West Almond **Trail System**
Master Plan

2023

Acknowledgments

This master plan, which will set the precedent for conservation and maintenance of the West Almond Trail System in Allegany County, New York, was created by a team of dedicated individuals with expertise in different fields.

National Park Service – Rivers, Trails and Conservation Assistance Program (NPS-RTCA)

Lelia Mellen

Outdoor Recreation Planner

New York State Department of Environmental Conservation (NYSDEC) Region 9

Gregory Muller

West Almond Supervising Forester

IMPACT: Friends Improving Allegany County Trails, Inc.

Glenn Gebhard

President

Pauline E. Burnes

Vice President, Registered Landscape Architect (RLA), American Society of Landscape Architects (ASLA)

Alfred University (AU)

Nicole Munkwitz

Instructor and Technician, Division of Environmental Studies and Geology

Alexis Giordano

IMPACT Trails Advocacy Intern, with support from AU Applied and Experiential Learning Program (APEX)

Morrigan Timothy

IMPACT Trails Survey and Management GIS Specialist Intern

Contents

Executive Summary

The West Almond Trail System Master Plan provides a blueprint for maintenance of the West Almond trails with links to 'living' documents attached as appendices for continuous improvements of the system. The document is intended to be a model for other trail systems in Allegany County, New York.

The West Almond Trail System is managed by the New York State Department of Environmental Conservation's (NYSDEC) West Almond Forestry office in Allegany County. The trails are located within four State Forests: Phillips Creek, Palmer's Pond, Turnpike, and Karr Valley Creek. IMPACT: Friends Improving Allegany County Trails, Inc. (IMPACT), is a nonprofit organization that collaborates with NYSDEC through a Volunteer Stewardship Agreement to improve and maintain the West Almond Trail System and other trails on public lands in Allegany County. This plan gives some of the history of the State Forests and identifies the various users of the trail. It also details how IMPACT is working with NYSDEC staff to improve and maintain the trails to protect the natural resources in a forest ecosystem and provide a quality, sustainable, outdoor recreation experience for the local community and visitors.

This document provides sustainable trail standard references for use when designing trail and camping improvement projects. Data collected during the analysis of existing trail conditions has been entered into the NYSDEC Geographic Information System (GIS) and will be updated regularly. The data will also be used to prioritize future trail improvement projects. This information will be very useful in applying for future funding opportunities for continuous trail improvement and maintenance projects. This plan has been created with a team of dedicated individuals from IMPACT, NYSDEC, Alfred University, and the National Park Service – Rivers, Trails and Conservation Assistance program (NPS-RTCA).

Left to right: Ron Abraham, NYSDEC forester, retired, IMPACT Board of Directors; Glenn Gebhard, president, IMPACT; Lelia Mellen, outdoor recreation planner, NPS-RTCA; Tim O'Rourke, owner, O'Rourke Inc., Trail 4 Improvement Project; and Gregory Muller, NYSDEC supervising forester.

Glenn Gebhard, the president of IMPACT, and Pauline E. Burnes, the vice president of IMPACT and grant writer/project liaison for the Trail 4 Improvement Project on the West Almond Trail System.

Introduction and Background

The West Almond Trail System covers approximately 29 miles of multi-use trails in Allegany County (Figure 1). The trail system traverses four State Forests: Phillips Creek, Turnpike, Palmer's Pond, and Karr Valley Creek, which total 12,787 acres in the towns of Alfred, Almond, Ward, and West Almond. NYSDEC has managed the trails for decades. The trails are designed for multiple uses such as horseback riding, hiking, cross-country skiing, biking, snowshoeing, and snowmobiling. Portions of the trail system are also open to All Terrain Vehicle (ATV) use by persons with mobility impairments with proper documentation and permitting through NYSDEC.

Located in central Allegany County, the West Almond Trail System is part of a greater network of trails traversing the county. Other trails include the Genesee Valley Greenway State Park, the Triple Divide Connector Trail Route, the Wellsville Addison Galeton (WAG) trail, and the Finger Lakes Trail. The area also supports the network of Allegany County snowmobile trails. These trails can be seen in Figures 2A and 2B. Additionally, The West Almond Trail System contains trails designed to accommodate equestrians. There is a beautiful primitive camping area with 16 straight horse stalls, covered picnic shelters on concrete pads, a universally accessible mounting ramp, and water for horses on Stewart Forest Road. This area has a large loop road which makes it easily accessed by trucks and large horse trailers. Primitive tent camping sites are also found at Palmer's Pond.

The location of the trail system is ideal for local winter activities. The average annual snowfall for this area exceeds most other areas of New York State due to its relatively high altitude and proximity to lake-effect snow events downwind from Lake Erie. IMPACT's ability to groom ski trails in Phillips Creek State Forest (Figure 3) makes it an attractive place to be outdoors in the winter.

IMPACT: Friends Improving Allegany County Trails, Inc. (IMPACT) was formed in 2021 to supplement and support NYSDEC's trail management activities. By having a separate "Friends" group for the trails it allows the users, local community, and other stakeholders to have a more active role in the maintenance and improvement of these amenities on public lands. IMPACT has a symbiotic relationship with NYSDEC by assisting forestry staff in sponsoring trail maintenance days, identifying trail needs such as downed trees across the trail, and applying for grants for improvements to the trails and camping areas. All work is accomplished through a Volunteer Stewardship Agreement (VSA) between NYSDEC and IMPACT (Appendix D1).
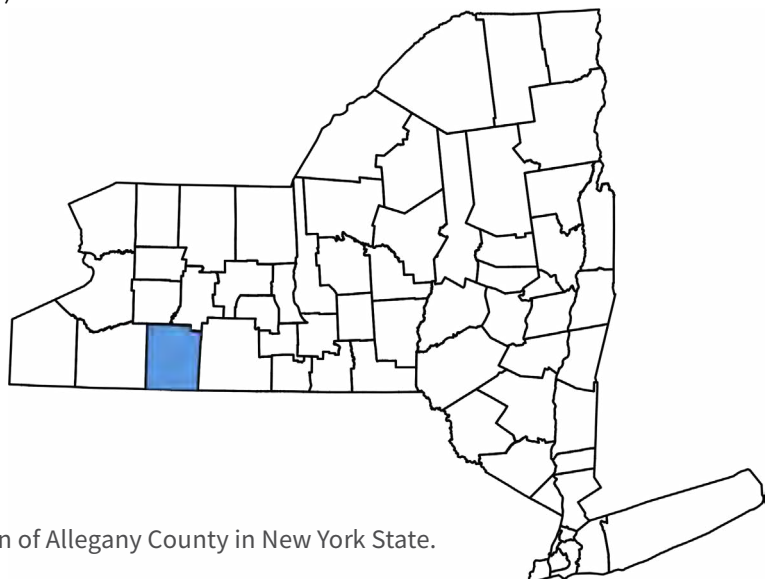
Figure 1. Location of Allegany County in New York State.

Figures 2A and 2B. These maps show other trails of interest in Allegany County and the Snowmobile Trails that cross the West Almond Trails

2A. OTHER REGIONAL TRAILS

2B. SNOWMOBILE TRAILS

NYS Snowmobile Trails On The West Almond Trail System

Legend

- **P** Parking Area
- Local Streets
- NYS Snowmobile Trails
- West Almond Trail System
- DEC Lands

0   1,500   3,000   6,000 Feet

1 inch = 3,000 feet
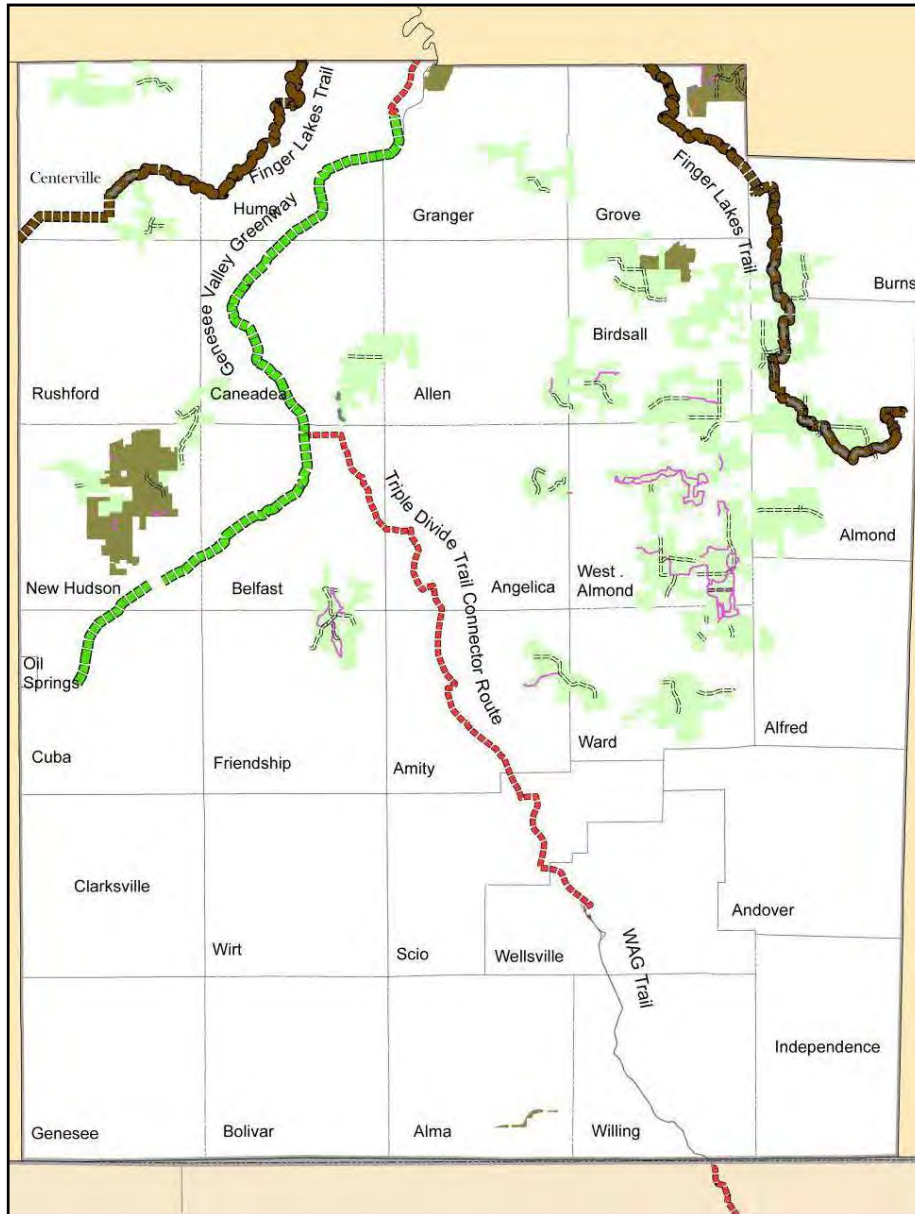
Figure 3. Map of the West Almond Trail System from the NYSDEC

