ECONOMIC VALUATION STUDY FOR PUBLIC LANDS IN THE CENTRAL CATSKILLS

ECONOMIC IMPACT FROM OUTDOOR RECREATIONAL ACTIVITIES

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ON BEHALF OF
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CATSKILL MOUNTAINKEEPER
THE CATSKILL HERITAGE ALLIANCE
CATSKILL 3500 CLUB
CATSKILL MOUNTAIN CLUB
NEW YORK-NEW JERSEY TRAIL CONFERENCE
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Economic Valuation Study for Public Lands in the Central Catskills

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EXECUTIVE SUMMARY

This study has been commissioned by the Catskill Center (CC), Catskill Mountainkeeper (CMK), the Catskill Heritage Alliance, the Catskill 3500 Club, the Catskill Mountain Club, the New York-New Jersey Trail Conference, and the Woodstock Land Conservancy for the purpose of updating a previous study completed in 2012, which quantified the economic value for surrounding communities generated by recreational activities in the Central Catskills. For the purpose of these studies, the Central Catskills Region has been defined to include the lands inside the Catskill Park and the Catskill-Delaware Watershed (the “Watershed”).

Prior to the 2012 study, there had never been an analysis conducted to determine the number of annual outdoor recreational visitors to the Catskills. As such, it was necessary to collect information from many different sources to develop estimates of the number of annual outdoor recreational visitors to the Catskills. Information was gathered from a wide variety of sources so as to include as many of the different outdoor recreational activities that take place in the Catskill Park and Watershed areas as possible. The visitor numbers developed were also separated to distinguish between activities that rely primarily on public lands or protected private lands that are open to the public and activities that take place primarily on private land. The 2012 study also attempted to quantify the economic impact of operational and capital spending by organizations that protect and manage the natural areas of the Catskills. Due to limited availability of accurate spending and employment information pertaining to operational and capital spending, the results generated by the 2012 study were judged to form an insufficient basis for comparative analysis, and this study therefore does not attempt to update this portion of the 2012 study.

The 2012 study estimated economic impacts using the Money Generation (MGM) economic impact model, which was developed for the National Park Service and had been widely used for similar evaluations of many parks around the country. Unfortunately, due to the death of the developer of the MGM model, this model is no longer available for estimating impacts. For this reason, updated economic impact estimates were developed using the Regional Input-Output Modeling System (RIMS) model, which relies on the same data that provided the basis for the MGM model, but which affords different levels of projected employment. Data was collected pertaining to the number of visitors in 2018 and, similar to the 2012 study, visitor spending profiles of recreational visitors to National Parks were used to estimate spending by these visitors. The following results were generated by this analysis:

• Outdoor recreational activities that rely on public and protected lands attracted a total of 1,765,969 visitors. These visitors spent an estimated $75,473,830 in the local area, had an estimated economic impact on the region’s economy of $55,082,946 and supported 846 jobs.

• All outdoor recreational activities, including both those that rely on public and protected lands and those that rely on private lands, attracted a total of 2,711,937 visitors. These visitors spent an estimated $170,031,580 in the local area, had an estimated economic impact of $123,889,686 on the region’s economy and supported 1882 jobs.

Overall, the number of visitors to the Catskills showed a modest increase from the previous study results, with the increased number of visitors to the New York State Department of Environmental Conservation (DEC) trails and ski areas offsetting declines in hunters, anglers and campers. As a result, the economic impact of visitors also showed an increase. The estimate of the number of jobs supported showed a decline, but this was due to the use of the RIMS model, which has been shown to generate more conservative estimates of jobs supported, compared to the MGM model previously used.
BACKGROUND

This study is an update to a previous study ("Economic Valuation Study for Public Lands in the Central Catskills"), completed in 2012, which quantified the economic impact of recreational activities in the Central Catskills. For the purpose of this study, the Central Catskills Region is defined to include the lands inside the Catskill Park and the Catskill-Delaware Watershed. The study examines activities on both public lands and publicly accessible private property.

The Catskill Park was created by the State of New York in 1904 and encompasses a mountainous region of public and private lands in Ulster, Greene, Delaware and Sullivan Counties. The total area of the Catskill Park is 705,500 acres and it includes the Catskill Forest Preserve, which is managed by the New York State Department of Environmental Conservation (NYS DEC). The Forest Preserve consists of 287,500 acres of state owned land and was established under the New York State Constitution in 1894 to afford these properties with New York’s highest level of protection. These protections provide for an abundance of recreational opportunity, as well as plant and wildlife habitat.1

The Catskill-Delaware Watershed covers 1,013,268 acres and is located within Delaware, Greene, Schoharie, Sullivan, and Ulster counties. The Watershed provides 90% of New York City’s daily water needs and contains six reservoirs (Ashokan, Cannonsville, Neversink, Pepacton, Rondout and Schoharie).2 New York City’s Department of Environmental Protection (DEP) funds and implements a comprehensive Long-Term Watershed Protection Program to meet the US Environmental Protection Agency criteria to avoid the enormous cost of installing filtration, while protecting the water supply for its nine million consumers.3 Within the Watershed, DEP owns approximately 142,000 acres.4

Of the land in the watershed controlled by DEP, 119,877 acres are open for public recreation.5 For certain designated areas in the Watershed, DEP issues a comprehensive permit (Access Permit) that allows for fishing, hiking, trapping and hunting (with a valid NYS hunting license). Other areas are referred to as Public Access Areas and are open to all, without a permit. Access Permit holders may also obtain a DEP Boat Tag for keeping a rowboat at one of the reservoirs for fishing or a DEP Tag for use of a kayak or canoe. Four of the reservoirs are open to kayaks and canoes.6

