

**BLACK BEAR AND WHITE-TAILED DEER
SURVEYS AND HABITAT ASSESSMENT
AT THE WINDHAM MOUNTAIN SPORTING CLUB**

**TOWN OF WINDHAM
GREENE COUNTY, NEW YORK**

Prepared for:

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1.0 Introduction

Terrestrial Environmental Specialists, Inc. (TES) was contracted by Tuck East Side Partners, L.P. to perform an assessment of the wildlife resources at the Windham Mountain Sporting Club property in the Town of Windham, Greene County, New York. This work was performed in conjunction with The LA Group, P.C. The site is approximately 465 acres in size and is located adjacent to the Windham Mountain ski area, within the Catskill Park (Figure 1).

To make observations and collect data on wildlife, TES made a number of field visits to the site during the fall of 2008 and the spring of 2009 (TES 2009) conducted additional assessments at the site in response to issues and questions raised by the New York State Department of Environmental Conservation (NYSDEC) and a concerned citizen regarding black bear (*Ursus americanus*) and white-tailed deer (*Odocoileus virginianus*). Additional efforts focused on these species and other large mammals were conducted during the summer and fall of 2010.

2.0 Black Bear Natural History

Black bears are primarily forest dwellers in New York State (NYS). The extensive forests in the vicinity of the Windham Resort property provides habitat for black bears. The natural history background cited below comes directly from Whitaker and Hamilton (1998). Black bear males range in length from 54 to 70 inches and females from 47 to 59 inches. Full-grown males weigh 250 to 500 pounds, while females weigh 110 to 450 pounds. Exceptional individuals weigh up to 600 pounds. The largest live black bear in NYS weighed 684 pounds (NYSDEC 2007).

Black bears are solitary animals. Females provide for cubs during their first year. Black bear home range is variable. Males wander much farther than females. Black bears roam up to 7.7 square miles. Movements of bear are related to breeding behavior, population density, and food availability (NYSDEC 2007). Activity periods for bears depend on the season. During spring, they are crepuscular, in summer they are diurnal, and during autumn, nocturnal. There is very little activity below freezing.

Bears are not true hibernators but their body processes are slowed during the denning period. Their period of dormancy can extend up to seven months. During this period, they do not eat, drink, urinate or defecate.

A wide variety of habitats are used for dens during the winter. Cavities under stumps are one of the more frequent den locations. Holes in banks, underneath brush piles, and hollow logs are also commonly used.

Bears are omnivorous but feed primarily on plant material. Research conducted in the central Adirondacks found that “more than half the plants identified as bear food were shade intolerant early successional species” (Costello 1992). Forbs and grasses are the choice items in the spring. Berries and mast are the food choices in summer and fall. Mast consists of acorns, hickory nuts, and beech nuts. Carrion is the primary animal food. They also feed on colonial

insects such as ants, wasps, and bees. Larval forms of beetles are also a favorite food. Small mammals and fish are also taken. Bears are opportunistic feeders and will feed in vegetable gardens, at bird feeders, and trash receptacles.

3.0 White-tailed Deer Yards

During winter months, large herds of deer occur in areas of food abundance called “yards” (Whitaker and Hamilton 1998). Deer yards provide winter cover which is key to survival. These areas allow deer to avoid deep snow, high winds, and extreme cold. Herds can number up to 150 individuals. Yards are often used for many years. These large herds trample the snow and make it easier for movement. Deer yards are usually found on south-facing slopes in conifer stands.

4.0 Methods

To make observations and collect data on wildlife, TES made a number of field visits to the site in 2008, 2009, and 2010. Three surveys for large mammals and other wildlife were conducted on the site in the early summer of 2010 (June 21 to 23). Two surveys for large mammals were conducted by TES in the fall of 2010 (October 18 and 19). Qualitative meander surveys and visual observation were the primary methods for detecting the presence of mammals on the site. Mammals were identified by sight, sound, and sign, especially tracks and scat. All cover types were included in these surveys.

To document large mammals on the site, TES also set up three Moultrie I60 digital game cameras (Camera 1 through Camera 3) at various locations on the site (Figure 2). The cameras were installed with the assistance of Mr. Larry DeFaro, Senior Wildlife Biologist with Region 4 of the NYSDEC. These game cameras were established in areas proposed for development.

The digital game cameras use a laser beam which, when crossed, triggers the camera to take a photograph. The cameras were programmed to take three pictures each time an animal was detected. The cameras have an infrared mode which also takes photographs in the dark. The storage card was removed monthly from the camera, and the pictures were downloaded.