Palmer's Pond, Phillips Creek, and Turnpike State Forests   West Almond Trail System

BULLY HILL STATE FOREST

PALMER'S POND STATE FOREST

KARR VALLEY CREEK STATE FOREST

BALD MOUNTAIN STATE FOREST

TURNPIKE STATE FOREST

PALMER'S POND STATE FOREST

Town of West Almond

Town of Almond

Town of Alfred

Town of Ward

PHILLIPS CREEK STATE FOREST

Horse Rider's Loading Platform		Picnic Area
Horse Stall		Gate
Trail		Parking
Trail Marker Color		Kiosk
Blue Trail		50 Foot Contours
Red Trail		Icon with Blue Background Indicates Accessible Feature
Yellow Trail		

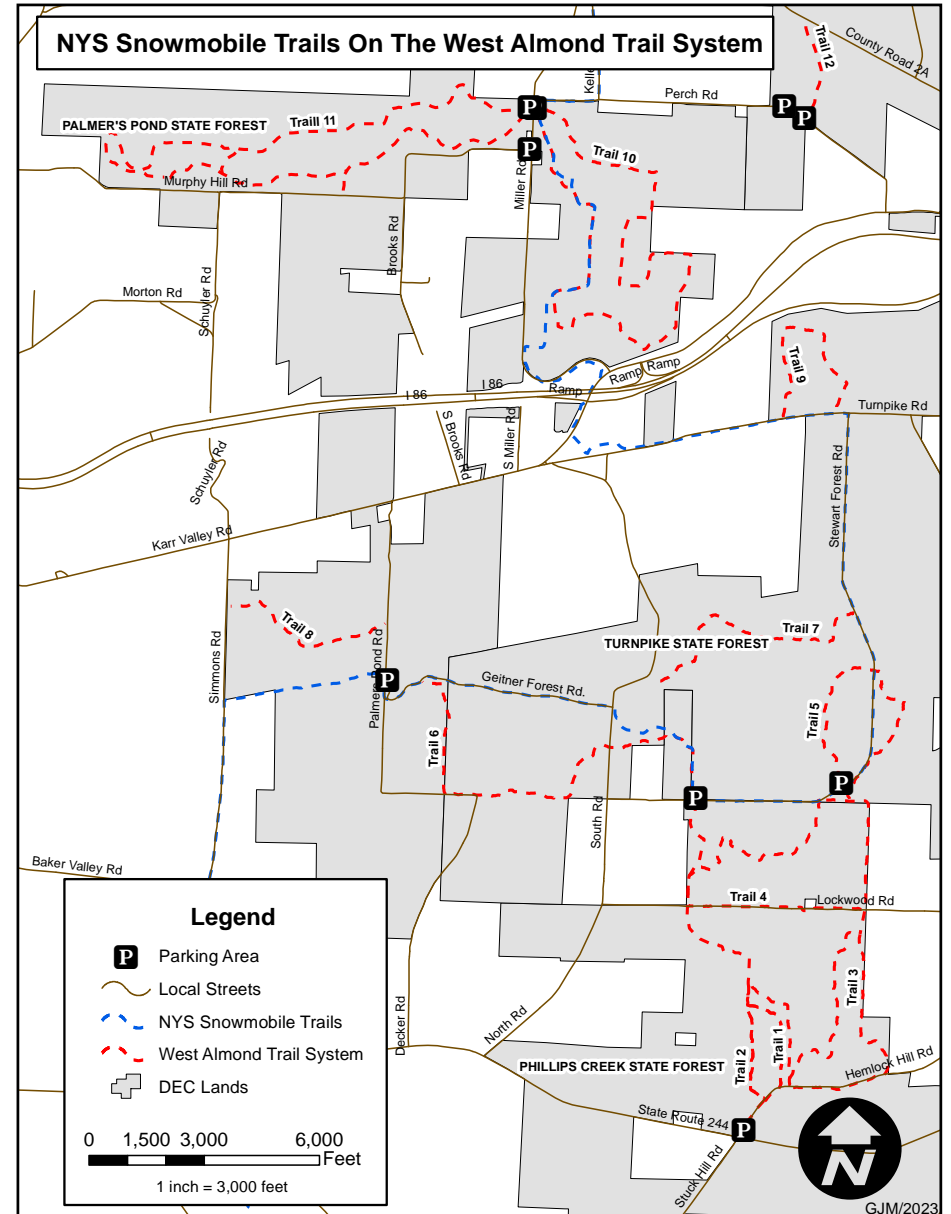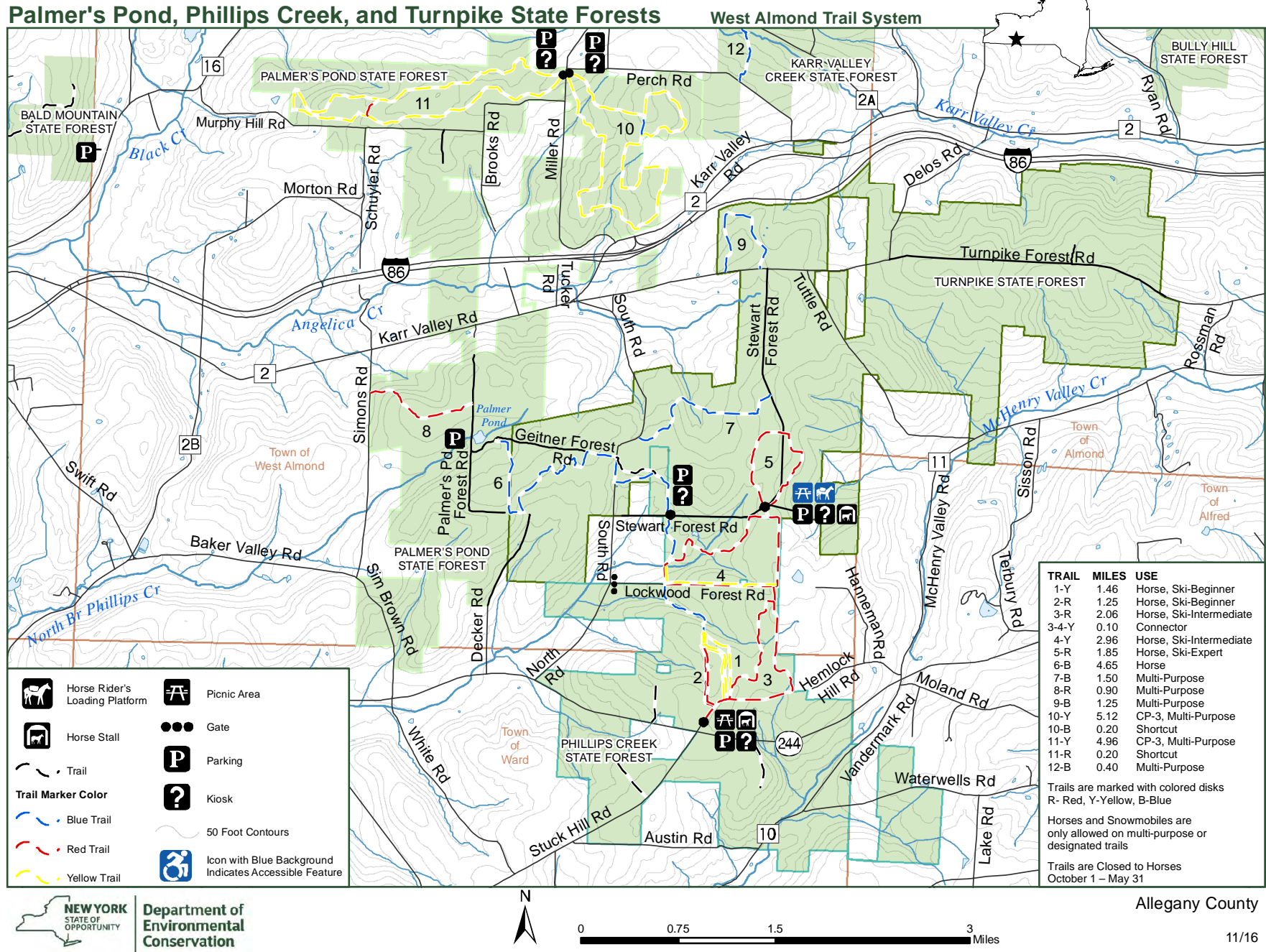| TRAIL	MILES	USE
1-Y	1.46	Horse, Ski-Beginner
2-R	1.25	Horse, Ski-Beginner
3-R	2.06	Horse, Ski-Intermediate
3-4-Y	0.10	Connector
4-Y	2.96	Horse, Ski-Intermediate
5-R	1.85	Horse, Ski-Expert
6-B	4.65	Horse
7-B	1.50	Multi-Purpose
8-R	0.90	Multi-Purpose
9-B	1.25	Multi-Purpose
10-Y	5.12	CP-3, Multi-Purpose
10-B	0.20	Shortcut
11-Y	4.96	CP-3, Multi-Purpose
11-R	0.20	Shortcut
12-B	0.40	Multi-Purpose

