
FOREST PRESERVE DETAILED PROJECT WORK PLAN

Fiscal Year 2025
Project # CO-WP-320

<u>Region</u> 3	<u>Project Title</u> Long Path Re-Route
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<u>Project Type</u> New Construction	<u>Town(s)</u> Rochester & Wawarsing	<u>County</u> Ulster	<u>Management Unit</u> Sundown Wild Forest
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Description of Desired Condition(s) for Project

The desired condition for the Long Path Re-Route project is to improve visitor safety, protect wildlife and biodiversity, enhance public access, and to promote the enjoyment of the lands in Sundown Wild Forest (SWF) by present and future generations. The 2023 SWF Unit Management Plan (UMP) Amendment authorizes the DEC to construct the Long Path Re-Route in the vicinity of Vernoooy Kill Falls as a singletrack, bicycle trail consistent with DEC's 2018 Management Guidance for Siting, Construction and Maintenance of Singletrack Bicycle Trails on Forest Preserve Lands (Pg. 12 SWF UMP Amendment). The designed use of the Long Path Re-Route will be for biking, with managed use for hiking, cross country skiing, and snowshoeing.¹

The Long Path is a 357-mile route that originates in Fort Lee, New Jersey and extends northward through the Catskills to John Boyd Thatcher State Park in Voorheesville, New York, connecting a series of landmarks along the way. While road walking is an essential means of connecting the start and end point of the Long Path, every effort is made to keep the Long Path off roads and public highways where possible. The current location of the Long Path requires users to traverse several miles of motor vehicle roads, including State Route 209, Lundy Road, Rogue Harbor Road, and Upper Cherrytown Road. Most sections of these roads lack any vehicle and pedestrian separation. Eliminating this 8.95 mile road walk is essential to reduce unnecessary risks to pedestrian safety. In addition to the long path reroute recently constructed in the adjacent Vernoy Kill State Forest (VKSF), this trail reroute approved in the UMP will eliminate the road walk, and enhance visitor safety by locating the trail through 8.35 miles of Catskill Forest Preserve lands within SWF.

Once constructed, this trail will form a linkage to the mountain bike trail system within the adjacent (VKSF), and to the popular singletrack mountain bike system at Lippman Park in the Town of Wawarsing. Based on the current use of the trails located on the adjacent VKSF and Lippman Park, the anticipated use on this trail is expected to be significant. Care has been taken to avoid under-building the trail which would result in undesirable impacts to natural resources. This trail project will establish and improve trail connectivity between SWF and VKSF, and will significantly expand the

¹ Designed Use: is defined as the single Managed Use of a trail that requires the most demanding design, construction, and maintenance parameters and that, in conjunction with the applicable Trail Class, determines which Design Parameters will apply to a trail. Managed Use: is define as a mode of travel that is actively managed and appropriate on a trail.

recreational opportunities available to the public in the Vernooy Kill Falls region. The construction methods proposed in this workplan include best management practices for sustainable trail design based the latest trail science research. The trail proposed in this work plan has been designed to include low grades and side hill alignments which are features that are essential to a trails long term sustainability (Marion,2022). The Long Path Re-Route trail has been designed and located to minimize potential visitor created impacts to natural resources.

From an experiential standpoint, this trail stands to provide a unique and memorable experience in the Catskill Forest Preserve as it will move through dense thickets of native vegetation. When the trail is constructed, the abundance of Mountain Laurel (*Kalmia latifolia*) in many locations will give visitors the impression that they are traveling through a vegetated tunnel, offering a rare and uncommon Catskill trail experience. Visitors will also be able to recreate in this area when Mountain Laurel blossoms are in bloom. On many sections of this trail during the month of June, trail users will be surrounded by the Mountain Laurels' teacup shaped pink and white flowers as they travel through the trail corridor.

Description of Project Specifications

Multiple potential trail locations were assessed by DEC staff and a professional trail building consultant before arriving at the trail alignment that is proposed in this work plan. The location of the Long Path Re-Route was constrained by several factors including steep land grades, and several confirmed threatened and endangered species, and wetland occurrences. DEC staff determined that the trail corridor location proposed in this work plan minimizes landscape disturbance and natural resource impacts to the greatest extent possible given the high number of negative control points in the project area. This singletrack, sustainably aligned trail avoids areas with sensitive natural resource occurrences and was laid out to minimize the amount of tree cutting needed for trail construction to the greatest extent possible.

Consistent with DEC's 2018 Management Guidance for Siting and Construction of Singletrack Trail in the Forest Preserve, the singletrack bicycle trail treadway width will be 36" inches wide or less to accommodate a range of user types. The trail alignment will incorporate naturally existing terrain whenever possible to provide the benefit of an in-sloped corner and has been designed to minimize trail tread creep beyond the footprint of the trail tread to protect the natural resource occurrences adjacent to the trail treadway.

The corridor width is expected to be generally 6' feet wide with some sections up to 8' feet in width where necessary for turns and sections of steeper cross slope. The corridor width for this singletrack bicycle trail complies with the design guidelines for the "easiest" singletrack trail rating as defined in the aforementioned guidance. Any removal or modification of naturally occurring obstacles will be consistent with the cited mountain bike guidance. Any excavation into the trail bed to remove protruding roots or rocks that cause a hole will be filled with a combination of mineral soil/aggregate mix and compacted.

DEC's singletrack bicycle trail guidance states that the layout of a bicycle trail should not exceed 10% unless the tread surface is uniquely suited to sustaining steeper grades. This singletrack bicycle trail is sustainably aligned and does not include any grades steeper than 10% on the surface of the trail. There is one location near the VKSF where a 10' foot bridge will be required where the trail closely follows the West Branch of the Vernooy Kill. Consistent with DEC design parameters for bridges on singletrack bicycle trails, the overall width of the bridge will not exceed 48" inches.