Cameras 1 and 3 were left in the same locations throughout the field period. Camera 2 was moved slightly upslope to deter theft after numerous ATV riders were detected. All cameras recorded the time the photographs were taken.

Additionally, habitat based assessments were made regarding the potential occurrence of deer wintering areas (aspect, coniferous cover types, etc.) and black bear denning areas (rock crevices and caves, etc.) focusing on that portion of the site proposed to be developed. Areas of concentrated food sources (hard mast, berries, fruits, etc.) were noted during all seasonal wildlife surveys.

5.0 Results

Game Camera 1 was installed by TES on June 21, 2010, and Game Cameras 2 and 3 were installed on June 22, 2010 (Figure 2). Larry DeFaro, Senior Wildlife Biologist with the NYSDEC accompanied TES biologists on June 22, 2010 to suggest camera locations and share his experience with black bear management.

During the period from June 21 to June 23, 2010, TES noted numerous bear scat piles and tracks. Based on the size of the tracks, at least three different bears were recorded during this field work period.

Data from the game cameras are presented on Table 1. Table 1 includes the date, time, and animal species recorded on the game camera. On several occasions, Cameras 2 and 3 were disturbed by bears and knocked to the ground. This resulted in the memory card being filled with pictures of vegetation as the motion of the trees triggered the sensor. The cameras were then reset in the same location.

Representative photographs from the game cameras are presented in Appendix A. Under each photograph, the date, time, and camera number are listed. Color photographs were taken during the daytime. Black and white photographs were taken in the evening hours. Photographs from Camera 1 have the time (a.m./p.m.) periods reversed.

White-tailed deer, black bear and raccoons were the mammal species most frequently recorded by the game cameras. Gray fox, eastern coyote, and an unidentified small mammal (possibly a vole) were each recorded once. A variety of birds including blue jay, woodcock, ruffed grouse, and turkey were each recorded on one occasion.

Camera 1 recorded four photographs of bears, five photographs of raccoons, and a photograph of a white-tailed deer with a fawn. Camera 2 recorded four photographs of black bears and seventeen photographs of white-tailed deer. This camera was disturbed by black bears on two occasions. Camera 3 had six photographs of black bears (one photograph shows a bear cub), thirteen photographs of white-tailed deer, one photograph of a gray fox, and a number of photographs of birds. Camera 3 was disturbed by a black bear on one occasion.

Black bears were recorded on the game cameras from June 27, 2010 until September 13, 2010. No black bears were recorded in the period from September 14, 2010 to October 22, 2010.

TES biologists revisited the site on October 18 and 19, 2010. During this field visit, TES biologists walked the trails throughout the site. During this time, one old pile of bear scat was recorded, and no bear tracks were found. This field visit was after a period of heavy winds and rain, which resulted in a major loss of tree leaves. These leaves may have obscured bear tracks and scat.

TES examined one area of eastern hemlock (*Tsuga canadensis*) and mixed-forest hardwood in the vicinity of Panorama Lane for signs of a deer overwintering yard. TES did not

note any major scat piles or browse that would indicate a deer yard. No other conifer stands occur within the site.

Black bears are known to den in a wide variety of locations from downed trees to small rock ledges. Based on multiple visits to the site by TES, there are abundant potential den sites scattered throughout the site.

6.0 Discussion

Black bear activity on the site was recorded during the summer and fall months. No black bear activity was recorded during the period from September 14, 2010 through October 22, 2010 by TES biologists or on the game cameras. This lack of mast on the site may be the reason for the lack of bear activity.

Due to tree harvesting throughout the site, there is a dense growth of blackberries. This fruit provides a good summer food source for black bears. The site does not contain mast trees, such as red oak that would provide a fall food source for black bears. Based on observations, there appears to be a seasonal pattern of black bear activity in response to available food sources and food availability.

Wintering deer yards do not occur on the site. There is a lack of extensive conifer stands that would provide winter cover and feeding locations for white-tailed deer, and the northern-facing aspect of the site would make it colder and, therefore, a less advantageous wintering location.

7.0 Development Issues

Black bears are known to use the proposed development area. As indicated in the comment letter by a concerned citizen, black bears are often seen by local residents. Windham Mountain Sporting Club property borders a portion of the Elm Ridge Wild Forest which consists of approximately 201 acres of land. In addition, there are extensive forests in all directions from the Village of Windham. These forests include the Elm Ridge Wild Forest and the Windham Blackhead Range Wilderness Area.

The project development site at full build-out will occupy 141 acres. This will cause a reduction in foraging habitat for black bears. Based on one season of monitoring, black bear use of the site occurred during the summer months. It is anticipated that most of the homes will be second homes and occupied primarily during summer, vacation periods, and in the winter months.