Trails are marked with colored disks
R- Red, Y-Yellow, B-Blue

Horses and Snowmobiles are only allowed on multi-purpose or designated trails

Trails are Closed to Horses October 1 – May 31

NEW YORK STATE OF OPPORTUNITY | **Department of Environmental Conservation**

N

0   0.75   1.5   3 Miles

Allegany County

11/16

History of the West Almond Trails

Before European settlement, the area was inhabited by the Seneca Nation (Keepers of the Western Door) of the Iroquois Confederacy, or the Haudenosaunee (People of the Long-house), also known as the Iroquois by the French and the Six Nations by the English. The Haudenosaunee built their villages of long bark houses in what is known today as New York State. Main villages were established near rivers and fertile valleys. Smaller, less permanent, and seasonal communities were maintained in the Adirondacks. Today, Haudenosaunee communities are spread out across the state and are as far north as Georgian Bay, as far west as Wisconsin, and as far south as Oklahoma. Encroachment by white settlers resulted in the fraudulent and illegal sale of much of the land. The Haudenosaunee, due in part to their unique union of nations, has great influence and power. [1]
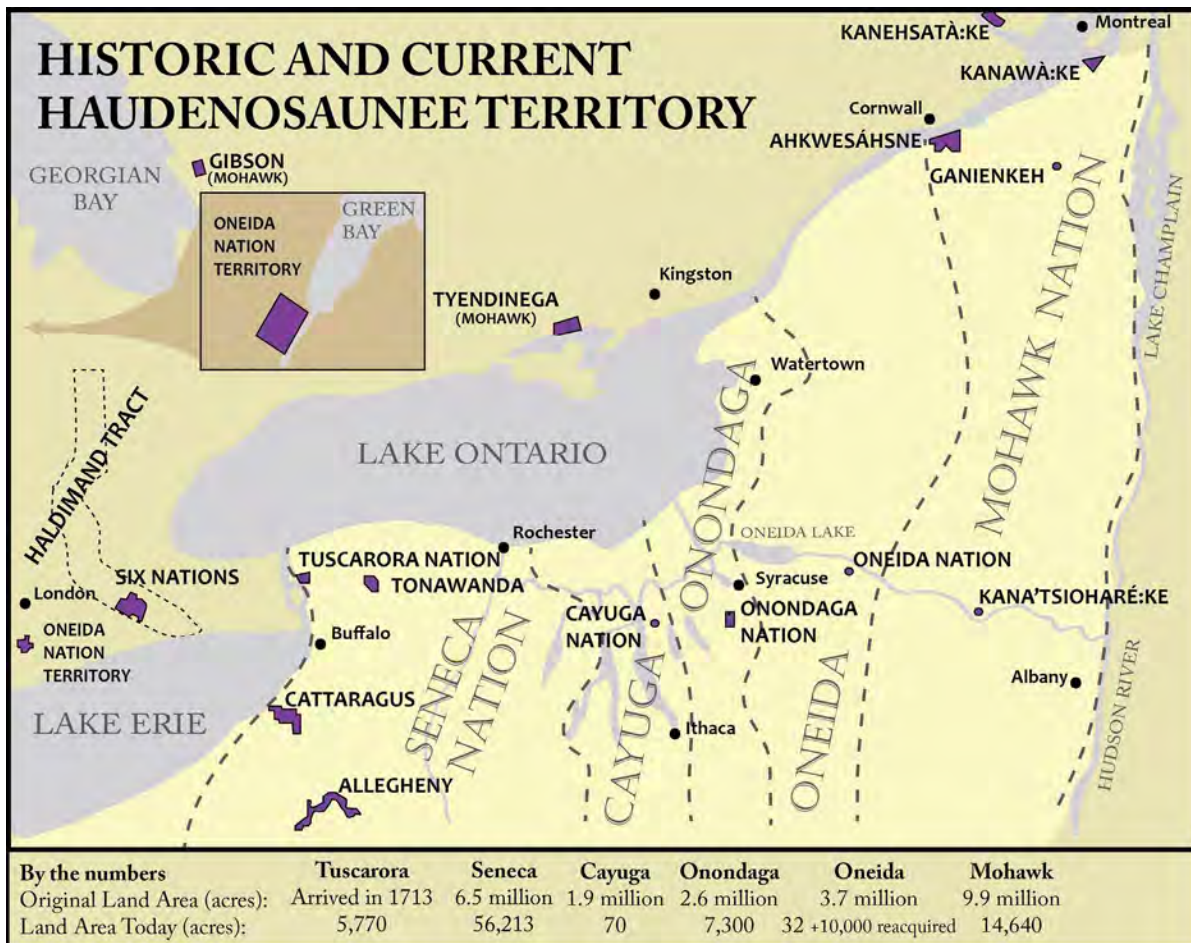
While the Seneca villages were located primarily in the Genesee River valley, the upland forests were utilized for hunting and foraging. Seneca means the "People of the Great Hill," and is also referred to as the "Keeper of the Western Door."

With the arrival of European settlers in the early 1800s, much of the forest was cleared for agriculture. These upland and ridgetop farms survived until the early 20th century, but by the 1920s thousands of acres were being abandoned and the inhabitants were leaving to seek employment in towns and cities.

In response to this mass abandonment of farmland across the state, in 1929, the New York State Legislature authorized the purchase of land, to return the fields to a forested condition and promote the production of timber, watershed protection, recreational use, and wildlife habitat. The land would be managed by the New York State Conservation Department, one of the forerunners of the present-day Department of Environmental Conservation.

Figure 4: Map of Historic and Current Haudenosaunee Territory

HISTORIC AND CURRENT HAUDENOSAUNEE TERRITORY

By the numbers	Tuscarora	Seneca	Cayuga	Onondaga	Oneida	Mohawk
Original Land Area (acres):	Arrived in 1713	6.5 million	1.9 million	2.6 million	3.7 million	9.9 million
Land Area Today (acres):	5,770	56,213	70	7,300	32 +10,000 reacquired	14,640

[1] Haudenosaunee Confederacy, Who We Are; National Museum of the American Indian, Haudenosaunee Guide For Educators.

Civilian Conservation Corps – Restoring the Forest

The state began planting tree seedlings on the abandoned forest fields, primarily conifer species but occasionally hardwoods as well. In general, the conifers were best suited to planting on the eroded, depleted fields. The root systems rapidly stabilized the soils and the annual drop of needles and leaves added essential nutrients. The ultimate goal, however, was to eventually return the forests to the native hardwood species, as well as the native white pine and hemlock. These trees helped restore the open fields to woodland and provided watershed protection, erosion control, future forest resources for logging, wildlife habitat, and outdoor recreation opportunities.

The state's reforestation efforts were accelerated by the creation of the Civilian Conservation Corps (CCC), a federal New Deal program, in 1933. Three CCC camps were established in Allegany County. These camps were managed by the U.S. Army and identified as S-126 at Lost Nation ("Fillmore"), S-117 at Birdsall ("Birdsall"), and S-92 at West Almond ("Almond"), with tree nurseries at each location. Young men stationed at the Almond camp performed most of the work in the area where the West Almond Trail System is located today.

In addition to tree planting, the CCC accomplished a variety of other improvements in the area. Most notably, Palmer's Pond was constructed between 1935 and 1936, as a site for public recreation also serving as a source of water for firefighting. The pond was named after the owner of a 99-acre parcel, including the pond site, prior to the state's acquisition. The CCC also removed buildings, built roads and fire lanes, and constructed several dozen rock-lined waterholes as additional sources of water for firefighting.[*] Many of these waterholes can still be seen today in the vicinity of the trail system, as well as numerous stone foundations of houses, barns, and outbuildings. Some of the West Almond Trail System is located on former roads and logging trails.

The nursery plantation records are still used today by the West Almond Forestry staff to assist with forest inventory and plan future management activities. Some of the tree species planted include red pine, white pine, white cedar, Norway spruce, white spruce, ash, and more.

[*]The CCC constructed more than 100 waterholes on state land across Allegany County; 103 still-existing waterholes have been located and verified by staff from the NYSDEC.

Dedication Day on September 26, 1934. The current site of the NYSDEC Region 9 West Almond Forestry and Operations Center. *Photo courtesy of the NYSDEC West Almond Forestry Office.*

Historic photos of the Civilian Conservation Corps Camp at West Almond, New York.

Alleg.3 Pro.0 - Waterhole completed by S 92
Summer 1936 - Picture by R. Ferris

Alleg.14 Pro.I - Fall seeded
beds ready for winter -Camp S 92
Nov. 1938 - taken by L.A.Holmberg

Weeding W. Ash - S 92 Nursery
Alleg.14 Pro.I
Sept. 1936 - L. A. Holmberg

Blacksmith Shop
S 92 - Almond
Fall 1935
Alleg.14 I
L. A. Holmberg

Alleg.4 Pro.F - Palmer Pond Auxillary spillway - apron con-
creted. Stones below aprong to prevent wash. Taken 10/4/37
by I. S. Bowlby - Film T No.3

Tree Seedling Nursery and Blacksmith Shop.

Forest Management Practices

Once the tree planting was completed, the state's focus shifted to woodlot improvement. These activities included precommercial thinning and pruning in the conifer plantations and cull removal (cutting or killing undesirable vegetation to encourage the growth of desirable trees) in the native hardwoods. As the conifer trees reached a merchantable size, commercial row thinnings for pulpwood began. These thinnings allowed sunlight to penetrate the forest floor, and hardwoods began seeding in from adjacent hedgerows and hardwood stands. Once the hardwoods were well-established, additional harvests focused on removing the remaining conifer overstory. In the older hardwood stands, fuelwood sales removed undesirable growing stock providing the "crop trees" with more growing space.