Description of Measures Taken to Avoid, Mitigate and Minimize Impacts to Natural Resources

The trail layout for this project was designed to avoid drainages, seeps, steep slopes and poorly drained soils to the greatest extent possible. Treadway construction will be routed to avoid cutting of large trees and will be installed at a sustainable grade using current Best Management Practices for trail construction.

A.) Trees to be Removed:

Tree cutting will be kept to the minimum necessary to establish the desired trail tread/trail corridor width that is required for safe traveling. A total of 1,870 trees over 3 inches in diameter and 1,380 trees between 1-3 inches in diameter have been tallied for cutting (tally attached). One of the main factors in the trail's final design, along with avoiding known areas for wetlands and endangered species, was to locate the trail to minimize the number of trees that would need to be cut. Cutting of overstory trees will be avoided to maintain a closed canopy wherever possible. Pruning will be favored over tree removal whenever practical. Dense thickets of Mountain Laurel dominate the understory in the project area and along the trail corridor in many locations. Mountain Laurel's evergreen leaves provide constant shade on the forest floor, which results in light levels that are generally too low for effective forest regeneration. The ground cover conditions in numerous locations will require minimal tree cutting because of the lack of forest regeneration in areas dominated by dense Mountain Laurel thickets. (Photos that characterize and describe the conditions within the trail corridor are included in this workplan).

The tree tally included in this revised work plan is the maximum estimate of the number of trees in an 8.36 mile long and 8' wide corridor. The actual number of trees to be removed is almost certainly significantly lower since the corridor is expected to generally be 6' wide with some exceptions where the corridor may be up to 8' wide. Further, this estimate does not take into consideration avoidance measures which will be taken during trail construction. The removal of trees will be avoided whenever possible by routing the trail around trees and by pruning limbs in favor of whole tree removal.

B.) Earthwork and Disturbance:

The earthwork required for this project has been limited to the greatest extent possible given the wetland, endangered species, and topographical constraints. In forested areas with steep slopes, like the ones found within the project area, a preferred, more sustainable practice is to construct side-hill aligned trails, with mineral soil removed and deposited downhill to create gently out-sloped or "benched" treads. Trail sustainability is significantly enhanced on landform grades >10% where the steep side slopes permanently compel the spatial concentration of traffic to a narrow tread while limiting opportunities for visitors to establish informal trails (Marion,2022). In other words, fully benched, side-hill aligned trails with sufficiently steep side slopes resist widening and can facilitate tread drainage through periodic grade reversals and well-maintained out slopes. The trail design will utilize a visitor "containment" strategy that concentrates traffic on narrow, wear resistant tread designed to sustain long-term traffic, which will minimize natural resource impacts, make the route more durable under high use, and minimize natural resource damage by preventing trail tread creep, trail widening, and visitor created informal trails. Sustainable trial design generally creates a more positive user experience while requiring less future maintenance.

In certain locations along the trail, the trail corridor width will be wider on steeper cross slopes to accommodate for the upslope grading of the tread bench. However, the final corridor width of this trail will generally be 6' in width. In the northern section of the trail near Vernooy Kill Falls, if the cross slope is minimal and the subsoils are relatively free of rocks and roots, a partial bench cut may be utilized. Soil characteristics will be carefully evaluated before any side slope management is

undertaken. Near steep turns and on the ridge section of the trail, some bedrock tread and/ or rearranged stone treadway will be used where the hill side slope is relatively minor. In 3 locations, where the trail tread crosses steep cross slopes over particularly rocky ground or on thin soils or on bedrock, cribbing will be necessary. The locations where cribbing will be required are included on the attached map. Due to the Mountain Laurel density in many locations, it is difficult to determine exactly what tread construction technique will be required until the Mountain Laurel is removed, and the tread area is grubbed out.

Based on existing terrain, crowning of the trail tread will likely be minimal, but will be utilized on occasion in areas where the trail route is not conducive to shedding water throughout sloping or other techniques. If the removed duff is significant enough to create a trench that will lead to saturation or erosion, there will be crowned tread construction. In certain locations, grading techniques will be used to facilitate natural drainage without water bars. Grade reversals, dip drains, and trail alignments that facilitate drainage and tread stability will be utilized whenever possible. Areas of wet or poorly drained soils will be avoided to mitigate erosion. Care will be taken to construct a finished trail that has a naturalistic, wild character as opposed to a geometric character, by naturalizing the upslope area where full benching occurs or placing stones strategically to create a more natural appearing character to any impacted trail sections.

C.) Impacts to Streams, Waterbodies, and Wetlands:

Trail construction will not take place within wetland areas. Silt fencing will be placed during construction when working near stream channels or swales as per NYS Standards and Specifications for Erosion and Sediment Control. Any areas where ditching has been crossed by machinery or a vehicle will be restored to operational condition. Surface and ground water will be controlled during all phases of construction to prevent erosion and siltation both on site and to off-site locations. Facilities within the unit will be monitored for any natural resource degradation that could occur during trail construction.

D.) Identification of Rare, Threatened or Endangered Species:

Timber rattlesnakes (*Crotalus horridus*), are listed as a threatened species in New York, are protected by Environmental Conservation Law (ECL) section 11-0535 and the New York Code of Rules and Regulations (6 NYCRR Part 182) and are found in high numbers in the project area. The area where the proposed route could be located was further limited by known occurrences of multiple Timber Rattlesnake basking and denning areas. The NYS guidelines for minimizing potential impacts to rattlesnakes during facility development stipulate that known den and basking area locations must be buffered by 200 meters. Once buffered by the 200-meter setback, the basking and denning areas significantly reduced the area where a trail could be located.