The combined area of the Catskill Park and Watershed, taking into account land that is included in both, is estimated at 1,254,981 acres.7 This land includes both privately owned and publicly owned properties, as indicated above, as well as privately owned preserves that provide for public access. Fifty towns and villages have boundaries wholly or partially within the Park or the Watershed. The area also contains many recreational facilities including seven State-owned and four privately owned campgrounds, one publicly owned and five privately owned downhill ski facilities, several cross-country ski facilities, hundreds of miles of hiking trails, snowmobile trails, mountain-biking areas, fishing access sites and thousands of acres of protected forest and wildlife management areas.8
Although various plans and studies have been completed over the years, prior to the completion of “Economic Valuation Study for Public Lands in the Central Catskills” in 2012, there had never been a comprehensive estimate of the number of visitors and the economic impact associated with outdoor recreational activities in the Central Catskills region. The purpose of this study is to update the information provided in that 2012 report.

**OBJECTIVE**

Hundreds of thousands of visitors come to the Catskills each year to enjoy the natural beauty and recreational opportunities offered by the region. These visitors have a significant impact on the local economy of the region, which results from the spending of these visitors during their visit. This study has been commissioned by the Catskill Center (CC), Catskill Mountainkeeper (CMK), the Catskill Heritage Alliance, the Catskill 3500 Club, the Catskill Mountain Club, the New York-New Jersey Trail Conference, and the Woodstock Land Conservancy for the purpose of quantifying the economic value for surrounding communities generated by visitors to the Catskill Forest Preserve and to the New York City-owned and publicly accessible lands in the Catskill-Delaware Watershed, along with other publicly accessible lands within the boundaries of the Catskill Park and the Catskill-Delaware Watershed.

**PROJECT APPROACH**

To achieve the project's objectives in the most cost-effective manner, the research was designed to develop estimates that are reasonable and justifiable using available information from public sources, thus avoiding the cost of conducting primary research to collect additional information. The information gathered focused on outdoor recreational activities that utilize the natural resources of the Catskill Park and Watershed area. These include activities that involve both publicly owned land and privately owned land that is accessible to the public. This is the same approach that was taken for the 2012 study.

For the 2012 study, information was gathered pertaining to activities such as hiking, camping, hunting, fishing, boating, mountain biking, tubing, kayaking, canoeing, downhill skiing, cross-country skiing, snowmobiling, horseback riding, outdoor education and similar activities. To the extent possible, visitor information was gathered for the year 2010. Limitations pertaining to available information required that estimates be made for most activities and, in the case of some activities, no credible information was available to develop estimates. The available information was used to develop conservative order-of-magnitude estimates that provide the basis for quantifying the economic impact of these activities on the region. This study involved revisiting the information collected in 2012 and developing updated estimates of visitors to the Catskills for these various activities.

Consistent with the parameters established for the 2012 economic impact estimate, the four New York State counties which contain the vast majority of protected land were
assessed. These include Delaware, Greene, Sullivan and Ulster Counties. Schoharie County was excluded because it includes only a small portion of the Catskill-Delaware Watershed, thus making it difficult to attribute economic impact in this county to the activities of the Catskills area. To the extent possible, information was gathered for the year 2018, the most recent year for which data was available.

Using the above approach, estimates were developed to quantify the number of visitors that come to locations in the Catskills area to participate in the outdoor recreational activities identified. To also understand the significance of protected land on the region, distinctions were made between activities that primarily involved public lands (NY State and NYC DEP lands) or privately protected lands that are open to the public, and activities that involved private properties. The estimates that were developed provided the basis for determining economic impacts on the region of these outdoor recreational activities through the use of economic impact models. The 2012 study also attempted to estimate the economic impact of spending by organizations that protect and manage the natural areas of the Catskills on operations, employees and capital investment. Due to limited availability of accurate spending and employment information, the results generated by the 2012 spending study were judged to form an insufficient basis for analysis and comparison. For this reason, the 2018 study does not attempt to update the operations and capital spending portion of the 2012 study.

**Methodology**

Economic models are used to estimate economic impacts on a local economy. The 2012 study estimated economic impacts using the Money Generation (MGM) economic impact model. This model was developed for the National Park Service and had been widely used for similar evaluations of many parks around the country. Unfortunately, due to the death of the developer of the MGM model, this model is no longer available for estimating impacts. As such, updating the prior report was done using economic impact estimates developed by employing the Regional Input-Output Modeling System (RIMS). The RIMS model relies on the same data that provided the basis for the MGM model. RIMS is a regional economic model developed and maintained by the U.S. Department of Commerce, Bureau of Economic Analysis. RIMS provides a cost-effective way to estimate economic impacts and it is widely used in both the public and private sectors.

Like the MGM model, the RIMS system allows for the estimation of the impacts of economic activity generated within a specified local area. These economic impacts include the **number of jobs supported** and the **value added** to the local economy as a result of the economic activity generated. **Value added** is the most commonly used measure of the contribution to a region and represents the sum total of increased value to goods and services that is generated by the local activities being evaluated.