As the forests matured, management activities increasingly focused on commerce, incorporating timber harvests in both hardwoods and conifers while taking advantage of opportunities to enhance wildlife habitat and recreational opportunities.

Building the West Almond Trail System

The West Almond trails were established under the supervision of NYSDEC Senior Forester David Zlomek. The trail system was designed by Raymond Yelle, an Associate Professor at Alfred State College—SUNY (State University of New York). In the summer of 1976, high school students in the Youth Conservation Corps built the trails under the direction of Maurice Hannon, an instructor with the Conservation and Heavy Equipment program at the Allegany County Board of Cooperative Educational Services (BOCES) center in Belmont. Where possible, the trails utilized existing fire lanes along the edges of the conifer plantations. Trailheads were established at NY Route 244, Stewart Forest Road, and Miller Road.

In the ensuing years, additional enhancements to the trail system have been made. In 1987, several trail sections were upgraded to better accommodate equestrian use. The trailheads received major renovations in 2015, with new horse stalls and covered picnic tables being constructed at Route 244 and Stewart Forest Road, as well as new kiosks.

Beginning of IMPACT

IMPACT: Friends Improving Allegany County Trails, Inc. (IMPACT) was organized in the spring and summer of 2021, incorporating as a nonprofit organization in July 2021. They are registered with the New York State Charities Bureau and have received 501(c)(3) tax-exempt status from the Internal Revenue Service (IRS).

Through a Volunteer Stewardship Agreement with the New York State Department of Environmental Conservation, IMPACT is authorized to responsibly develop and groom the cross-country ski trails in Phillips Creek, Turnpike, and Palmer's Pond State Forests. IMPACT organizes trail maintenance days on the third Saturday of April, the first Saturday in May (I Love My Park Day, a statewide event), and in September. Regular trail maintenance is done throughout the summer by trail riders and NYSDEC Operations staff.

The work of IMPACT is organized by its Board of Directors and accomplished by its members in coordination with other organizations (including the Town of West Almond, Allegany County Planning/Tourism, AU, Alfred State College—SUNY, and more). In 2023, IMPACT created a Strategic Plan that lays out the organization's strategy for the next three to five years.

Mission and Vision for the West Almond Trails

The four State Forests that comprise the West Almond Trail System are located in Allegany County. These State Forests were created to address agricultural abandonment and deforestation to restore the ecological diversity of the land. The addition of a trail system through the forest further created year-round outdoor recreation opportunities for the residents and visitors of Allegany County to enjoy.

The mission and purpose of IMPACT dovetail with the NYSDEC's mission and the vision for the Allegany County Unit Management Plan (Appendix D2).

IMPACT Mission

"...to conserve, improve and advocate for year-round access to a diverse network of public trails and greenways. Our intention is to advocate for all trails in Allegany County."

IMPACT Purpose

"...to provide a voice for all Allegany County trail users, to coordinate the development and maintenance of high-quality, year-round, multi-use trails, and to educate the public about our trails and their location in New York State."

NYSDEC Mission

"The quality of our environment is fundamental to our concern for the quality of life. It is hereby declared to be the policy of the State of New York to conserve, improve, and protect its natural resources and environment and to prevent, abate, and control water, land, and air pollution, in order to enhance the health, safety, and welfare of the people of the state and their overall economic and social well-being." – Environmental Conservation Law 1-0101(1)

Allegany Unit Management Plan Vision

State Forests on the Allegany Unit will be managed in a sustainable manner by promoting ecosystem health, enhancing landscape biodiversity, and protecting soil productivity and water quality. In addition, the State Forests on this unit will continue to provide the many recreational, social, and economic benefits valued so highly by the people of New York State. NYSDEC will continue the legacy which started more than 80 years ago, leaving these lands to the next generation in better condition than they are today.

The Unit Management Plan sets the stage for NYSDEC to reach these ambitious goals by applying the latest research and science, with guidance from the public, whose land we have been entrusted to manage.

Residents and visitors to the West Almond trails will benefit from NYSDEC and IMPACT's close working relationship. By having well-maintained and sustainable trails, the goal of conserving natural resources, preserving wildlife habitat, and providing outstanding outdoor recreation opportunities in State Forests can be met. In addition, people will find enjoyable outdoor recreation experiences and will want to return. Experiencing the forest and participating in outdoor recreation is proven to be beneficial to one's physical and mental health.

These trails now provide regular recreational opportunities for several groups including equestrians, hikers, trail runners, hunters, and skiers. Focusing these recreational opportunities in distinct areas allows for the growth of the surrounding ecosystem, increasing enhanced wildlife habitat and tourism opportunities for communities.

Goals and Objectives

This plan's goal is to establish good communication between the NYSDEC West Almond Forestry Office and IMPACT about the West Almond Trail System so that the trails in the four State Forests continue to be great recreational assets in Allegany County. To accomplish this goal, the Master Plan:

• Creates an annual Partnership Work Plan with NYSDEC and IMPACT for trail maintenance and trail improvements.

• Suggests continuing programs that bring new users to the forests.

• Encourages continued regular trail maintenance with community partners.

• Lists funding opportunities for large projects, such as bridges, shelters, and larger trail improvement projects.

• Provides a method to work with NYSDEC West Almond Forestry staff to prioritize projects and determine financial and human resources to improve and maintain the trails.

• Provides guidance for volunteers to use Avenza Maps GPS system and to report their trail maintenance recommendations to IMPACT and NYSDEC.
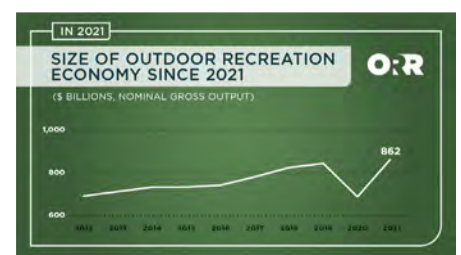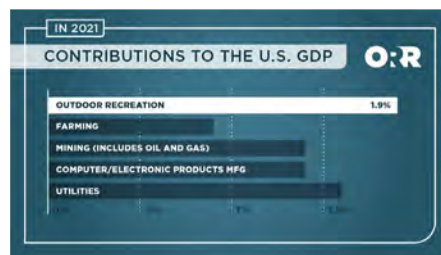
Increased Use of Trails for Outdoor Recreation

Over the past few years, participation in outdoor recreation activities has increased. According to the Outdoor Industry Association, participation continues to grow at record levels. More than half (54%) of Americans ages six and over participated in at least one outdoor activity in 2021, and the outdoor recreation participant base grew 2.2% in 2021 to 164.2 million participants.[2] The Covid-19 pandemic boosted this phenomenon, as people needed a respite from having to stay indoors and practice social distancing. We learned that it was relatively safe to be outdoors with family and friends. The New York State Office of Parks, Recreation, and Historic Preservation reported that a record 79.5 million people visited New York State Parks in 2022.[3] Total visits statewide increased by more than one million compared to the previous year. As long as people are staying on the trails and the trails are built and maintained on a sustainable level, increased use can be tolerated. However, there is a chance that overuse and negative impacts on the trails can occur.

Trail systems provide abundant open space and access to fresh air, nature, and recreational opportunities. Trails also often provide transportation alternatives and increase economic activity, environmental education, and mental wellness benefits such as lower reported risks of depression and stress. Spending time in nature can increase one's mental capacity including focus and attention, as well as improve physical health.

The Outdoor Recreation Roundtable tallies the annual economic figures for outdoor recreation. In 2021, they reported that outdoor recreation generated $862 billion in output and 4.5 million American jobs, comprising 3% of all American employees. The new data also showed that outdoor recreation grew three times faster than the national economy as a whole that year.[4]

Similar figures for New York State:

	Total outdoor recreation value added (thousands of dollars)	Percent of total value added[1]	Total outdoor recreation employment	Percent of total wage and salary employment[1]	Total outdoor recreation compensation (thousands of dollars)	Percent of total compensation[1]
Outdoor Recreation Value Added, Employment, and Compensation as a Percent of Total, 2021						
United States	453,977,992	1.9	4,542,903	3.0	224,266,806	1.8
New York	25,454,115	1.3	248,414	2.7	14,362,331	1.5

1. Based on state-level data published on bea.gov; GDP, compensation, and employment estimates were published on September 30, 2022.
U.S. Bureau of Economic Analysis

Trails boost the local economy for residents too. As quoted in the New York Statewide Greenway Trails Plan from 2021:

The Pennsylvania Land Trust Association's online guide, The Economic Benefits of Trails, identifies areas that trails can have a positive economic impact. They can:

- *Increase the value of nearby properties.*
- *Boost spending at local businesses such as restaurants, lodging, and shops.*
- *Encourage homebuyers to move nearby (walking and biking paths are ranked as one of the most important features in a new community).*

- *Reduce medical costs by promoting regular exercise and other healthy outdoor activities.*
- *Revitalize depressed neighborhoods, creating a demand for space in what were once vacant buildings.*
- *Encourage businesses to expand or relocate.*
- *Provide transportation options and cut fuel expenses.*
- *Provide low or no-cost recreation.*

[2] 2022 Outdoor Participation Trends Report: Outdoor Industry Association
[3] Governor Announces Record Attendance at New York State Parks for 2022
[4] ORR Annual Report: 2020 (recreationroundtable.org)

Trail Management

NYSDEC Unit Management Plan

The trails that are being considered in this Master Plan all fall under NYS-DEC's Region 9 jurisdiction, which covers 6 counties. Allegany County has approximately half of the State Forests acreage within Region 9. There are approximately 46,455 acres of State Forests and 6,182 acres of Wildlife Management Areas in Allegany County.