The NYSDEC states that “most human-bear conflicts in New York can be alleviated or resolved by removing or adequately protecting whatever served to attract the bear” (NYSDEC 2007). Bear conflicts could be avoided by proper sanitation controls used by the new residents. Some people with little first-hand experience with bears perceive the risk from black bears to be at a much higher level than warranted (NYSDEC 2007). As indicated by the NYSDEC (2007), feeding birds and other wildlife, cooking food outdoors, feeding domestic animals in outdoor

locations, and improperly storing refuse leads to bear-human conflicts. Proper control measures will lessen bear-human conflicts. Trash containers should be kept inside to avoid attracting bears. Bird feeders should not be used during the spring, summer, and fall periods when bears are active.

8.0 Summary

In response to comments from the NYSDEC and a concerned citizen in the scoping process, TES conducted additional studies on the Windham Mountain Sporting Club site to investigate black bear and white-tailed deer activity. TES conducted multiple field visits in early summer and the fall of 2010 looking for black bear and white-tailed deer and their sign. Game cameras were installed to document wildlife activity on the site.

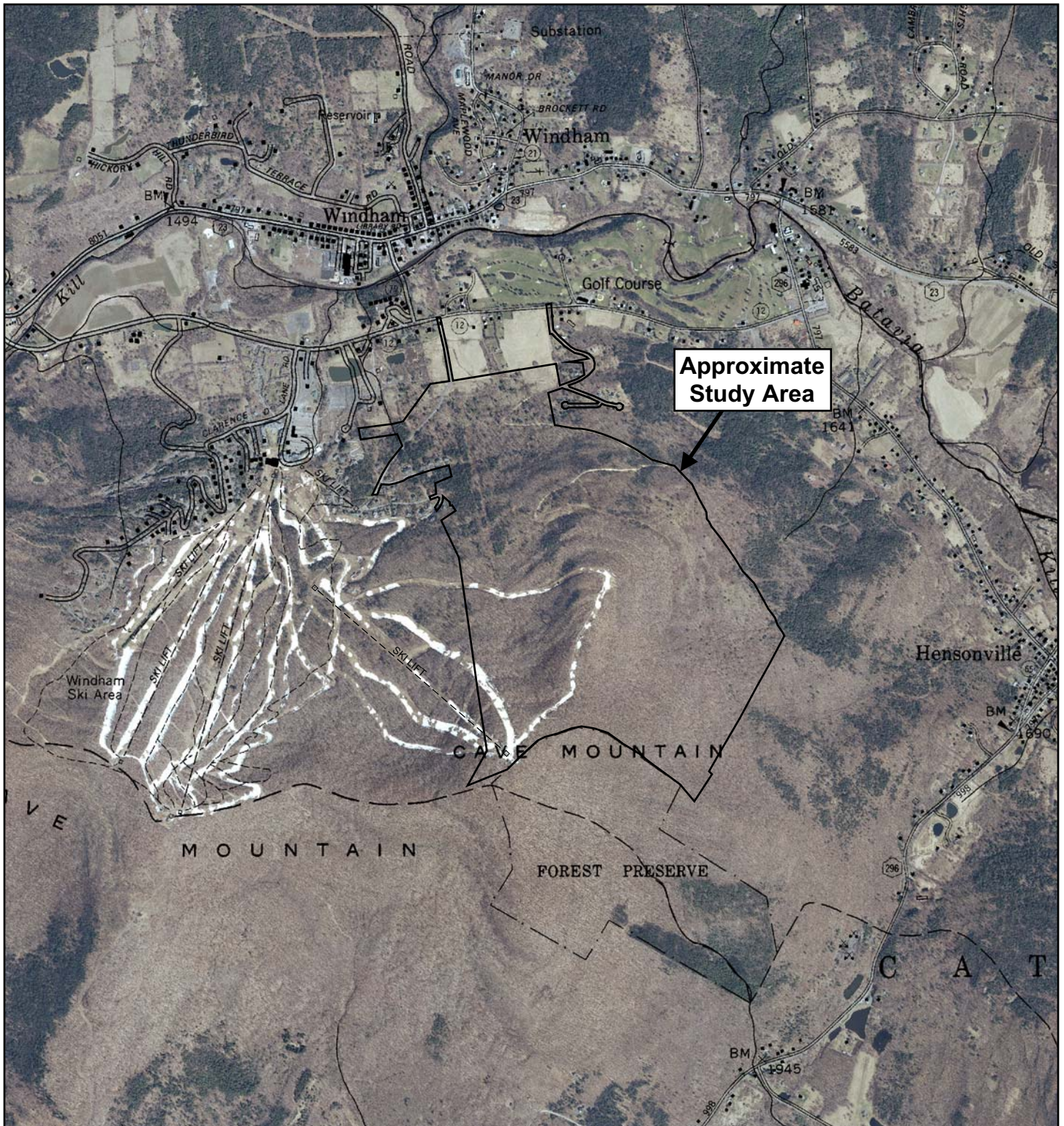
A variety of mammals and birds were recorded on the game cameras. These cameras documented the use of the site by white-tailed deer (thirty-two instances) and black bear (14 instances) from June 22 through October 22, 2010. TES further examined the site for deer wintering yards. No wintering areas for white-tailed deer were noted due to the lack of conifer stands and the north-facing aspect of the site.