The RIMS system is designed to take into account the multiplier effects of economic activity when calculating the value added income and employment impact on the region. These multipliers take into account the following effects of economic activity:
• **Direct Effects**: These reflect the initial impacts of local spending by the entity in question. This economic activity is calculated to only include impacts on the local economy. As such, the impact of spending on an item purchased includes only the portion of the amount paid that went to local businesses. It does not include the portion of the selling price that went to vendors located outside of the region. For example, for the purchase of a gallon of gasoline, the direct effect includes the amount paid per gallon of gas, less the amount that the gas station pays its supplier for that gallon of gasoline.

• **Secondary or “Multiplier” Effects**: Secondary effects represent the local economic activity that results from the re-circulation of money spent as a result of spending by the entity in question. This includes the indirect effects of spending which goes to local businesses that supply the entity in question.

To calculate the impact of spending by visitors on the local economy, the total local spending by park visitors is first calculated, based on the number of park visitors and average spending per visitor. Average visitor spending figures used in this study came from profiles of spending by recreational visitors to National Parks developed by the National Park Service for 2018. These spending profiles take into consideration the lodging requirements of visitors (live locally, camping, staying at hotel, etc.). Comparable figures from the National Park Service were used in the 2012 study. As with the 2012 study, spending profiles were adjusted to take into account higher spending by visitors to ski areas in the Catskills. These adjustments reflected the most recent Economic Value Analysis report developed by Ski Areas of New York, which estimated average visitor spending patterns for both winter and summer visitors to New York ski areas. Economic multipliers are then applied to the local visitor spending total to compute the various impacts that this spending has on the local economy.

**Data and Assumptions**

To use the RIMS model to calculate the impact on the local economy of people who visit locations in the Catskills for outdoor recreational activities, the total local spending by visitors must first be calculated. This is done based on the number of visits that individuals make for recreational activities and average spending per visitor on each visit. Visitor numbers are based on mechanisms currently used to track this information and the extent to which it is complete and accurate. Spending by visitors depends not only on the number of visitors, but also on how long visitors stay in the area and their lodging while in the area. For example, day visitors that live locally have different spending patterns than visitors coming from out-of-town who stay in hotels.

Ideally, the spending patterns of visitors could be determined based on surveys of visitors to the Catskills and this information could then be used to generate estimates of visitor spending. Since visitor survey information detailing spending by visitors to the Catskills does not exist and gathering this information is beyond the scope of this research, generic visitor spending profiles developed using information from visitor surveys conducted at national parks was used. Based on the estimates developed for the number of visitors to
the Catskills, assumptions about their lodging requirements, and spending profile information, it was possible to develop estimates for total visitor spending, along with breakouts of spending categories for the money spent by these visitors. Economic multipliers provided by the RIMS model were then applied to compute the various impacts that this spending has on the local economy.

Use of the RIMS model to estimate the economic impact of visitor spending, therefore, requires both the total number of visitors and the lodging requirements of these visitors. There is no centralized source for information on visitors to the Catskills generally. In addition, prior to the 2012 study, no overall census of visitors to the recreational facilities of the Catskill region had ever been undertaken. For the 2012 study, information was gathered from a wide variety of sources so as to include as many of the different outdoor recreational activities that take place in the Catskill Park and Watershed areas as possible.

For the purpose of updating the 2012 study, these sources were revisited to generate current estimates of the number of visitors in 2018, wherever possible. Visitor information was sought pertaining to the following locations and recreational activities:

- **DEC/Catskill Forest Preserve Trailheads:** As had been done for the 2012 study, NYS DEC Region 3 and Region 4 provided visitor sign-in totals for all trailheads located within the Catskill Forest Preserve. In this case, the totals were for 2018 trailhead sign-ins. Visitors passing these trailheads primarily include those engaged in hiking, mountain biking, horseback riding and related activities. In addition, sign-ins for visitors climbing the 35 Catskill peaks above 3,500 feet in elevation were also included in the visitor totals. It was also concluded that very few snowmobilers were likely to have signed trail registries. Similarly, visitors engaged in hunting, fishing and related activities represented a small proportion of trailhead sign-ins.

Not all visitors passing trailheads actually sign trail registers and the percentage of visitors that sign trail registers varies greatly from trail to trail. To estimate the actual number of visitors using trailhead sign-in totals, research estimating the registration rate of visitors to the Catskill Forest Preserve was used. This study, done by NYS DEC in 2017, calculated that on average, about 50% of Park users sign trail registries. Trailhead sign-in totals were factored by this amount to estimate total visitors in 2018. The 2012 study estimated that about 60% of actual visitors signed trailhead registers and, as such, the previous estimates were somewhat more conservative than the updated estimates that were generated.

Visitor numbers for 2018 were also impacted by new DEC regulations pertaining to the Blue Hole swimming area, which had become inundated with day visitors, leading to degradation of the site and to the experience of many potential visitors. The DEC therefore instituted a new system that requires visitors to obtain a permit to access the Blue Hole. The system implemented led to a very dramatic reduction in visits to the Blue Hole that exceeded the anticipated reduction related to the requirement to obtain a permit.
• **DEC/Catskill Forest Preserve Campsites**: NYS DEC Region 3 and Region 4 manage seven campgrounds within the Catskill Forest Preserve that are available for camping and day use. Visitor totals for 2018 came from DEC to provide updated attendance reports for campers within the Forest Preserve.14

• **DEC/Pine Hill Lake Day Use Area**: This facility is located on the property that includes the Belleayre Mountain Ski Area and provides opportunities for picnicking, swimming and fishing. Updated visitor numbers for 2018 were provided by Belleayre management at the Olympic Regional Development Authority.15

• **DEP/Catskill-Delaware Watershed Areas Requiring Permit**: Certain areas of the Catskill-Delaware Watershed, primarily the New York City Reservoir areas, require a permit for access. Access Permit holders are allowed to hike, boat (with appropriate boat tag), fish and hunt (with appropriate state licenses) in these Watershed areas. DEP does not, however, track visitor usage of these areas. For the 2012 study, information from a DEP survey of Access Permit holders was used to estimate the number of times permit holders visited DEP land in the previous 12 months.16 This survey information was used again to estimate the total number of annual visits to DEP/Catskill-Delaware Watershed areas by factoring in the updated number of permit holders in 2018.