NYSDEC has created a Strategic Plan for State Forest Management (SPSFM) and Generic Environmental Impact Statement (GEIS) to guide the present and future management decisions of the state's more than 807,000-acre State Forests, multiple-use areas, unique areas, and State Nature and Historical Preserves. Wildlife Management Areas, Forest Preserves, Conservation Easements, and State Parks are not included in the SPSFM. The SPSFM is intended to be updated every 10 years. The recent 10-year update focuses on continuing the state's mission of sustainably managing the more than 807,000 acres of state lands under its stewardship, while also providing safe and inclusive areas for people to recreate outdoors as well as increasing economic benefits for local communities and protection for sensitive wildlife and their habitats. Ensuring that the state's forests remain resilient in the face of a changing climate was a major consideration for this update as well.

The plan was approved in July 2011 and the draft 10-year update to the plan had a public comment period in early 2022. NYSDEC is in the process of finalizing the document. The Executive Summary of the SPSFM plan can be found in Appendix D4.

The specific Unit Management Plan (UMP) for the NYSDEC lands in Allegany County - including the towns of Alfred, Allen, Almond, Amity, Angelica, Belfast, Birdsall, Burns, Caneadea, Centerville, Friendship, Granger, Grove, New Hudson, Rushford, Ward, Wellsville, West Almond, and Willing, can be found in Appendix D2.

As NYSDEC begins developing a new UMP for Allegany County, it will reference this West Almond Trail System Master Plan.

Gregory Muller, NYSDEC West Almond supervising forester, and contractor Tim O'Rourke inspect the construction on Trail 4 in 2022.
Photo credit: Pauline E. Burnes

NYSDEC Management Approach

The NYSDEC has outlined its management approach within the Allegany County Unit Management Plan with five specific goals for the area:

Goal 1: Provide healthy and biologically diverse ecosystems.

Goal 2: Maintain human-made state forest assets.

Goal 3: Provide recreational opportunities for people of all ages and abilities.

Goal 4: Provide economic benefits to the people of the state.

Goal 5: Provide a legal framework for forest conservation and sustainable management of state forests.

Trail Maintenance

To carry out the responsibility of maintaining the West Almond trails, IMPACT hosts three annual events. A trail maintenance day is scheduled on the third Saturday of April. Occurring near Earth Day, maintenance includes preparing the trails for warmer weather activities and easy passage on foot, bike, and horse. This is quickly followed by a trail maintenance event on the first Saturday of May for the statewide "I Love My NY Park Day". The fall maintenance day, scheduled in late September, prepares the trails for winter activities and easy passage of snow grooming equipment.

As part of the duty to maintain the trails, IMPACT develops an annual work plan. A basic work plan outline might look like:

- Make a list of the tasks needed to be accomplished (grading, seeding, checking and clearing water bars, looking for risk trees, removing invasive species, etc.).

- Determine if the task is appropriate for volunteers or needs heavy or specialized equipment that would require the State Forestry Office or contractors.

- Determine the sequencing of work (e.g., if the trail needs grading, do that before putting down seed grass).

- For volunteer tasks, determine how to best divide the project into reasonable sections. Estimate the time needed for each task and list the tools that will be needed. Note how many volunteers will be needed for each section and identify safety considerations.

- Take safety precautions. Hold a "Tailgate Safety Talk" prior to heading out on the trail.

- Generate a schedule or plan and confirm that IMPACT, NYSDEC, and other partners are all in agreement. Follow NYSDEC safety guidelines.

- Create a template for volunteers to record the time they devote to supporting and maintaining the West Almond trails. Such accounting is very useful to the organization, especially for some grants that ask the organization how much time volunteers give in supporting the group.

- Develop a Volunteer Stewardship Agreement. IMPACT and NYSDEC have one that is signed every 5 years (Appendix D1).

- Provide food and water.

- Make it fun!

- Reward volunteers!

As part of the duty to improve and "responsibly develop" the trail system, IMPACT will develop a Partnership Work Plan with NYSDEC to be updated annually. The plan is a living document presented as a table that lists proposed improvement projects with details including, but not limited to: year added, estimated costs, proposed start and end dates, and project prioritization (see Appendix T1 for the 2022-2023 Partnership Work Plan). It can be compared to or merged with the NYSDEC's Annual Operational Work Plan (Appendix D5). By adding to the document each year, we can keep track of previous years priorities; grants written, submitted, and obtained; and projects started and completed. We will assess our progress in meeting priorities by using information from the same document.

Project Name	Location	Est. Cost	Supplies	Description	Other Notes	Funding			Date Completed	Group Responsible	Description
						Source	*Date Submitted*	*Date Approved*			

Table 1: Example of table headers used in the Partnership Work Plan.

Funding

As IMPACT and NYSDEC work on the annual Partnership Work Plan (Appendix T1), the estimated cost of trail improvements will need to be determined. Various resources in the Appendix can help determine the exact scope of the work and begin to estimate the cost of the projects. Prioritizing projects will determine what grants to apply for and the amount of funding we are seeking on an annual basis.

A list of currently known funding sources, including potential grants, can be found in Appendix D6. In addition, IMPACT will continue to seek out funding opportunities and prioritize projects for grant writing submissions.

Partners in Trail Improvement and Maintenance

Partners involved in building, improving, and maintaining the West Almond trails include:

- NYSDEC Region 9 – West Almond
- IMPACT: Friends Improving Allegany County Trails, Inc.
- Alfred University
- Alfred State College

Other initiatives that relate to, and complement, this West Almond Trails Master Plan include:

- Allegany County Trail Plan: A Guide to Future Trail Usage and Development
- New York State Open Space Plan
- Allegany County Saddle Dusters
- Backcountry Hunters and Anglers (BHA) state and national chapters
- Boy Scouts of America
- Mountain Travel and Rescue
- National Ski Patrol
- Almond Rod and Gun Club
- Allegany County Bird Club
- New York State Horse Council, Inc.
- Tourism Promotion Agency, "Western NY Wilds"

The West Almond Trails Master Plan was shared with several stakeholders to solicit their feedback and support. In addition to the groups above, these organizations included:

- NYSDEC
- State legislators
- Allegany County Department of Planning and Economic Development
- Western New York Regional Planning and Development Board
- Genesee Valley Conservancy
- Parks and Trails New York
- Western New York Land Conservancy
- Allegany County Legislature
- Allegany County Federation of Snowmobilers Trail Use

The West Almond Trail System is defined as "multi-use," offering recreational opportunities to a range of outdoor enthusiasts including equestrians, hikers, cross-country skiers, snowshoers, hunters, and birdwatchers (trails 10 and 11 are part of the New York State Birding Trail). The trail system is open annually for equestrian use between June and September. Additionally, the trail system offers several other outdoor recreational opportunities throughout the year.

TRAIL USE

User Groups

The West Almond trails are used by different types of users, depending on the time of year. Hikers enjoy the trails year-round, while cross-country skiers, snowshoers, and snowmobiles come in the winter months.

Cross-country skiers are welcome on any of the trails. As the snowpack allows, some trails are groomed with a rolled surface specifically for skiers. Phillips Creek State Forest Trails 1, 2, 3, 4, 5, and the Beginner Trail are groomed by IMPACT for a total of 10 miles of trail.

Equestrians: The Allegany County Saddle Dusters was the first trail group to sign the NYSDEC Volunteer Stewardship Agreement to provide trail maintenance during the riding season, June 1 through September 30. The West Almond trails have been open to horses for many years. Horsemen have been very active in improving the trails, including the recent completion of the Trail 4 Improvement Project sponsored by the Cattaraugus/Chautauqua Chapter of the New York State Horse Council, Inc., and funded by the Ralph C. Wilson, Jr. Legacy Funds Design-Access Program, which is administered by the Community Foundation for Greater Buffalo. Trail riders carry pruning equipment to trim branches and remove limbs from trails regularly during the riding season. They also have special campouts to work specifically on trial maintenance and identify trail reroutes around muddy sections of the trails.

Snowmobiles are allowed on certain portions of the West Almond Trail System. Portions of Stewart, Turnpike, Palmer's Pond, and Geitner Forest Roads, along with portions of Trails 6, 8, 9, and 10 are part of the Allegany County snowmobile trail system.

Bicycles: Mountain bikers do not currently use the West Almond Trails likely due to the muddy conditions caused by poorly drained heavy clay soils, which are not conducive to biking. Because many horses react poorly to bicycles, IMPACT is recommending that mountain bike trails and hiking/equestrian trails be separate, to help minimize conflicts. There is an online training session for trail etiquette, sponsored by the Equine Land Conservation Resource called Trails are Common Ground (elcr.org).

Gravel bikers are encouraged to use the gravel roads within the four State Forests. They are well-drained and provide good opportunities for those interested in gravel riding. These gravel roads have connecting networks to town roads. Winter fat tire biking might be well suited for the gravel roads and packed snowmobile trails. Bikers can also explore some of the bike trails in the region; for example, the Genesee Valley Greenway State Park and the Wellsville, Addison, Galeton (WAG) rail-trail, which is managed by the NYSDEC.

Gail Bartas from IMPACT and Allegany County Saddle Dusters prunes from the back of her horse, Molly. *Photo credit: Pauline E. Burns*

Pauline E. Burnes and Gail Bartas work with an Alfred State College fraternity during a fall trail maintenance day in 2020.

A local college student replacing trail markers.

Students from the Alfred State College Wrestling Team participated in the Trail Maintenance Day on September 17, 2022.

Diversity, Equity, and Inclusion

Allegany County is home to Alfred State College—SUNY, Alfred University, and Houghton University. These academic institutions have about 6,500 students from diverse communities and foreign nations annually seeking degrees in various fields and trades. This enhances the workforce within the area and promotes economic development within the community. Maintenance days of the West Almond trails provide a service opportunity for students and faculty. The maintained trails also provide a convenient location to participate in countless outdoor recreational opportunities. The trails act as a common ground among students, allowing for more social connections and better interpersonal skills within the Allegany County community.

