fit. In searching for those possible alternative solutions to the proposed development of the Preserve at Tupper Lake, it is important to consider not just the alternative that would be in the best interest of the economy of the Tupper Lake area and the surrounding communities which would be affected, or the ecosystem viability if it underwent development; the alternative to be
chosen must take into account the needs of both and the inherit value of both the anthropogenic and environmental communities affected by any alterations.

The LA Group on behalf of Michael Foxman has entered some alternative designs to the current proposal under conceptual review, but they state that without development as is currently configured the fiscal aspect of the project will not be beneficial, and thus not worthwhile (LA Group 2004). The alternatives within the proposal itself include the no action alternative, a traditional lot subdivision for small and medium residential lots, building out to maximum density, or building on a smaller scale. In attempting to understand the differences in the alternatives he proposes, it is nearly impossible not to delve into the economic impacts that any development will have. The no action alternative, while seemingly advantageous to the environment and conservative residents, would leave the Town and Village of Tupper Lake at an economic status quo. This is also a dangerous alternative in our minds, because while we recognize that reopening the ski area and minor developments at the mountain may have adverse impacts for conservation, it would be more detrimental if the developers were to choose a new location where there was no previous existence of a ski area.

Other suggestions for modifications of the project suggested smaller scale building, which could mean a number of changes: limits on the amount of development at the actual ski area (perhaps limiting the construction to features which are necessary, although Foxman would almost certainly state that each of the seemingly superfluous features are necessary to the optimal functioning of the ski resort), limiting the residential developments, or excluding the development of the condos or “Great Camps.” There could be fewer boat slips in the proposed marina, or instead of razing the existing
structure, conducting renovations, not building the proposed access road or changing the existing hiking trails through the wilderness. Some of these “alternatives” may be inevitable, not due to the refusal of modifications from the Adirondack Park Agency, but from the number of other agencies from which the builders must gain permits before the development can become an actuality.

Another alternative would be to continue with development as proposed by the LA Group. This proposal contains many good attributes for conservation, and tends to illustrate a need for protection and preservation of open space lands. They have completed several good studies on the impacts the project may have, and have included allowances in their proposal to maintain large tracts of undeveloped land. However, we feel that the overall spread and fragmentation created by the project would cause drastic harm to the existing communities, and is unnecessary given that there are alternative development schemes.

The best alternative for the project would be to reopen the ski area with no or limited development at the base of the ski mountain as it exists in its present state. According to The Preserve Associates, this is not a feasible option due to the fact that the real estate investments render capital for the operation and maintenance of the ski area and the open space lands.

Our compromise would contain the suggestions discussed in the above section. We would develop the area in such a manner that all private residences, be they condo/hotel units, or Great Camps, should be clustered around the base of the mountain, and they should be dispersed in such a manner that they have limited fragmentation impacts on previously undeveloped land. We wish to see a project that maintains the
integrity of the natural landscape, and thus avoidance of construction over wetlands and terracing on the side of steep slopes are implemented in order to accomplish our goals. Careful consideration should be given as to the placement of the residential units so that areas of unique habitats, shallow soils, wetlands, and forest cover are disturbed in the least possible manner. We would also require a portion of the revenue generated from the new residences would be donated towards a conservation movement, such as the Sierra Club or the Adirondack Council, so that they may continue their efforts, and educate the new residents as to their concerns and manners in which visitors and residents can lessen their impact in and around the newly developed areas.

**Idealized Solution:**

In deciding the best plan of action regarding the proposed development for the Big Tupper ski area and surrounding modifications to the landscape, it is important to consider the vested interests of the stakeholders, but also to consider the most feasible solution which also minimizes the negative impacts to the ecosystem. This leaves a modified development plan which maintains most of the aspects of the original proposal, but many of which are downscaled.

The ski area must be developed first to kick off the influx of revenue which Foxman anticipates. Since the majority of the area where the new trails and chairlift are proposed has been exploited via the logging industry in past years, there would be no large environmental effects. If the existing lodge were to be renovated, or razed with the intention of erecting a new building of similar size, there would certainly need to be compromises in the form of cutting some of the superfluous aspects of the proposed new
lodge (for instance, the tennis courts, health club, art shacks, etc.). Another idea would be to construct a parking lot at the base of the ski area, and have a shuttle service from the base to the lodge, housing, etc. The lot being cleared below instead of farther up the mountain, as well as the reduced traffic around the lodge and trails would make for a much safer and more pristine experience.