• **Fishing**: The 2012 study used estimates of the number of days fished in each New York State county over the course of a year from the New York State Angler Survey.17 The information in the Angler Survey does not distinguish between angler effort within the Catskill Park and Watershed, but using county-wide information, assumptions were made to generate order-of-magnitude estimates for the number of anglers visiting areas of the Catskill region. Since permits are required to fish the large bodies of water within the Watershed, it was assumed that all visits by anglers to fish in the Catskill-Delaware Watershed Area were included in the total visitor estimate developed from the DEP Access Permit Renewal Usage Survey. Because it is possible that some fishing within the Watershed area occurred on land not requiring a permit, this was deemed to be a conservative assumption. An estimate, therefore, was made for fishing visits for the portion of the study area that is located within the Catskill Park, but not within the Watershed. To develop this estimate, the area of the Catskill Park not in the Watershed, as a percentage of the total combined area of Delaware, Greene, Sullivan and Ulster Counties, was determined. Assuming that fishing visits were of the same proportion in all parts of the four counties, this percentage was multiplied by the total fishing visits in the four counties to estimate the number of visits within the area of the Catskill Park that is not part of the Watershed.

Although New York State is in the process of compiling the results of an Angler Survey conducted in 2018, the results of this survey are not yet available and the last available survey was conducted for the year 2007. To update the estimates generated for the 2012 study, the previous results were factored by the change in the number of fishing licenses in New York State from the time of the previous estimate to 2018.18
• **Hunting:** New York State conducts surveys to estimate hunter effort in terms of the number of days hunted for various game across the State and this information was used to develop visitor estimates for the 2012 study. For turkey hunting, the estimated number of days hunting effort combined for the spring and fall seasons was determined for the Catskills Wildlife Management Unit. The total land area of the Catskill Wildlife Management Unit was compared with the study area, less the area of the Watershed that requires an Access Permit. Based on this proportion, the number of hunting visits was calculated. The area of the Watershed requiring an Access Permit was excluded as these visits were assumed to be included in the estimate developed for the DEP Watershed Area requiring a Permit. The updated estimates generated for this study used the number of days for turkeys in 2018.\(^\text{19}\)

As had been done for the 2012 study, a similar methodology was used to also develop estimates for small game hunting, which included ruffed grouse, pheasant, crow, bobcat, coyote, red fox, gray fox, raccoon, snowshoe hare, cottontail rabbit, squirrel, duck and goose. The estimated number of days hunting effort for each species was totaled and, because of overlapping seasons, a three-year average was taken for the period of 2016-17 through 2018-19 for the Southeastern New York State Zone C Region. Based on discussions with DEC, it was also determined that some small game hunters may pursue multiple species simultaneously.\(^\text{20}\) To account for this, only the species with the greatest number of days hunting effort were used from the different overlapping types of game. Specifically, the numbers of days hunting effort for ruffed grouse, coyote, squirrel and duck were used in estimating the number of visitors associated with all small game hunting. The result was a conservative total for small game hunting in the Southeastern New York State Zone C Region. The area of this region was compared to the area of the study area, less the area requiring an Access Permit. This proportion was used to generate the number of visits for small game hunting in the study area, less the area of the Watershed requiring a Permit.

For deer hunting, only statewide hunting effort numbers were available for the estimates developed in 2012 and this is still the case. As was done for the 2012 study, the areas of New York State that permit deer hunting were compared to the area of the study area, less the area requiring an Access Permit. This proportion was then used to generate the number of visits for deer hunting.\(^\text{21}\) Because the information used pertains to statewide deer hunting patterns, rather than being specific to the Catskills area, this estimate is more suspect. As was the case for the 2012 estimate, the updated estimate seems realistic when compared to those developed for other types of hunting.

Because no survey information was available for bear hunting, no estimates for visits pertaining to bear hunting were developed for the 2012 study. Recent data from the State of Washington for 2018, however, showed an average of 123 days of hunter effort were required for each bear harvested.\(^\text{22}\) Using a more conservative figure of 100 days of hunter effort and 2018 New York State Bear Take data, estimates were developed for visits pertaining to bear hunting based on bear harvest in the four counties in the Catskills and the proportion of these counties that are in the study area.\(^\text{23}\)
• **Downhill Skiing and Summer Activities at Belleayre Mountain:** Visitor numbers were updated using the number of skiers visiting Belleayre in 2018 as supplied by Belleayre management at the Olympic Regional Development Authority. In addition, visitors come to Belleayre during the non-winter months for gondola rides and for other events, such as an Octoberfest festival. Visitor numbers for these were also provided and included in this report.24