Community members of all ages and backgrounds also participate in trail maintenance activities. A new accessible trail was established from the State Route 244 parking area at Phillips Creek State Forest. It is on a gentle grade, about 1 mile in length, and could be resurfaced to provide a well-drained packed stone surface for those looking for accessible trails or for beginner cross-country skiers.

Equestrians of all ages also enjoy the trails. Horses provide increased mobility, and the ability to travel long distances, especially to seniors, who can no longer hike long miles on difficult terrain.

These opportunities allow community members and visitors to socialize with one another while using the trails. Organizations and businesses connect through their shared use of the land. Visitors to the trails purchase food, beverages, and fuel, and may seek overnight accommodations which helps promote economic growth within Allegany County.

User Experience

User experience is of utmost importance to those maintaining the conservation efforts and sustainability of the West Almond Trail System. As a multi-use trail system, the trails host a variety of users, which oftentimes share feedback and suggestions. IMPACT has provided a space for trail users to submit reports detailing any problems or concerns within the trail system. This can be done via the QR code at trailheads or directly to IMPACT via their website. IMPACT reviews this data regularly and alerts the NYSDEC about problems that need addressing.

Practicing respect and courtesy towards other users helps everyone enjoy their time outside more. The signage below suggests how best to yield to different trail users. This system could be adopted via this Master Plan.

Preparedness also greatly enhances the user's trail experience and reduces the chance of an emergency occurring. Simple steps of preparation, such as carrying extra food and water, dressing in layers, knowing the area you are visiting, keeping a map with you, and sharing your location and plans with others, are encouraged. In an emergency, the trail user should call 911 and a response will be initiated.
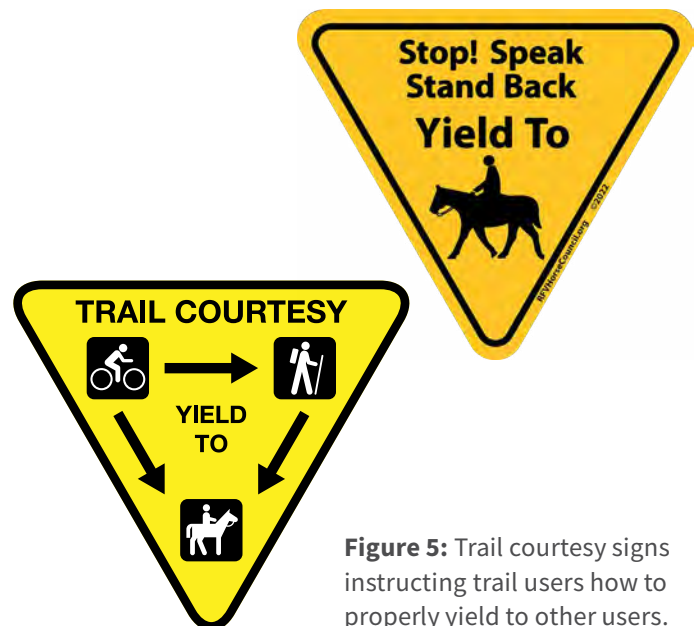
Figure 5: Trail courtesy signs instructing trail users how to properly yield to other users.

Emergency Response

The NYSDEC is the lead responder to any emergency within the trail system. To facilitate a rapid emergency response that incorporates IMPACT and its resources, Justin Thaine[5], Greg Muller[6], and Glenn Gebhard[7] developed an Emergency Response Procedure specific for the West Almond Trail System and its users (Appendix D7). This plan recognizes the multiple agencies, municipalities, and community members who may play a role in responding to various emergency situations. It provides guidelines for users who find themselves in an emergency, and it includes useful information for responders. The emergency response plan can be found in the appendix of this Master Plan.

[5] The NYSDEC Ranger that organizes search and rescue drills on State Forests
[6] The NYSDEC Supervising Forester
[7] IMPACT President and Senior Examiner, National Ski Patrol

Cross country skiers on the West Almond Trail at Phillips Creek. *Photo credit: Pauline E. Burnes*

Trail Conditions: Evaluation and Site Assessment

Trail Conditions

The climate within the West Almond Trail System allows for year-long recreational activities. Allegany County has four distinct seasons, and differences in local climatic conditions vary with the topography. Variations in precipitation contribute to flooding and drainage patterns seen throughout the trails.

Rainfall and temperatures range widely. Average daytime highs range from 30 degrees (Fahrenheit) in December through February to 80 degrees in July. Temperatures are generally below-freezing during December through February, with January being the coldest month. Prevailing winds are west-north-westerly during the winter and west-south-westerly during the summer months. Autumn is generally clear and calm with cool temperatures (40s to 60s) and above-average monthly precipitation levels.

Winter snow can cover the land from November until mid-March, and the depth of snow retained during these times often exceeds two feet. Climatic conditions generally present no adverse impacts on the quality of the recreation experience. Although winter snowstorms sometimes prevent users from reaching the trail system, they are generally of short duration and therefore winter activities are supported by IMPACT's trail grooming activities. The snow cover has enabled the trail system to develop into a four-season recreational facility (see Appendix D3).

Many of the existing trails were created in 1976 by the NYSDEC. There are places where drainage has become an issue due to poorly drained clay soils and changes in hydrologic patterns. IMPACT aims to address these issues through drainage improvement projects, trail re-routing, and regular maintenance in cooperation with the NYSDEC.

Improving the Trails

In the past few years, trail improvements have been made to Trails 4, 5, and 6. A combination of trail reroutes, drainage improvements and trail treadway improvements have been made by the NYSDEC, IMPACT, and volunteers from the Allegany County Saddle Dusters.

In 2020, IMPACT vice president Pauline E. Burnes (a registered landscape architect), served as a liaison and wrote the grant for the Trail 4 Improvement Project on the West Almond Trail System. A generous donation of $50,000 from the Ralph C. Wilson, Jr. Foundation, which was sponsored by the Cattaraugus/Chautauqua Chapter of the New York State Horse Council, Inc. and administered by Community Foundation for Greater Buffalo, was awarded and used to complete drainage improvements to Trail 4. This trail drainage improvement project was completed in 2022.

In winter 2021-2022, IMPACT groomed cross-country ski trails with a Ski-Doo Skandic work sled and compaction drag. In 2022, the Phillips Creek State Forest trails 1, 2, 3, 4, and 5 were groomed by IMPACT for a total of 10 miles of trail. Thanks to a grant from the Bethesda Foundation of Hornell, IMPACT was able to purchase a 6 1/2-foot roller and compactor that enables them to build a firm snow base. That grant also supplied funds for a 46" compaction drag with a track setter attachment. IMPACT updates its Facebook and Instagram profiles to share up-to-date information on trail conditions.

In 2022, IMPACT asked the National Park Service – Rivers, Trails and Conservation Assistance program (NPS-RTCA) for help in drafting a Master Plan for the West Almond Trail System. Over the course of a year, NPS-RTCA worked with IMPACT, Alfred University, and Gregory Muller, the NYSDEC West Almond Supervising Forester, to draft this plan. IMPACT also received one grant and three sponsorships to build a snowmobile bridge and add trail counters in 2022. The work will be completed in 2023.

The snow roller and compactor for winter trail grooming. *Photo credit: Glenn Gebhard*

Hazardous trees on Trail 11. *Photo credit: Nicole Munkwitz*

Trail Maintenance Issues

Certain trails within the system will need to be checked periodically to ensure they are still in working condition, while others will need regular maintenance.

Common issues repeat themselves on trails, such as trash buildup, drainage problems, new stream crossings, blowdowns, decaying trees next to the trail, encroaching invasive plants, and repeated vandalism. IMPACT has developed ways for trail users and volunteers to record any trail issues they come across. In addition to posting QR codes at trailheads, IMPACT encourages the collection of location-specific (geospatial) trail issues. All reported trail maintenance needs are added to a trail needs database. Current trail issues in the database will then be information included in a yearly work plan between the NYSDEC, IMPACT, and others. It can be updated with specific dates and ways to address the problems for the year. If repeated problems are noted (e.g., vandalism at a specific spot), the group can brainstorm possible ways to mitigate these repeated offenses.

Geospatial Data Collection

Avenza Maps (Avenza Systems, Inc.) is a user-friendly platform that provides an offline mapping system for professionals, consumers, and map publishers. For IMPACT volunteers, Avenza Maps is the preferred mapping and data collection software.

The Alfred University Department of Environmental Studies and Geology has worked with various student classes to create a schema for collecting geospatial data about existing trail conditions. A unified schema was needed to create a standard collection methodology that would remain relevant over time and be user-friendly for different volunteers or various student groups. This schema should be used for collecting trail needs data within the West Almond Trail System.

To get an accurate location coordinate of the issue, users collect initial data using Avenza Maps on a cell phone or tablet that has GPS capabilities. This system allows any user to add, update, and edit data to existing documents over time. Should any volunteers, hikers, or other trail users show interest in contributing to the data collection, they can access the schema on IMPACT's website (Appendix D8). Collected data should be shared with IMPACT which will then be added

to the ongoing database. This geospatial data can easily be shared in a format that works in ArcGIS, the preferred mapping program of geospatial data for the NYSDEC. Data collected by Alfred University will be saved on campus as well as shared with IMPACT. All data collected can be exported and saved as a spreadsheet, and IMPACT will maintain a copy of the data spreadsheets. Because coordination and consistency of data collection and storage are important, the NYSDEC will accept and manage the collected data.

To the extent possible and when applicable, trail data should be based on field verification and inventory. Alfred University intends to send students to the trails every fall to collect data, covering all trails over two years. The university will send its data to the NYSDEC annually as well as keep a record of the data they collect. Formal trail inventory and condition assessments should be performed.