Before undertaking any trail construction within 1.5 miles of a known rattlesnake den location between April 1 to October 31, Lands and Forests will consult with the Division of Fish and Wildlife Management staff to review proposed action for potential impacts to timber rattlesnakes or critical habitat as prescribed in DEC's guidelines. A Timber Rattlesnake Protection Plan developed by the Division of Fish and Wildlife Management will include direction for monitoring and mitigation. This plan, in addition to on-site timber rattlesnake training for personnel provided by appropriate regional wildlife staff, will provide both Department and contract staff with necessary information to appropriately handle any potential timber rattlesnake encounters. If conditions dictate, the use of an on-site trained monitor may be necessary for some aspects of construction activities.

Activities that a Trained Monitor will perform include:

- Sweeping/searching the work area before any clearing of vegetation and prior to initial ground disturbance.
 - Checking under equipment to carefully inspect the work area every day before starting work.
 - Re-inspecting the work area before restarting work after any significant periods of inactivity.
 - Providing education and encounter training to any personnel that do not attend the initial training session.
 - Monitoring and recording of any snake activity and encounters. Work will be stopped and will not resume until the snake has left the work area. The crew will maintain and keep on-site an inspection and encounter logbook.
 - Special Attention will be given to inspecting stockpiled materials, such as large rocks within the limits of disturbance.
 - Trained monitor will notify DEC if any rattlesnakes were impacted during work activities.
- The trail layout for this project was painstakingly designed to avoid drainages, seeps, steep slopes, and poorly drained soils to the greatest extent possible. Treadway construction will be routed to avoid cutting of large trees and will be installed at a sustainable grade using current Best Management Practices for trail construction.

Analysis of Project Location and Design Alternatives

Alternative #1: Build two parallel trails that each allow for different types of recreation. The first trail, a foot trail designed purely for hiking, would remove the Long Path from public highways. The second trail, in a proposed two-trail system, would be a multi-use snowmobile/equestrian/mountain bike trail. Alternative #1 was not selected as the preferred alternative because a two-trail system was determined to be duplicative and would require significantly more tree cutting and earthwork. In addition, after further evaluation of the forest characteristics and the desired conditions for public use and experience of the Forest Preserve in the Vernooy Kill Falls region, DEC concluded that construction of a trail to accommodate snowmobiling and equestrian use is inappropriate for this area.

Alternative #2 –The trail would be designed to accommodate various types of users within the Catskill Forest Preserve including hikers, mountain bikers, cross country skiers and snowmobilers. Alternative #2 is not the preferred alternative because after further evaluation, DEC concluded that constructing a trail to accommodate snowmobiling and equestrian use is inappropriate for this area.

Alternative #3 - The No-Action Alternative. The Long Path will continue to require a 10-mile road walk. The “No-Action” alternative was not considered the preferred alternative due to DEC and partner organizations goal of reducing road walking as much as possible by connecting the Long Path through forested areas.

Alternative #4 – (Preferred Alternative) – Construct a multi-use trail that will enhance recreational opportunities for hikers, bikers, cross-country skiers and snowshoers. The trail will follow the natural contours of the terrain as much as possible and will be laid out to balance and minimize tree-cutting, rock removal, and terrain alteration.

Description of Use of Motorized Equipment and/or Motor Vehicles (if any)

The Guidelines for Administrative Use of Motor Vehicles to Build and Maintain Bicycle Trails detailed on page 21 of DEC's Singletrack Bicycle Trail Guidance will be followed during trail construction to assure that the outcome of this singletrack bicycle trail preserves the wild forest character of the area and to set. Trail crews will perform work with a combination of hand and mechanized equipment. Whenever a reasonable and less intrusive alternative to using landscaping equipment exists, it will be used first. A powered wheelbarrow and a tracked mini excavator will be used to perform the rough trail excavations and to set the treadway and water control features for increased sustainability in the finished trail. A wheeled or tracked brush mower will be used in locations where the Mountain Laurel is thick and the cross slope is minimal. Final shaping will be performed with hand tools.

Trail construction will require the use of motorized equipment to carry in materials and tools more than 40 pounds and to aid in the efficiency of trail construction. A tracked mini excavator and walk behind wheelbarrows will be utilized throughout the trail construction process. A Conceptual Use Plan for Administrative Access by Motor Vehicles in Wild Forest Areas (CP-17 Appendix A) has been secured for this area. Access will be granted for motorized equipment via existing trails and roadways. During construction, operators of low-impact motorized equipment will conduct their work in optimal environmental conditions and in a manner that will not contribute to any potential degradation of the wild forest setting. All work will be done with appropriate DEC oversight.

Description of Applicable Standards for Accessibility by People with Disabilities

Consistent with ADA requirements, the Department incorporates accessibility for people with disabilities into the planning, construction and alteration of recreational facilities and assets supporting them. Modification of the Long Path to fully accessible standards would result in a fundamental alteration in the nature of the service and an undue financial and administrative burden to the Department in the case of this project.

Other Relevant Considerations

Anticipated start date for this trail construction project in Region 3 is Spring of 2025. The portions of trail within the adjacent VKSF have already been constructed. Trail connection anticipated and advocated for by the New York – New Jersey Trail Conference (NYNJTC).