Black bears use the site for foraging, and the amount of foraging habitat will be reduced after the development occurs. However, a 201-acre portion of the Elm Ridge Wild Forest borders the property to the south and there are extensive forests in all directions from the Village of Windham. The development of 141 acres will not significantly affect the viability of black bears in the vicinity.

Avoidance of black bear-human conflict requires that residents follow good sanitation practices to discourage bears. Practices such as storing refuse indoors, and not stocking bird feeders in the summer will discourage black bear conflicts.

9.0 Literature Cited

- Costello, C. M. 1992. Black Bear Ecology in the Central Adirondacks as Related to Food Abundance and Forest Management. M.S. Thesis SUNY College of Environmental Science and Forestry. Syracuse, NY.
- NYSDEC. 2007. Black Bears in New York: Natural History, Range, and Interactions with People. Second Edition 2007. Bureau of Wildlife – Black Bear Management Team. NYSDEC, Albany, NY.
- TES. 2009. Wildlife Resources at the Windham Resort Property, Town of Windham, Greene County, New York. Terrestrial Environmental Specialists, Inc., Phoenix, NY.
- Whitaker, Jr., J. O. and W. J. Hamilton, Jr. 1998. Mammals of the Eastern United States. Comstock Publishing Associates. Ithaca, NY.



Approximate Study Area



QUADRANGLE LOCATION

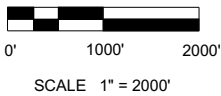
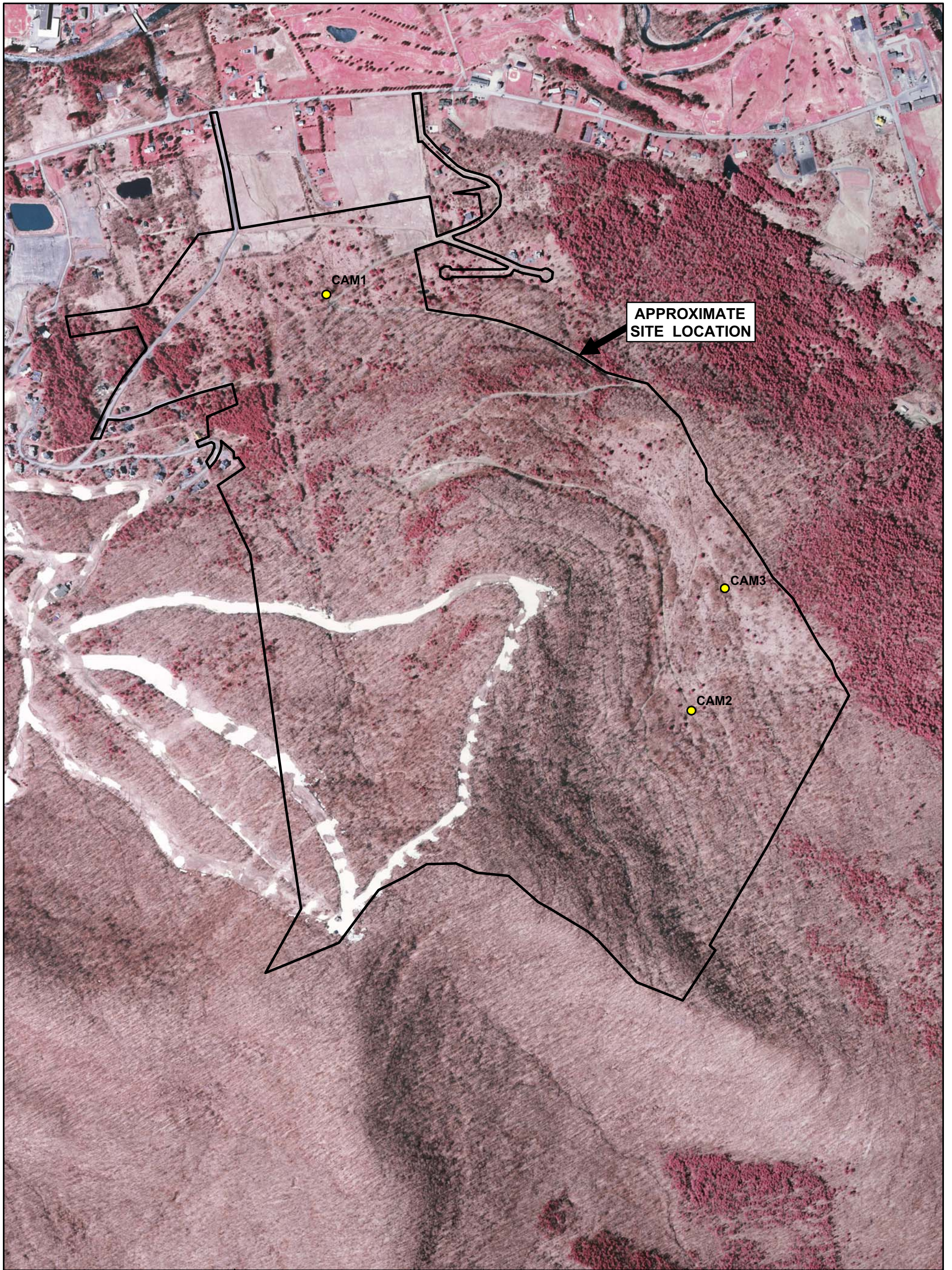