• **Snowmobiling:** The 2012 study used information from the New York State Snowmobile Association which estimated that each registered snowmobile owner uses their machine an average of 10 times during an average year.25 Based on registration numbers for Delaware, Greene, Sullivan and Ulster Counties, total days of usage were estimated for the four counties. Since no permits are required for snowmobiling in the Watershed, the proportion of land area for the entire study area was compared to the area of the four counties and using this proportion, total estimated snowmobiling visits were calculated. To update these visitor numbers, 2018 registration numbers for the four counties were used to generate current estimates.26

• **Whitewater Users on the Esopus Creek:** This includes popular activities such as tubing, canoeing and kayaking. For the 2012 study, an estimate of annual visitors to the Esopus for these activities was provided by Harry G. Jameson III, President of Mountain Creek Recreation and proprietor of Town Tinker Tube Rental. Mr. Jameson was contacted to provide updated numbers for this study and indicated that the number of visitors had not changed significantly.27

• **Private Preserves Open to the Public:** There are a number of preserves and other protected areas that are privately owned but open for public use for activities such as hiking and cross-country skiing. These areas include the following:

  - West Branch Preserve
  - Burroughs Memorial Site/Woodchuck Lodge
  - Scene of Anti-Rent Wars
  - Beach Mountain Preserve
  - Emory Brook Preserve
  - Mt. Guardian Preserve
  - Overlook Preserve
  - Platte Cove Preserve
  - Snake Rocks Preserve
  - Mt. Utsayantha Fire Tower
  - Pratt Rock

For the 2012 study, attempts were made to get visitor information pertaining to these areas, but in many instances either information was not available or no responses were received. An estimate was developed for the total number of visitors to these locations based on discussions with those contacted and with others familiar with these areas.28 This estimate was updated based on the increase in visitors to the Catskills for similar activities.
• **DeBruce Environmental Education Camp**: This facility is owned and operated by NYS DEC, serving campers 11 – 13 years of age. Located in Sullivan County, these camps host campers who attend week-long programs that emphasize hands-on exploration and outdoor recreational activities. For the 2012 study, the number of visits was estimated, counting each child and assuming two visits from a parent for each child enrolled in a week-long program (one visit to drop off the child and one visit to pick up the child). Based on communications with DEC, it was determined that the number of visitors had not changed significantly from the previous estimate.\(^{29}\)

• **Frost Valley YMCA**: This facility provides outdoor experiences to children and families, including summer camps, family retreats and school programs. Estimates were made for visits to the facility based on program attendance and assuming two visits per overnight camper (one visit to drop off the child and one visit to pick up the child) and daily visits for day campers. Estimates for Frost Valley were not included in the 2012 study.\(^{30}\)

• **Junction Pool**: Junction Pool is a renowned site for fly fishing located where the Little Beaverkill joins the Willowemoc to become the Beaverkill. Riverside Park provides access to Junction Pool and is also a popular attraction for other outdoor recreational activities. For the 2012 study, an estimate of annual visitors was provided by the Roscoe Chamber of Commerce. The visitor total was developed to exclude visitors accessing the park to fish at Junction Pool to avoid double counting, as these visitors were assumed to be included in the numbers for the NYS Angler Survey. The Roscoe Chamber of Commerce was contacted to provide an updated visitor estimate, but they were unable to determine if the number of visitors had changed. As such, this study assumes the same number of visitors as were included in the 2012 study.\(^{31}\)

• **Maurice D. Hinchey Catskills Visitor Center**: The Visitors Center was opened in 2015. As such, it was not included in the 2012 study. The Center is a partnership between the Catskill Center and NYS DEC. Visitor totals for 2018 were provided by the Catskill Center.\(^{32}\) Although the Visitors Center offers trails and other activities, it was recognized that many of the visitors to this facility are doing so as part of travels to other attractions in the Catskills. Therefore, even though possibly half of the visitors to this venue use overnight accommodations, a very conservative figure of 5% was used to estimate the number of these visitors that stayed in hotels.

• **Downhill Skiing/Private Ski Facilities**: There are five privately owned downhill ski facilities located within the Catskill Park: Hunter, Windham, Plattekill, Sawkill, and Holiday Mountain. For the 2012 study, the total number of visitors and the proportion of visitors staying in hotels were estimated based on a report done for the Ski Areas of New York entitled “Ski Areas of New York Economic Value Analysis” and input from the President of Ski Areas of New York. The number of skiers at these ski areas was updated per information provided by the President of Ski Areas of New York and the same assumptions for hotel stays was used in developing estimates for this report.\(^{33}\)
• **Summer Activities at Private Ski Facilities:** In addition to downhill skiing in the winter, these facilities look to profit by offering activities year-round. These include mountain biking, festivals and other events. This information was also part of the “Ski Areas of New York Economic Value Analysis” report. Visitor numbers for the 2012 study were provided by Ski Areas of New York and it was estimated that 35% of these visitors stayed in hotels. Updated information was provided to reflect 2018 visitor numbers.\(^{34}\)

• **Cross-Country Skiing:** There are several cross-country ski areas in the Catskill Park. Based on discussions with local operators, an estimate was developed for annual visitors.\(^{35}\) Attempts to reach these contacts to provide updated information were unsuccessful, so the estimates used in the 2012 report were also used in this study.

• **SUNY Delhi Outdoor Education Center:** This facility is owned by SUNY Delhi and it offers environmental education programs. An estimate was provided for the number of annual visitors attending these programs.\(^{36}\) Attempts to reach leadership at the Center to provide updated information were unsuccessful, so the estimates used in the 2012 report were also used in this study.