Citations: Marion, Jeffrey. (2022) "Trail Sustainability: A State-of Knowledge Review of Trail Impacts. Influential Factors, Sustainability Ratings, and Planning and Management Guidance". U.S. Geological Survey

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Comments:

Pine Roehrs

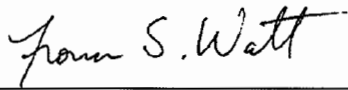
Regional Program Manager

Date: 2/24/2025



Regional Director

Date: 4/5/2025



Division Director

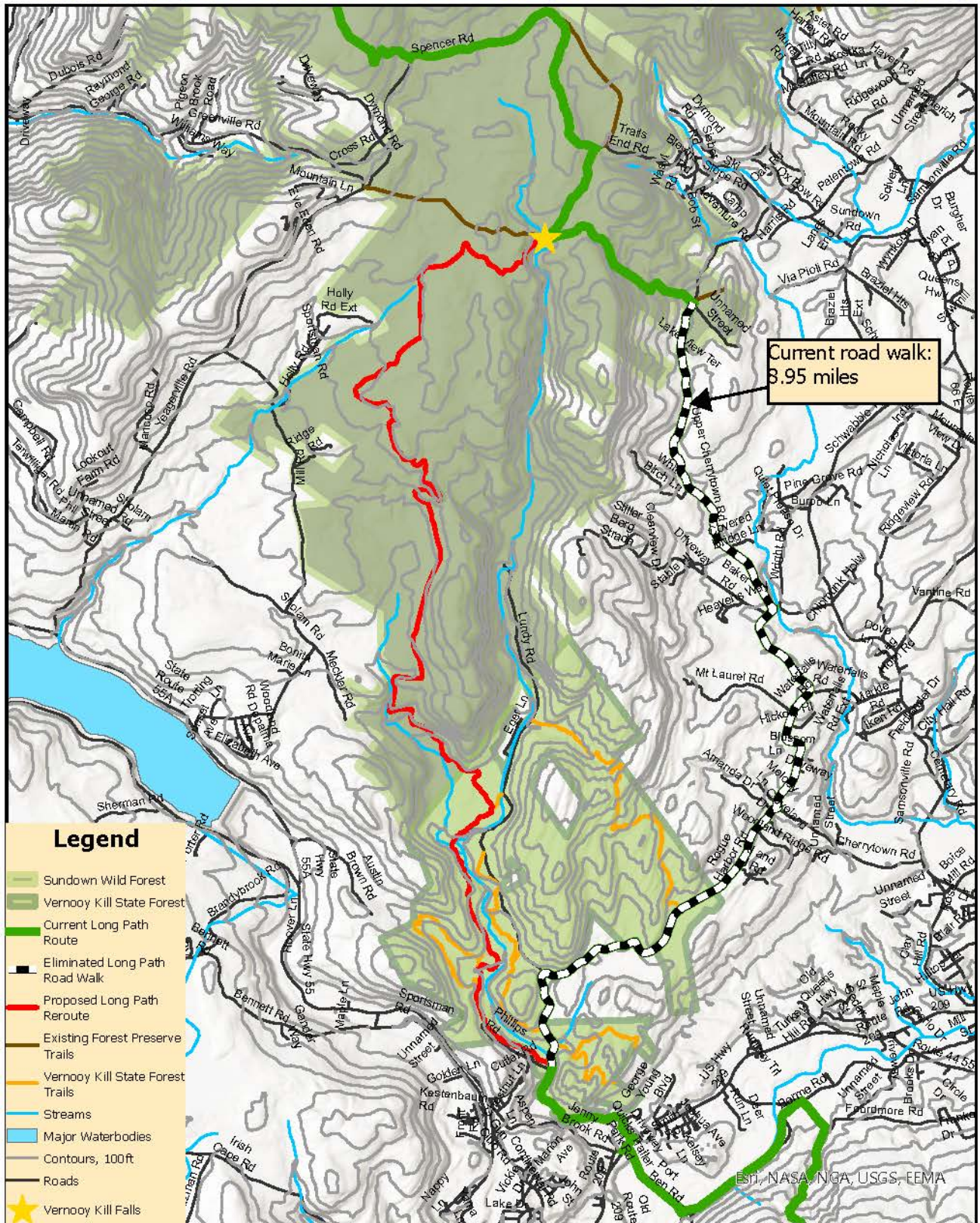
Date: 5/30/2025

REGULATORY CLEARANCE CHECKLIST – STATE LANDS and CONSERVATION EASEMENT PROJECTS

PROGRAM	PERMIT	REQUIRED		SECURED BY	COMMENTS
		YES	NO	(NAME)	
Air Resources	Restricted Burning	<input type="checkbox"/>	<input type="checkbox"/>		
Mineral Resources	Mining	<input type="checkbox"/>	<input type="checkbox"/>		
Materials Management	Solid Waste Mgt. Fac.	<input type="checkbox"/>	<input type="checkbox"/>		
Water	Dam Safety Review	<input type="checkbox"/>	<input type="checkbox"/>		
	Const. in Flood Hazard	<input type="checkbox"/>	<input type="checkbox"/>		
	Public Water Supply	<input type="checkbox"/>	<input type="checkbox"/>		
	SPDES	<input type="checkbox"/>	<input type="checkbox"/>		
Spills Management	Petro. Bulk Storage	<input type="checkbox"/>	<input type="checkbox"/>		
Lands and Forests	Unit Management Plan	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Pine Roehrs	
	Tree Cutting	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Ian Thompson	
	Protected Native Plants	<input type="checkbox"/>	<input type="checkbox"/>		
	Historic Preservation	<input type="checkbox"/>	<input type="checkbox"/>		
Fish and Wildlife	Freshwater Wetlands	<input type="checkbox"/>	<input type="checkbox"/>		
	Wild Scenic & Rec. River	<input type="checkbox"/>	<input type="checkbox"/>		
Compliance Services	Other Protection of Waters	<input type="checkbox"/>	<input type="checkbox"/>		
	EAF	<input type="checkbox"/>	<input type="checkbox"/>		
	Negative Declaration	<input type="checkbox"/>	<input type="checkbox"/>		
	Env. Impact Statement	<input type="checkbox"/>	<input type="checkbox"/>		
	Water Quality Cert.	<input type="checkbox"/>	<input type="checkbox"/>		
DEC (other)	CP-17	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Pine Roehrs	
	Commissioner (aircraft, motorized equipment)	<input type="checkbox"/>	<input type="checkbox"/>		
	Flight Request	<input type="checkbox"/>	<input type="checkbox"/>		
	Contract Clearance Sh.	<input type="checkbox"/>	<input type="checkbox"/>		
	DOB Exemption	<input type="checkbox"/>	<input type="checkbox"/>		
Other Agencies	APA MOU	<input type="checkbox"/>	<input type="checkbox"/>		
	APA Wetlands Permit	<input type="checkbox"/>	<input type="checkbox"/>		
	Corps. of Engineers	<input type="checkbox"/>	<input type="checkbox"/>		
	Building Permits	<input type="checkbox"/>	<input type="checkbox"/>		
	Local Permits	<input type="checkbox"/>	<input type="checkbox"/>		
	Easements	<input type="checkbox"/>	<input type="checkbox"/>		
	Highway Enter DOT	<input type="checkbox"/>	<input type="checkbox"/>		
Wastewater Disposal	<input type="checkbox"/>	<input type="checkbox"/>			