Figure 1. Site Location

NYS DOT Map & 2009 Aerial Photo

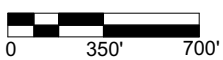
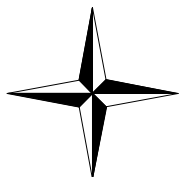
Ashland and Hensonville Quadrangles
1976



LEGEND

● CAM1 - Camera Location

NORTH



APPROXIMATE SCALE IN FEET

Figure 2. Location of Trail Cameras

2001 Aerial obtained from
NYSGIS Clearinghouse

APPENDIX A – Photographs



Photo 1.



Photo 2.



Photo 3.



Photo 4.



Photo 5.



Photo 6.



Photo 7.



Photo 8.



Photo 9.



Photo 10.

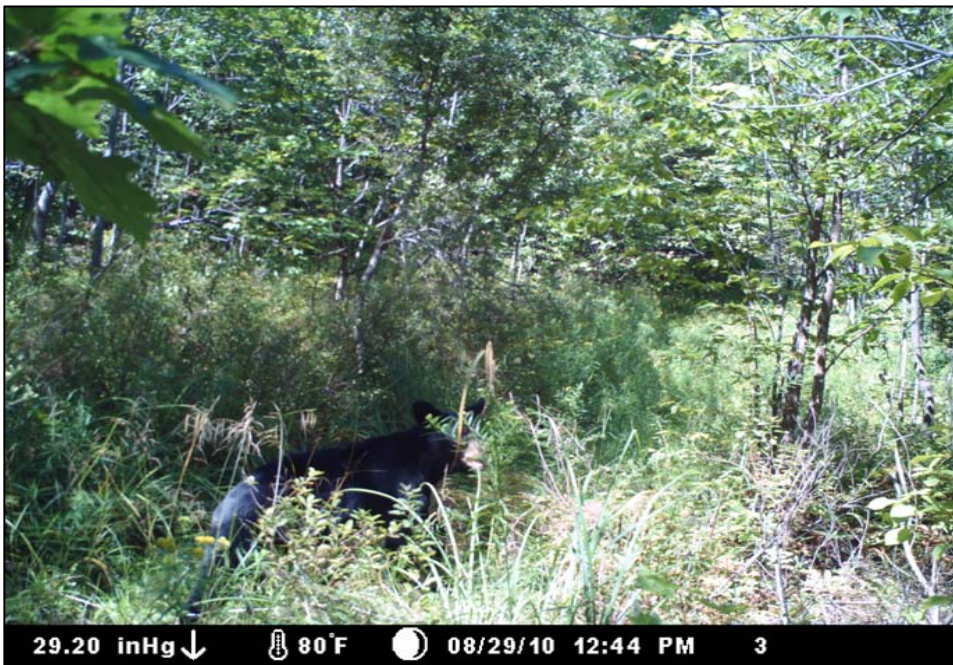


Photo 11.



Photo 12.