• **Ashokan Field Campus:** The Ashokan Center offers various programs that focus on nature, history and the arts. Estimates were provided of the number of visitors attending these programs and these estimates were used in the 2012 study.\(^{37}\) The Center provided updated estimates of visitors in 2018.\(^{38}\)

• **Hudson Valley Triathlon Club:** This organization sponsors triathlons and training programs at Kenneth Wilson State Park and nearby locations. Mark Wilson of the Hudson Valley Triathlon Club provided an estimate of the number of participants for the 2012 report. Mr. Wilson was again contacted for this study and he indicated that the number of participants was about the same in 2018.\(^{39}\)

• **Catskill Fly Fishing Center and Museum:** This membership organization hosts various events throughout the year at its 53-acre facility.\(^{40}\) They were again contacted and provided an updated estimate of the number of visitors in 2018.\(^{41}\)

• **Scenic Rail Activities:** These include the Catskill Mountain Railroad\(^{42}\) and the Delaware and Ulster Railroad.\(^{43}\) For the 2012 study, ridership figures for 2010 were obtained from the organizations operating each of these tourist rail lines. Updated information for 2018 ridership on the Catskill Mountain Railroad was provided,\(^{44}\) but attempts to get updated information for Delaware and Ulster Railroad ridership were unsuccessful, so the estimates used in the 2012 report were also used in this study.

In addition, use of the section of the Ulster & Delaware corridor between Phoenicia and Boiceville was awarded to a company called Rail Explorers, which began operating pedal-powered rail bikes on that section in 2018. Their 2018 ridership was included in this study.\(^{45}\)
As was done for the 2012 study, visitor numbers from the various locations and activities produced an estimate for total annual visitors to the Catskills. This total represents the total number of times that an individual travels to the Catskills (either from outside the region or from the local area) to participate in recreational activities. Assumptions for lodging by visitors were consistent with the assumptions used for the 2012 study, as well. These assumptions were used to break out visitors among four lodging categories: hotel, camping in the park, camping outside of the park, or local/not requiring overnight accommodations. Spending profiles for recreational visitors to National Parks were used to estimate spending by visitors engaged in outdoor recreational activities. For visitors to ski areas, spending profiles were adjusted to reflect the estimates provided in “Ski Areas of New York Economic Value Analysis 2016/17 Season,” as these estimates were judged to be more applicable to visitors to ski areas. Calculations based on the above produced updated estimates for visitor spending for 2018.

As with the 2012 study, the visitor spending numbers developed were separated to distinguish between outdoor recreational activities that rely primarily on public land or protected private land that is open to the public, and activities that take place primarily on private land. Visitor numbers associated with public/protected land included all visitor data provided by DEC, including DEC trail visitation numbers, visitors to DEC campgrounds and visitors to Belleayre. Visitors associated with public/protected land also included estimated visitors to NYC DEP lands that require a DEP Access Permit. Hunting and fishing can occur on both public and private lands, but because these activities are highly dependent on the habitats provided by public lands, these visitors were included with the public/protected land numbers. Similarly, whitewater activities on the Esopus Creek were included with public/protected land numbers. Since a significant amount of snowmobiling activities take place on public lands, these figures were also included with the public/protected estimates. Public/protected visitor totals also included visitors to private preserves that are open to the public, as well as other activities on public lands that are open to the public.

In addition to visitors participating in activities on public/protected land, there are visitors enjoying outdoor recreational activities that take place primarily on privately owned lands that are located inside the Catskill Park and the Catskill-Delaware Watershed. This includes skiers that visit privately owned downhill and cross country skiing facilities, as well as people that visit ski areas to attend other events at these locations. This also includes visitors to privately owned facilities, attractions, summer camps, retreats and members of private organizations that participate in outdoor recreational activities.

**RESULTS**

**Impact of Visitor Spending**

Based on the information collected and assumptions made, the following data was developed pertaining to the annual number of visitors who come to the Catskills for outdoor recreational activities:
### CATSKILLS: ESTIMATED ANNUAL OUTDOOR RECREATIONAL VISITORS