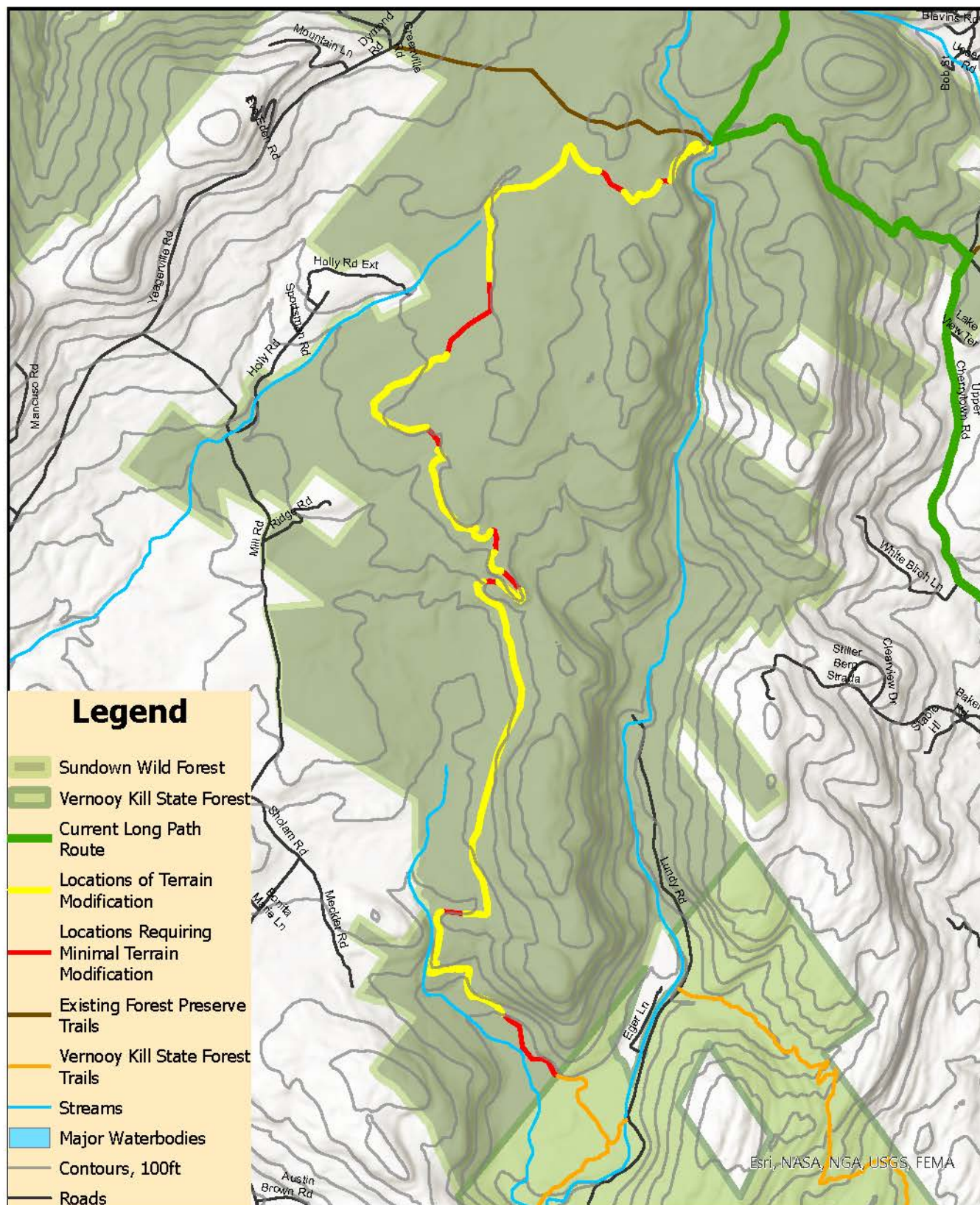
Sundown Wild Forest

Current Long Path Road Walk and Proposed Long Path Reroute Map



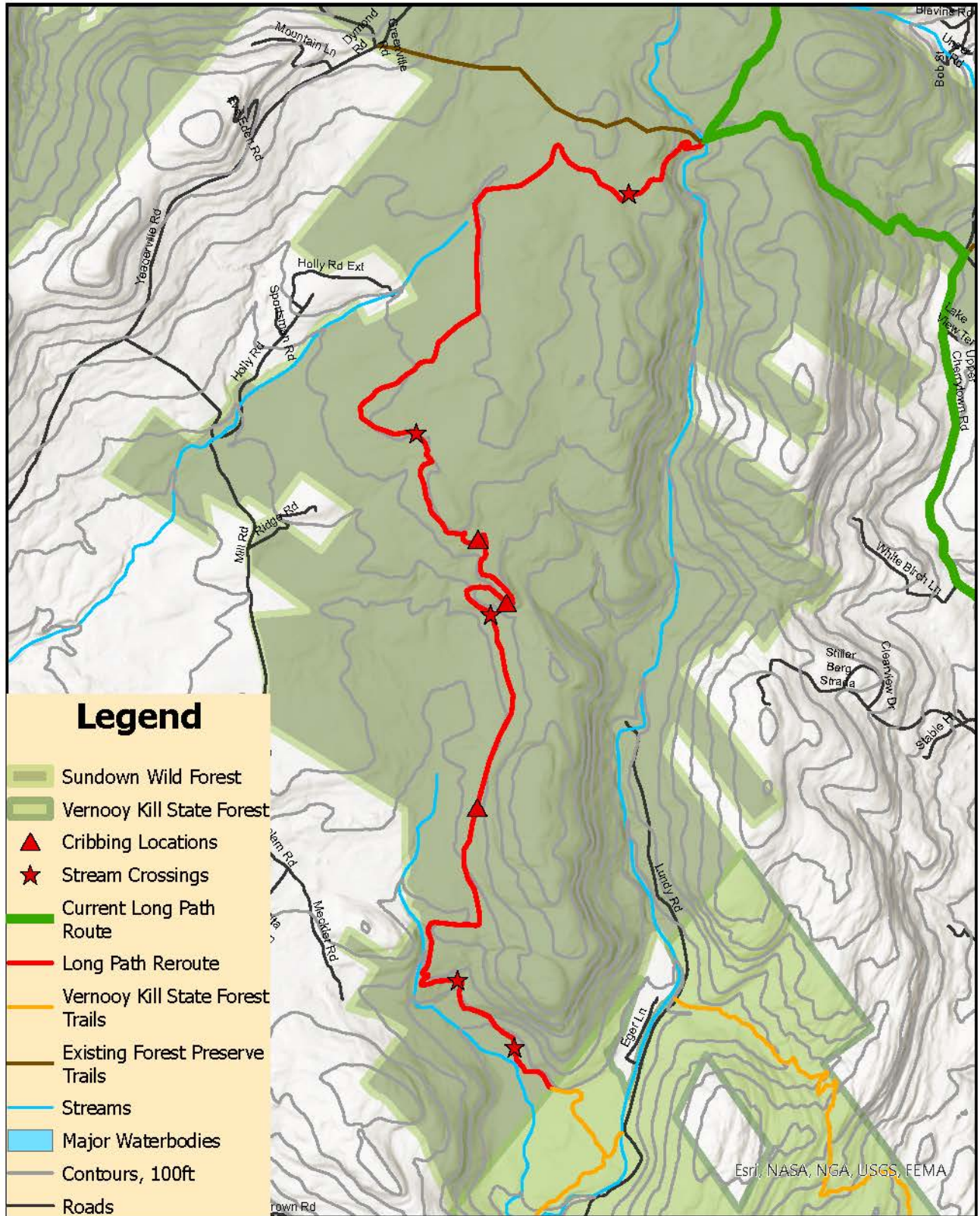
Sundown Wild Forest

Long Path Reroute Terrain Modification Map



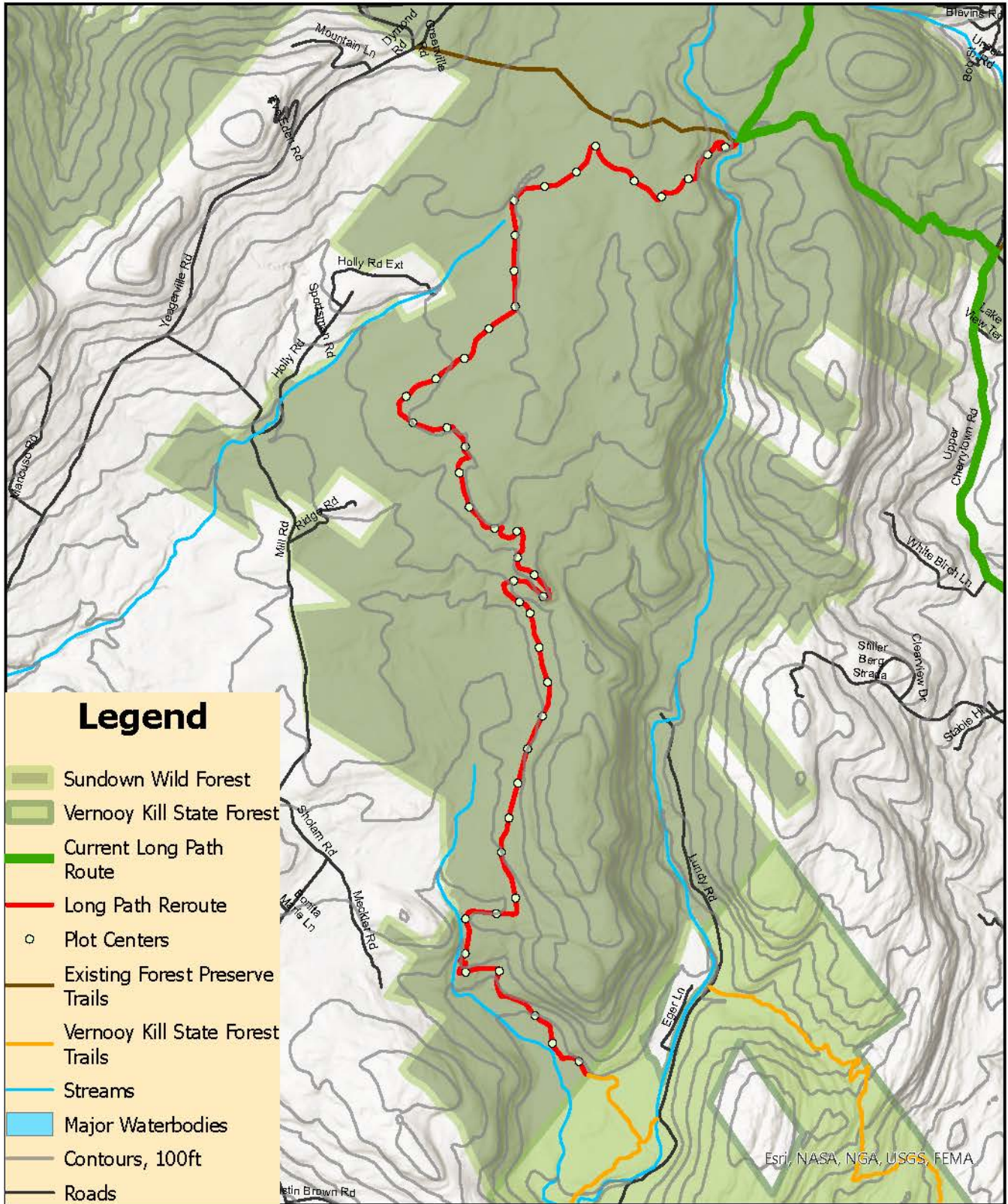
Sundown Wild Forest

Long Path Reroute Cribbing and Stream Crossings Location Map



Sundown Wild Forest