The NYSDEC and IMPACT are benefiting from their partnership with Alfred University. Professor Nicole Munkwitz and her students' GPS work has also led them to create a GIS attribute table (see Appendix T2) and a map of Proposed Trail Improvements (Appendix M1).
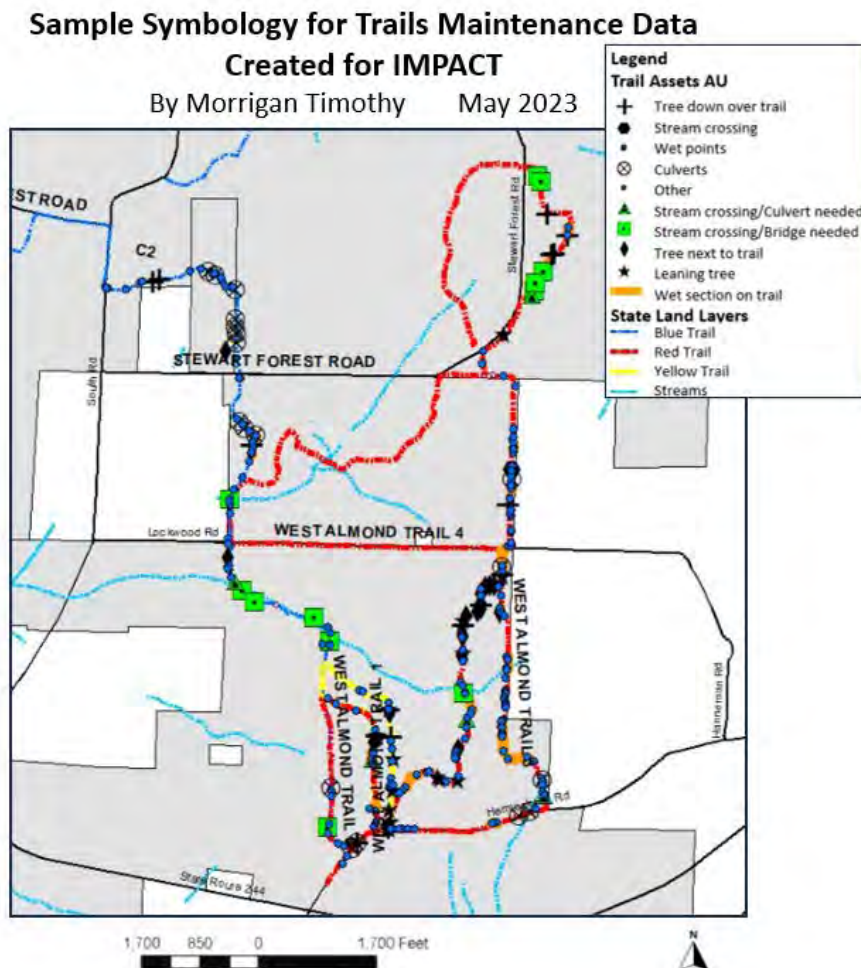

Figure 6: Sample symbology for trails maintenance data.

Condition of Trailheads, Day Use Areas, and Camping Areas

Three main trailheads with amenities provide access to the trail system and are generally in good condition. The annual work plan will identify specific needs that need to be addressed. Typical issues include grading, drainage concerns, kiosk vandalism, and signage updates. IMPACT has been in touch with engineers from the New York State Department of Transportation who are interested in working with the NYSDEC to apply gravel and regrade the State Route 244 parking area for better drainage and accessibility.

Miller Road Trailhead

- Informational kiosks

- New York State Birding Trail

- Camping

- Parking and trail access from both the east and west sides of the road

- Designated trails for Motorized Access Permit for Persons With Disabilities (MAPPWD)

State Route 244 Trailhead

- Informational kiosk

- One covered picnic area with fire ring

- Horse stalls

- Orienteering trail camping

- Port-a-Potty (June – September)

Stewart Forest Road Trailhead

- Accessible picnic pavilion with fire ring

- Four covered picnic tables with fire rings

- Horse stalls

- Accessible mounting platform for horseback riders

- Port-a-Potty (June – September)

- Camping

- Water pump

Stewart Forest Road primitive camping area horse stalls. *Photo credit: Pauline E. Burnes*

Palmer's Pond Day Use Area

The Palmer's Pond Day Use Area is popular among visitors as a designated picnicking and camping destination. Palmer's Pond State Forest offers a large parking lot and potential camping sites dispersed throughout the area. The main sign to Palmer's Pond describes it as a day-use area. This is a popular lunch destination for trail riders who camp overnight at the Stewart Forest Road horse camping area.

There is an opportunity to improve the southeast end of Palmer's Pond Forest Road where it ends as a cul-de-sac. This area has direct access to Trail 6 which is a nice single-track trail used by trail riders and campers. If the cul-de-sac were improved, it could make a nice loop road and provide a parking area for horse trailers that is separate from the main camping area at Stewart Forest Road. Increased visibility and use of the cul-de-sac may also assist in reducing the use of this area as a "party spot."

Palmer's Pond. *Photo credit: Susan Knauer*

Palmer's Pond. *Photo credit: Pauline E. Burnes*

Trucks and horse trailers on Stewart Forest Road. Some rigs are used for camping in the trailer and as "living quarters."

Camping Areas

Primitive camping is permitted within State Forests, including on the parcels in this plan. Camping is allowed generally anywhere on State Forest lands, provided the selected site is at least 150 feet from roads, water, and trails. Campers can also stay in designated sites, which are those that are established by the NYSDEC closer to roads, water, or parking areas. Each of the State Forests described in this plan have several scattered primitive designated sites throughout the parcels.

Additionally, there are grouped clusters of primitive designated sites found on Stewart Road in Turnpike State Forest, and at Palmer's Pond in Palmer's Pond State Forest. Camping is allowed for up to three nights for groups of less than 10 people. Those who wish to stay longer than three nights or groups of 10 or more people need a free camping permit from a local NYSDEC Forest Ranger. IMPACT would like to add a few Adirondack-style shelters to expand overnight options for hikers.

Trails Safe Passing Plan (TSPP)

STOP! SPEAK AND STAND BACK

The Trails Safe Passing Plan (TSPP) STOP! SPEAK and STAND BACK is a safety action plan for safely sharing the trails with ALL trail users, including horses and dogs. TSPP Stop! Speak and Stand Back helps you to know what to do when meeting people with horses on the trails. It is best to know what to do BEFORE you encounter other trail users.

Many trail users may not know what to do when meeting horses on the trails. Anecdotal evidence suggests trail users are not interested in making a passing plan with strangers, or they don't want to wait until a horseback rider is near enough to communicate instructions. In practicing the TSPP Stop! Speak and Stand Back, trails can be safer and more inclusive for everyone.

Common Ground

Trails are Common Ground* and we all have the opportunity to help make the trails enjoyable and safe for everyone. Our goal is to show how learning and performing these actions can inform trail users about what to do when meeting horses on the trail.

When a trail's safe passing plan is posted, every trail user can discover how to become a safer trail user. When a trail safe passing plan is not posted, many trail users are not comfortable on shared trails. People with horses often choose not to use the trails, due to possible risks of injury. *Learn more about Trails are Common Ground at trailsarecommonground. org.*

Educational Resources Available

Educational resources, including TSPP signs, a QR code, a PowerPoint presentation, and a PDF document, have been produced for trail users to learn how to navigate our trails safely and efficiently. There is also a recorded webinar that provides information about trail communication and how to yield on trails, as well as facts about horses that help all trail users and land management teams understand the importance of having a trail's safe passing plan in place at trailheads and kiosks.

As stakeholders in recreational land use, we must encourage land management teams and trail groups to participate in inclusive recreation opportunities. We believe that the Trails Safe Passing Plan Stop! Speak and Stand Back action plan and the new TSPP sign with a QR code (which can include a local sponsor logo) will be a win-win for recreational land management teams and all trail user groups.

Practicing the TSPP Stop! Speak and Stand Back

Learning and practicing the Trail Safe Passing Plan Stop! Speak and Stand Back allows trail users to safely share the trails. Discover the many reasons WHY this plan is so helpful for ALL trail users, including for dogs and horses.

STOP!

- STOPPING first communicates you are AWARE of the Trails Safe Passing Plan, that you RESPECT horseback riders, and you will STOP! SPEAK, and STAND BACK for safe trail passing.

- STOPPING allows people with horses TIME to prepare their horses for safe trail passing. Horses are prey animals with natural flight survival instincts and because they prefer to keep moving their feet, horseback riders tend to agree that their horses will be less worried and anxious if allowed to walk and advance down the trails. It is best for horses that other trail users remain STOPPED while people with horses pass at a walk.

SPEAK

- SPEAK to ANNOUNCE yourself and say "Hi" while passing. SPEAKING helps horses recognize you as a person and will help them stay calm.

- When approaching horses from behind, it is best for all trail users to STOP! And ANNOUNCE themselves, so people with horses have TIME to turn their horses to face the other trail users and prepare for safe trail passing.

STAND BACK

- The final safety information is to STAND BACK off the trail, with your whole group on the same side of the trail. As horses are prey animals, horses are afraid of unfamiliar objects on the trails.

- If possible, it is best to STAND BACK on the lower side of the trail, so you do not appear to the horses to be taller than they are.

- Please contain children and dogs.

- Please do not hide or stand behind a tree, as these actions may cause horses to fear a predator planning an attack.

Learn how to practice, promote, and share the TSPP of Stop! Speak and Stand Back and how this safety action plan can be used on your websites, offered to trail user groups during meetings, delivered to land management teams for public safety announcements, and used at trailheads and kiosks.

The Roaring Fork Valley Horse Council (RFVHC) in the Aspen/Snowmass Valley produced the new accessibility-approved trail sign and has now added a QR code that allows for a custom sponsor logo to be placed onto the sign, or separately on the QR code. The QR code takes users directly to the Trails Safe Passing Plan on the Equine Land Conservation Resource's (ELCR) website. *The Trails Safe Passing Plan (TSPP) Stop! Speak and Stand Back is a publication of the Equine Land Conservation Resource.*

Other Recommendations

Sustainable Trail Standards

The goal is to have high standards for the West Almond trails so that people have positive experiences and want to return. In designing and maintaining sustainable trails, the trails will be more environmentally sensitive, they will last longer, and they will be more enjoyable.