We believe the condos are a good choice because the clustering of the development enables only small parcels of land to be consumed by the housing structures. Also, if there were to be a shuttle system, many of the housing units would be of the ski in/ski out nature, significantly reducing the environmental impact as long as the selection of land was suitable in terms of slope gradients and addresses other concerns regarding environmental impacts. Certainly there must be a downscaling of the residential component to the proposal in general. The exact number of housing units the area could actually support would require extensive research, and also a more in depth analysis of the water and sewage municipalities to determine just how many more housing units could be added to those grids, as well as the electrical grid.

In order to minimize habitat fragmentation, and disruption of natural habitats in the backcountry wild forests, we suggest that the developer include a regimented set back from the roadways. This eliminates much fragmentation, because it decreases the amount of edge present. By having the back edge of every residential property at a uniform distance from the road, and thus having a smooth border between residential lots and the open space, we then minimize the implications of edge effects and habitat fragmentation.

Regarding the open area, there should be a Leave No Trace (LNT) policy implemented, and the trails which are constructed should be minimal, with trail widths
set to a size which would decrease the effects of habitat fragmentation (edge effects and such). As for the marina portion of the proposal, it is clear that if something were to be constructed, the existing structure would inevitably need to be demolished. However, the new marina (much like the ski lodge) should be kept fairly small in size, with perhaps fewer boat slips. Those residents or visitors should be required to have high standards met regarding their boats (in terms of emissions, etc.), should be required to follow strictly enforced speed limits, and possibly be required by law to take a special boating course for the lake, including information on the intricacies of the lake and wildlife present in the area and ways to minimize their impact on that wildlife.

Also, the ski area should endorse the environmental charter set out by the Sustainable Slopes program. This would ensure that proper techniques are being used to combat environmental degradation. Whiteface Mountain, a local state-owned ski resort, participates in the program and through the Sustainable Slopes program has updated its Unit Management Plan and has come up with alternative development schemes to avoid causing harmful effects to the Bicknell’s Thrush, a species of special concern (Sustainable Slopes Annual Report 2004).

**Implementation:**

In implementing any sort of modification to the proposal, it must be realized that a reduction is much more feasible in terms of magnitude and in terms of the timeline set forth by Foxman. It must also be realized that in order for smooth functioning of the ski area and any other surrounding development, regulations imposed must be strictly enforced. In terms of regulating the housing construction guidelines, we have suggested
the start of a Homeowner’s Association. One such guideline would be to impose on the Great Camp lots uniform distances from the road for construction sites on the property, in addition to the other regulations imposed on these developments to minimize the edge effects by habitat fragmentation. The newly created regulatory body could also impose sanctions against all-terrain vehicle usage, birdfeeders, domesticated animals, and many other environmentally degrading activities.

Another possible suggestion would be to have a portion of the revenue generated by the Great Camp lots sales go to a conservation fund, which would in turn be used to preserve the open wilderness, or hire more employees such as rangers to enforce the LNT policies, trail maintenance workers, or those working with the shuttle bus portion of the ski area. Also, the Natural History Museum could have employees which educated the people using the trails, waterways (teaching the boating course), and advising in the specifics of development in Tupper Lake. The existing road should remain the primary source of travel to and from the development, though it may require slight improvements.