Tree Tally Plot Center Map



Esri, NASA, NGA, USGS, FEMA

0 0.5 1 2 Miles

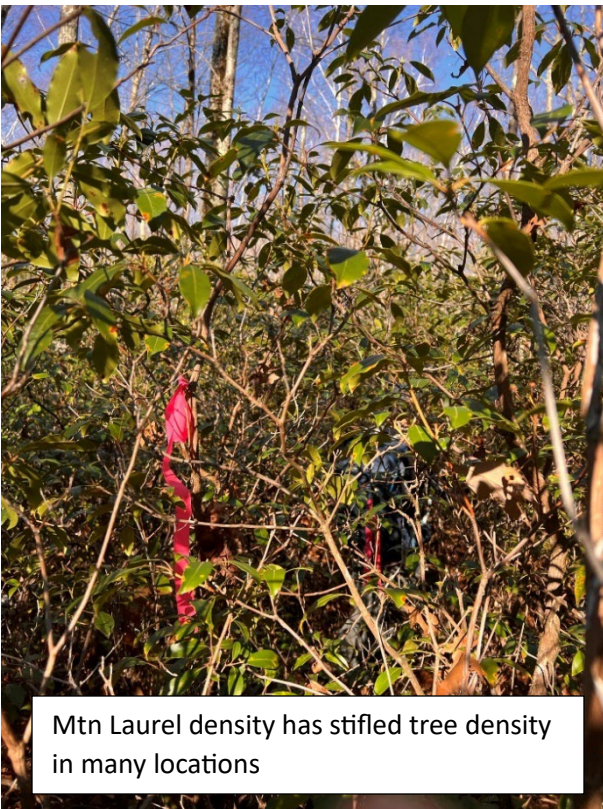


Species	1-3"	4"	6"	8"	10"	12"	14"	16"	18"	20"	22"	24"	26"	28"	Total
American beech	70	17	13	7	2		1								110
Bitternut hickory		1													1
Black birch	2		3		2										7
Black cherry						1									1
Black gum	7	5	4	1			1								18
Black oak				1		3		1	2	1				1	9
Chestnut oak		1	2	6	2	2	1					1			15
Hemlock	5	3	1	2	2	3	2			1					19
Ironwood		1													1
Red maple	8	11	15	6	2	2	1	2							47
Red oak		1	2	1	2	4	1		3	1		1			16
Serviceberry	1	2		1											4
Striped maple	2														2
Sugar maple	5	3	1		1										10
White oak								1		1					2
White pine	38	13	4	1				1			1			1	59
Yellow birch		2	1	1											4
Totals	138	60	46	27	13	15	7	5	5	4	1	2		2	325