<table>
<thead>
<tr>
<th>Location</th>
<th>Activity(s)</th>
<th>TOTAL VISITORS 2010</th>
<th>TOTAL VISITORS 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ACTIVITIES RELYING ON PUBLIC/PROTECTED LANDS</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DEC Region 3 (includes trailless peaks)</td>
<td>Hiking, Equestrian, Mtn Biking, etc.</td>
<td>82,290</td>
<td>150,608</td>
</tr>
<tr>
<td>DEC Region 4 (includes trailless peaks)</td>
<td>Hiking, Equestrian, Mtn Biking, etc.</td>
<td>108,167</td>
<td>147,366</td>
</tr>
<tr>
<td>DEC Pine Hill Lake</td>
<td>Swimming/Outdoor Recreation</td>
<td>21,098</td>
<td>21,627</td>
</tr>
<tr>
<td>DEC Region 3</td>
<td>Camping</td>
<td>82,515</td>
<td>77,729</td>
</tr>
<tr>
<td>DEC Region 4</td>
<td>Camping</td>
<td>145,619</td>
<td>128,194</td>
</tr>
<tr>
<td>Peekamoose Blue Hole</td>
<td>Camping</td>
<td>-</td>
<td>6,500</td>
</tr>
<tr>
<td>Watershed area requiring DEP permit</td>
<td>Fishing, Boating, Hunting</td>
<td>403,384</td>
<td>388,954</td>
</tr>
<tr>
<td>Catskills not requiring DEP permit</td>
<td>Fishing</td>
<td>120,753</td>
<td>114,474</td>
</tr>
<tr>
<td>Catskills not requiring DEP permit</td>
<td>Deer Hunting</td>
<td>426,337</td>
<td>429,363</td>
</tr>
<tr>
<td>Catskills not requiring DEP permit</td>
<td>Bear Hunting</td>
<td>-</td>
<td>3,440</td>
</tr>
<tr>
<td>Catskills not requiring DEP permit</td>
<td>Turkey Hunting</td>
<td>38,454</td>
<td>22,129</td>
</tr>
<tr>
<td>Catskills not requiring DEP permit</td>
<td>Small Game Hunting</td>
<td>36,259</td>
<td>34,613</td>
</tr>
<tr>
<td>Belleayre</td>
<td>Skiing</td>
<td>175,000</td>
<td>148,888</td>
</tr>
<tr>
<td>Belleayre</td>
<td>Gondola and other non-ski events</td>
<td>-</td>
<td>9,000</td>
</tr>
<tr>
<td>Catskill Park and Watershed</td>
<td>Snowmobiling</td>
<td>23,925</td>
<td>17,192</td>
</tr>
<tr>
<td>Esopus Creek</td>
<td>Tubing, Canoeing, Kayaking</td>
<td>23,000</td>
<td>23,000</td>
</tr>
<tr>
<td>Private Preserves Open to the Public</td>
<td>Hiking</td>
<td>2,000</td>
<td>3,000</td>
</tr>
<tr>
<td>Debruce Environmental Education Camp</td>
<td>Environmental Education</td>
<td>626</td>
<td>626</td>
</tr>
<tr>
<td>Riverside Park</td>
<td>Junction Pool Visits Not Including Fishing</td>
<td>28,500</td>
<td>28,500</td>
</tr>
<tr>
<td>Maurice D. Hinchey Catskills Visitor Center</td>
<td>Environmental Education, Hiking</td>
<td>-</td>
<td>10,766</td>
</tr>
<tr>
<td>TOTAL PUBLIC/PROTECTED LANDS</td>
<td></td>
<td>1,717,927</td>
<td>1,765,969</td>
</tr>
</tbody>
</table>

| **ACTIVITIES RELYING ON PRIVATE LAND**         |                                                  |                     |                     |
| Windham, Hunter, Plattekill, Sawkill, Holiday Mtn | Winter: Skiing                           | 536,000             | 625,000             |
| Windham, Hunter, Plattekill                   | Summer: Mtn Biking, Festivals, Events, etc.     | 192,500             | 200,000             |
| Private Cross Country Facilities              | Cross Country Skiing                           | 10,000              | 10,000              |
| SUNY Delhi Outdoor Education Center           | Environmental Education                        | 2,750               | 2,750               |
| Ashokan Field Campus                          | Environmental Education                        | 8,000               | 13,000              |
| Frost Valley YMCA                             | Environmental Education                        | -                   | 35,942              |
| Kenneth Wilson State Park/Nearby Areas        | Triathlon/Hudson Valley Triathlon Club          | 350                 | 350                 |
| Catskill Fly Fishing Center                   | Fishing/Education                              | 10,000              | 2,250               |
| Rail Explorers Catskills                      | Rail Bikes                                     | -                   | 10,042              |
| Catskill Mountain Railroad                    | Scenic Railroad                                | 10,211              | 37,619              |
| Delaware and Ulster Rail                      | Scenic Railroad                                | 9,015               | 9,015               |
| TOTAL PUBLIC/PROTECTED AND PRIVATE LANDS      |                                                  | 2,496,753           | 2,711,937           |
In comparing the visitor numbers for 2018 with the estimates developed for the 2012 study, there are several areas where changes are evident. The number of visitors to DEC managed Forest Preserve lands for hiking, biking and related trail-based activities increased significantly, although some of this increase may be attributable to the change in the assumed trailhead register sign-in rate. Camping on DEC managed lands decreased, however. In Region 3, the institution of a new permitting system, along with the ability to count campers at the Blue Hole separately, may have contributed to reduced numbers of visitors in this category. Consistent with a decrease in the number of licensed anglers and hunters in the state, visitations related to fishing and hunting declined from the previous study. Skiing numbers increased somewhat, as did activity at ski areas during non-winter months. Although new information for the Delaware & Ulster line was not available, it appears that scenic rail rides, including the new rail biking opportunity, are attracting more visitors to the area. The Maurice D. Hinchey Catskills Visitor Center was opened in 2015 and visitors to this facility have been included in this report.

Visitor spending profiles and the above visitor totals for public/protected lands were used to develop estimates of spending by these visitors. The RIMS multipliers were then applied to these spending estimates to generate estimates of the value added economic impact and jobs supported by these visitors, including both the direct and the secondary effects that result from visitor spending. The results generated by the RIMS model for outdoor recreational activities in the Catskills that rely on public and protected lands are as follows:

**Catskills: Outdoor Recreational Visitors Relying on Public/Protected Lands**

<table>
<thead>
<tr>
<th></th>
<th>2010</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Visitors</td>
<td>1,717,927</td>
<td>1,765,969</td>
</tr>
<tr>
<td>Total Visitor Spending</td>
<td>$62,426,000</td>
<td>$75,473,830</td>
</tr>
<tr>
<td>Average Spending/Visitor</td>
<td>$36.34</td>
<td>$42.74</td>
</tr>
<tr>
<td>Economic Impact (Value Added)</td>
<td>$46,207,000</td>
<td>$55,082,946</td>
</tr>
<tr>
<td>Jobs Supported</td>
<td>980*</td>
<td>846</td>
</tr>
</tbody>
</table>

*Note: number of jobs supported is estimated at 700 using RIMS multipliers.*

The above comparison shows a small increase in the number of visitors, along with an increase in visitors spending due to both the increased number of visitors and increase in average spending/visitor. This results in a greater economic impact (value added), as compared to the estimates from the 2012 study. Although the estimate of the number of jobs supported shows a decline from the 2012 study, this is due to the use of a different economic impact model, as experience has shown that the RIMS model generates more conservative estimates of jobs supported, as compared to the MGM model that was previously employed. For retrospective comparison of jobs supported, use of the RIMS multipliers for the 2012 study would have estimated about 700 jobs supported.