The main issue with the implementation of the modified proposal would be the timeline of development. In order to ease the suspicions of the residents of Tupper Lake that Foxman is simply going to exploit their town, the first step must be to address the ski area. Once the ski area has been opened, then residential buildings can be developed from the ski area outward to the maximum density of the project. This gradual increase will allow for more controlled social and economic change for the area.
Bibliography:


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Kelley, David S. Letter to Adirondack Park Agency. 4 Jan 2005

Kopp, Jon. Letter to George Outcalt. 7 Jan 2005


New York State Department of Environmental Conservation. “William C. Whitney Area


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Townsend, James; Katherine Roberts. Memorandum to Preserve Associates, LLC. 2 Feb 2005


Appendices:

Appendix A-

§ 580.2 Determination to conduct public hearing.
(a) Criteria. The criteria employed in determining whether to conduct a public hearing include:
   (1) the size and/or complexity of the project, whether measured by cost, area, effect upon municipalities, or uniqueness of resources likely to be affected;
   (2) the degree of public interest in the project, as evidenced by communication from the general public, governmental officials or private organizations;
   (3) the presence of significant issues relating to the criteria for approval of the project;
   (4) the possibility that the project can only be approved if major modifications are made or substantial conditions are imposed;
   (5) the possibility that information presented at a public hearing would be of assistance to the agency in its review;
   (6) the extent of public involvement achieved by other means;
   (7) whether an environmental impact statement will be prepared pursuant to the State Environmental Quality Review Act; and
   (8) the statutory finding required by section 814(2) of the Adirondack Park Agency Act in the case of State agency projects reviewed thereunder.
   (b) When determination made. The agency will make the determination not later than 60 calendar days (or, in the case of minor projects, 45 calendar days) following notification that the application is complete. A determination may be made prior to such notification with the agreement of the project sponsor.
   (c) Delegation of determination. The agency may, in any particular case, delegate the authority to determine to hold a public hearing, or to cancel or not schedule a hearing and approve a project upon specified conditions, to the chairman, executive director or director of operations.
   (d) Notification of determination; opportunity for submission of new application. The notification that a public hearing will be held shall state that the project sponsor may submit a new application. The hearing shall not be held or scheduled until the 15th day following the notification, unless such period is waived in writing by the project sponsor. If a new application is submitted, the agency shall reconsider its determination to hold a public hearing.
   (e) Summary of procedures. If a hearing is to be held, a summary of hearing procedures shall be made available to the project sponsor and any other person on request.
Appendix B-

Development Considerations Required by the Adirondack Park Agency

a. Natural Resource Considerations

1- Water
   (a) Existing water quality
   (b) Natural sedimentation or siltation
   (c) Eutrophication
   (d) Existing drainage and runoff patterns
   (e) Existing flow characteristics
   (f) Existing water table and rates of recharge

2- Land
   (a) Existing topography
   (b) Erosion and slippage
   (c) Floodplain and flood hazard
   (d) Mineral resources
   (e) Viable agricultural soils
   (f) Forest resources
   (g) Open space resources
   (h) Vegetative cover
   (i) The quality and availability of lands for outdoor recreational purposes

3- Air
   (a) Air quality

4- Noise
   (a) Noise levels

5- Critical resource areas
   (a) Rivers and corridors of rivers designated to be studied as wild, scenic, or recreational in accordance with the environmental conservation law
   (b) Rare plant communities
   (c) Habitats of rare and endangered species and key wildlife habitats
(d) Alpine and sub-alpine life zones
(e) Wetlands
(f) Elevations of twenty-five hundred feet or more
(g) Unique features, including gorges, waterfalls, and geologic formations

6- Wildlife
   (a) Fish and wildlife

7- Aesthetics
   (a) Scenic vistas
   (b) Natural and man-made travel corridors

b. Historic site considerations
   1- Historic factors
      (a) Historic sites or structures

c. Site development considerations
   1- Natural site factors
      (a) Geology
      (b) Slopes
      (c) Soil characteristics
      (d) Depth to ground water and other hydrological factors

   2- Other site factors
      (a) Adjoining and nearby land uses
      (b) Adequacy of site facilities

d. Governmental considerations
   1- Governmental service and finance factors
      (a) Ability of government to provide facilities and services
      (b) Municipal, school or special district taxes or special district user charges

e. Governmental review considerations
   1- Governmental control factors
      (a) Conformance with other governmental controls

*Taken from APA Act §805, pg. 16
Appendix C-

Aerial photo with relief of the current ski area in Tupper Lake, NY. Created using ArcMap (4.26.05). Data from the New York State Geographical Information Systems Clearinghouse.