Species	1-3"	4"	6"	8"	10"	12"	14"	16"	18"	20"	22"	24"	26"	28"	Total
American beech	700	170	130	70	20	0	10	0	0	0	0	0	0	0	1100
Bitternut hickory	0	10	0	0	0	0	0	0	0	0	0	0	0	0	10
Black birch	20	0	30	0	20	0	0	0	0	0	0	0	0	0	70
Black cherry	0	0	0	0	0	10	0	0	0	0	0	0	0	0	10
Black gum	70	50	40	10	0	0	10	0	0	0	0	0	0	0	180
Black oak	0	0	0	10	0	30	0	10	20	10	0	0	0	10	90
Chestnut oak	0	10	20	60	20	20	10	0	0	0	0	10	0	0	150
Hemlock	50	30	10	20	20	30	20	0	0	10	0	0	0	0	190
Ironwood	0	10	0	0	0	0	0	0	0	0	0	0	0	0	10
Red maple	80	110	150	60	20	20	10	20	0	0	0	0	0	0	470
Red oak	0	10	20	10	20	40	10	0	30	10	0	10	0	0	160
Serviceberry	10	20	0	10	0	0	0	0	0	0	0	0	0	0	40
Striped maple	20	0	0	0	0	0	0	0	0	0	0	0	0	0	20
Sugar maple	50	30	10	0	10	0	0	0	0	0	0	0	0	0	100
White oak	0	0	0	0	0	0	0	10	0	10	0	0	0	0	20
White pine	380	130	40	10	0	0	0	10	0	0	10	0	0	10	590
Yellow birch	0	20	10	10	0	0	0	0	0	0	0	0	0	0	40
Totals	1380	600	460	270	130	150	70	50	50	40	10	20	0	20	3250

The top chart is the raw data from the tree tally (the 10%) sample, and the bottom chart is the estimated total number of trees to be cut (derived from multiplying the sample numbers by 10).

Sundown Wild Forest: Long Path Re-Route



These photos are shown to illustrate the density of Mountain Laurel in certain locations within the project area. These photos are not shown to characterize the slopes and grades within the whole project area.



Tree occurrences in many locations are spaced wide enough that cutting would not be required for a 6" corridor.



Example of a location where tree cutting would not be required due to spacing of trees.



Example of a location where trees 3" and below would require removal but no large trees would be removed.

These photos are shown to illustrate the density of Mountain Laurel in certain locations within the project area. These photos are not shown to characterize the slopes and grades within the whole project area.



Photo: Dr. Jeffery Marion, Recreation Ecologist, USGS

Illustration of what a full bench cut side hill aligned trail looks like in a forested landscape with steep slopes. This type of trail construction is particularly suited for the conditions found within the project area. The Long Path Re-Route trail has been strategically designed to take advantage of the steep slopes and utilize them to concentrate visitor traffic to a sustainably aligned trail corridor and reduce the potential for visitor created impacts to natural resources outside of the trail corridor.

appropriate for this reroute and is hereby removing snowmobiling as an allowed use on the proposed trail segment.

Objectives:

Peekamoose Valley Riparian Corridor

- Keep visitors on hardened paths and durable surfaces in order to concentrate use and better protect the natural resources within the riparian corridor.
- Keep visitors out of the roadway by providing a safe, accessible connector trail from the trailer field parking area to the Blue Hole.

Vernooy Kill Falls Region

- Maintain a sense of solitude, remoteness, and self-reliance not only to bicyclists but to all permitted user groups. Trail development will follow the natural contours of the terrain as much as possible and will be laid out to balance and minimize tree-cutting, rock removal, and terrain alteration.

Management Actions:

Peekamoose Valley Riparian Corridor

- Construct a 0.6 mile, 5 foot wide, trail for the purposes of connecting the new 80 car parking area to the Blue Hole. The trail will include a foot bridge over Bear Hole Brook & foot bridge/ retaining wall in narrow section near the currently unmarked trail entrance to the Blue Hole.
- A short trail reroute will connect the newly built Blue Hole connector trail to the existing Peekamoose Table Trail in order to provide hiking access to the Long Path.

Vernooy Kill Falls Region

- Construct the Long Path reroute in the vicinity of Vernooy Kill Falls as a single track bicycle trail, consistent with the Bicycle Management Guidance. The location will be generally the same as identified in the 2019 UMP. The trail segment will also be open to hiking, showshoeing and skiing, but not snowmobiling.

Discussion of Alternatives for Trail Placement

The Department has considered several trail and parking proposals to provide a safer route for the public to travel to the popular swimming area. Three alternative management scenarios have been considered and a preferred trail-route alternative was identified.

Singletrack Trail Rating System and Characteristics⁴

	Easiest	Easy	More Difficult	Very Difficult	Extremely Difficult
Tread Width	36" or less	24"-36"	18"-24"	12"-18"	12" or less
Corridor Width	6-8'	6'	4'	4'	4'
Tread Surface	Hardened or surfaced	Firm and stable	Mostly stable with some variability	Widely variable	Widely variable and unpredictable
Average Trail Grade	Less than 5%	5% or less	10% or less	15% or less	15% or more
Maximum ¹ Trail Grade	10%	15%	15% or greater	15% or greater	15% or greater
Obstacles	None	Unavoidable obstacles 2" tall or less	Unavoidable obstacles 8" tall or less	Unavoidable obstacles 15" tall or less	Unavoidable obstacles 15" tall or less
Bridges	bridges 48" or wider	bridges 36" or wider	bridges 24" or wider	bridges 24" or wider	bridges 24" or narrower
				Short sections may exceed criteria	Short sections may exceed criteria

¹ Maximum grade is defined as the steepest section of trail that is more than approximately 10 feet in length and is measured in percent with a clinometer.

2.) Doubletrack

Guidance for the development of new doubletrack trails is not addressed in this document.

⁴ Adapted from *Trail Solutions: IMBA's Guide to Building Sweet Singletrack*, International Mountain Bicycling Association, 2004.