Calculations were then done for all outdoor recreational visitors to the Catskills using the visitor spending profiles to estimate spending by these visitors. The RIMS multipliers were again applied to generate estimates of the value added economic impact and jobs supported by all outdoor recreational visitors to the Catskills. These results are as follows:
Catskills: All Outdoor Recreational Visitors

<table>
<thead>
<tr>
<th></th>
<th>2010</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Visitors</td>
<td>2,496,753</td>
<td>2,711,937</td>
</tr>
<tr>
<td>Total Visitor Spending</td>
<td>$148,534,000</td>
<td>$170,031,580</td>
</tr>
<tr>
<td>Average Spending/Visitor</td>
<td>$59.49</td>
<td>$62.70</td>
</tr>
<tr>
<td>Economic Impact (Value Added)</td>
<td>$114,768,000</td>
<td>$123,889,686</td>
</tr>
<tr>
<td>Jobs Supported</td>
<td>2413*</td>
<td>1882</td>
</tr>
</tbody>
</table>

*Note: number of jobs supported is estimated at 1643 using RIMS multipliers.*

As with the estimates for the portion of visitors that involved public/protected lands, the estimates for all outdoor recreational visitors to the Catskills showed an increase in the number of visitors and in the amount of visitor spending, compared to the 2012 study results. This also resulted in a greater economic impact (value added), as compared to the estimates from the 2012 study. This estimate also showed a decline in the number of jobs supported due to the use of the different economic impact model. Using the RIMS multipliers for the 2012 study would have estimated about 1643 jobs supported, thus the 1882 total for 2018 would represent an increase by comparison.

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1. New York Department of Environmental Conservation website
2. New York City Watershed website
3. NYC.gov website
4. NYC Department of Environmental Protection
5. IBID
6. IBID
7. Estimate developed by NYS DEC with assistance from the Catskill Center for Conservation and Development
8. Catskill Heritage Alliance website, Campground Owners of New York website
10. Catskill Park State Land Master Plan; August 2008, page 86
11. NYS DEC Region 3 and Region 4 staff
12. Trail Use within the Catskill Forest Preserve, New York State; Lauren Archer, NYSDEC Region 4, 2017, page 4
13. DEC press release, June 27, 2018
14. NYS DEC Region 3 and Region 4 staff
15. Bruce Transue, General Manager, Belleayre Mountain, Olympic Regional Development Authority
16. NYC Environmental Protection; Access Permit Renewal Usage Survey Results; Report Created on July 13, 2012
17. New York Statewide Angler Survey 2007; New York State Department of Environmental Conservation Bureau of Fisheries; June 2009
18. US Fish & Wildlife Service, Historical Fishing License Data
19. From Michael V. Schiavone, NYS DEC Certified Wildlife Biologist
20. IBID
22. Washington Department of Fish and Wildlife, 2018 Statewide black bear harvest statistics
23. New York State DEC, Deer and Bear Harvests, 2018
24. Bruce Transue, General Manager, Belleayre Mountain, Olympic Regional Development Authority
25. From Dominic Jacangelo, Executive Director, New York State Snowmobile Association
26. IBID
27. From Harry G. Jameson III, President, Mountain Creek Recreation, Inc.
Discussions with Matt Levy, Open Space Institute; representatives from Village of Stamford; Carolyn Bennett, Pratt Museum; Catskill Center for Conservation and Development; Catskill Mountainkeeper; Catskill Heritage Alliance

Wendy Rosenbach and Ann Harrison, New York State Department of Environmental Conservation

2018-2019 Frost Valley YMCA Annual Report and discussions with Vickie Eddings of Frost Valley YMCA

Elaine Fettig and Michele Tutalo, Roscoe Chamber of Commerce

Jeff Senterman, Executive Director, The Catskill Center

Ski Areas of New York Economic Value Analysis 2009/10 Season; Prepared for Ski Areas of New York by RRC Associates, Inc. and Scott Brandi, President Ski Areas of New York, Inc.

Ibid

Discussions with Dick Carlson, Cross Country Ski Areas of New York and Paul Kuznia of Fahnstock Winter Park

Dave A DeForest, SUNY Delhi

Wayne Turner, Executive Director, Ashokan Center

Peter Cook, Managing Director, Ashokan Center

Mark Wilson, Hudson Valley Triathlon Club

Jim Krul, Executive Director, Catskill Fly Fishing Center and Museum

John Kovach, Managing Director, Catskill Fly Fishing Center and Museum

Catskill Mountain Railroad; 2010 Annual Report

Dave Riordan, Executive Director, Catskill Renovation Corporation

From Harry G. Jameson III

Kingston Daily Freeman, October 30, 2018