General characteristics to consider are:

- Trail layout (follow Universal Design standards, page _)
- Trail grade
- Cross slope
- Trail surface
- Good trail drainage
- Clear trail corridor (including the width of the trail and the vertical clearance)

There are several great trail-building reference guides. In the appendices, we have included links to:

- American Trails Resource Library: an online resource that has publications, articles, recorded webinars, and more. It covers many categories from advocacy to funding and from planning and design to maintenance and management.
- Minnesota Department of Natural Resources: Trail Planning, Design and Development Guidelines: is a comprehensive 300-page guidebook for developing all types of recreational trails.
- USDA Forest Service Standard Trail Plans and Specifications (Appendix D9): includes details about proper trail width, placing culverts on trails, seeding, mulching on trails, signage, and much more.

As trails are designed and improved, consider materials for both cost and aesthetics. Similar materials, such as log bridges, log trail edge delineations, and logs as part of the trail design can change the impression of a trail. These log examples would fit in well with the current state of the West Almond trails – as opposed to milled lumber or fabricated materials.

Aspects to consider for the trails:

- Trailheads
- Accessibility
- Road crossings
- Landscaping

Added amenities:

- Signs
- Fences
- Picnic facilities
- Benches
- Shelters
- Water
- Sanitation

As IMPACT and the NYSDEC consider the West Almond Trail System, they are reflecting on who feels welcome. Multi-use has been part of the system and will continue while trying to minimize potential conflicts. Currently, there is sparse mountain bike use. There is the opportunity to design and build mountain bike trails on other public and private lands in Allegany County, New York. Over time, IMPACT and the NYSDEC will monitor the users and work with them if conflicts arise.

IMPACT would like to continue broadening the use of the West Almond Trail System so that everyone feels welcome and comfortable on these trails. Fortunately, the 2021 statistics showed that "new outdoor participants are more diverse than the overall outdoor participant base and are increasing diversity not only by ethnicity but also across age groups."[8]

To continue this positive trend, IMPACT and the NYSDEC offer an array of programs and events that introduce non-traditional users to the area's nature, forests, and outdoor recreation opportunities, including people of all races, genders, and ages. For example, hunting programs for women, guided hikes, and snowshoe trips for college groups (especially Black-oriented fraternities, international students at the universities, Boys and Girls Clubs, etc.). The goal is to introduce new people to the trails so that they gain the confidence to return on their own.

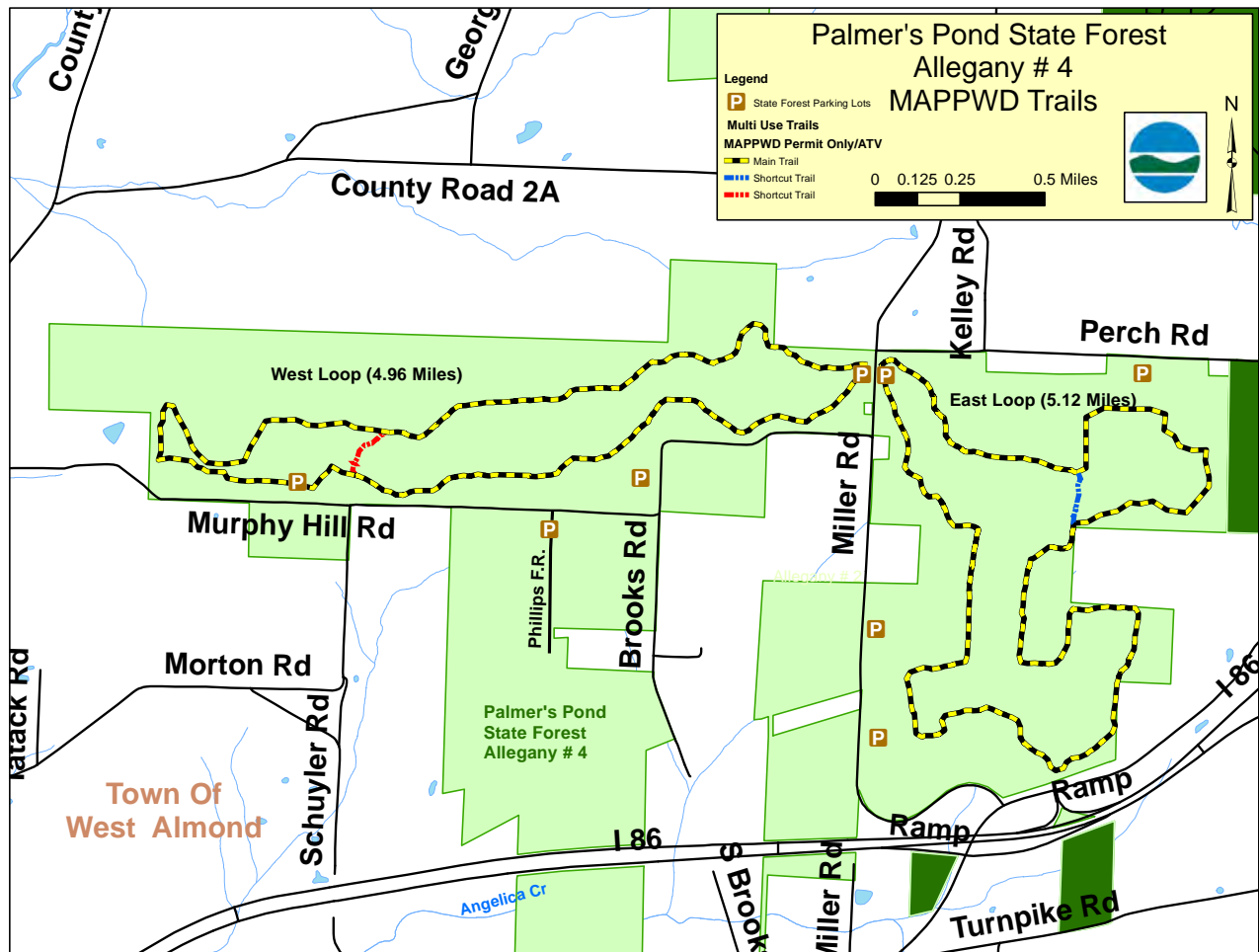[8] 2022 Outdoor Participation Trends Report: Outdoor Industry Association

Figure 7: NYSDEC's trail for Motorized Access Program for People with Disabilities (MAPPWD) at Palmer's Pond State Forest.

Accessibility

State Parks, State Forests, and other outdoor recreation areas provide resources for physical exercise and fitness. Participating in any form of outdoor recreation activities can increase physical health as well as mental health. These activities are enjoyed by people of all ages and abilities.

Outdoor recreational activities are often challenging by nature, so it is of utmost importance to ensure the safety and sustainability of all facilities. By acknowledging and considering these diverse needs, the West Almond Trail System will be able to better service and include those with alternate needs.

A one-mile length trail has been added, accessible from the SR 244 trailhead at Phillips Creek, to provide a shorter length trail on a gentle grade for beginner cross-country skiers and hikers. IMPACT is also analyzing the possibility of improving the drainage and trail tread to improve ADA access from the Phillips Creek parking area. The map below shows the NYSDEC's trail for Motorized Access Program for People with Disabilities (MAPPWD) at Palmer's Pond State Forest (Figure 7).

The Americans with Disabilities Act

The Americans with Disabilities Act of 1990, also known as ADA, is a civil rights law prohibiting discrimination based on disability. Title II of the Americans with Disabilities Act requires that any newly constructed facility or addition that is geared towards public use comply with these standards. Reasonable modifications must be made in accordance with Title II to ensure that these facilities are usable and readily accessible to people with disabilities.

Creating trails with "Universal Design" attempts to meet the needs of the widest range of potential users. Universal design takes into consideration the needs, interests, and abilities of everyone, and it often addresses the accessibility requirements outlined in federal and state law. Universal design does not mean that every trail must be accessible to every user. A universal designed trail system means that the needs of all the users are considered and accommodated, to the greatest extent possible. The added benefit of designing universal trails is that they tend to also be environmentally sustainable.

Principles of Universal Design Applied to Trails [9]

UNIVERSAL DESIGN PRINCIPLE	APPLICATION TO TRAILS
Equitable use (same method of access for all users, avoid segregating or stigmatizing some users, make design appealing to all users).	*All permitted trail users should be able to access the same sections of trail and have a similar trail experience.*
Flexibility in use (provide choice in methods of use, provide adaptability to the user's pace, facilitate the user's abilities).	*Offer areas for trail users to rest and options for shorter or longer on-trail adventures so users can choose the experience most suited to them.*
Simple and intuitive in use (correct use is easy to understand, be consistent with user intuition, arrange information based on importance, accommodate a wide range of language skills).	*Convey trail information in standard icons, graphics and simple text. Design trail systems so that users can easily follow the trail and how to return to the starting point can be easily understood.*
Perceptible information (use different modes for essential information, contrast information and surroundings, maximize legibility).	*Make signs legible and easy to see/read. Provide trail information in different formats (e.g., maps, web site, signs).*
Tolerance for error (minimize hazards and errors, provide warnings of hazards and errors, provide fail safe features, discourage unconscious action when vigilance is required).	*Minimize trail hazards. Anticipate trail user errors (e.g., loss of direction) and design trails and information systems accordingly. Make access to difficult trails a conscious choice (not an accidental turn).*
Low physical effort (maintain neutral body position, use reasonable operating forces, minimize repetitive actions, minimize sustained effort).	*Facilities (e.g., water taps, gate latches) should be easy to operate with a closed fist/gloved hand. Provide frequent grade breaks and rest areas in steep terrain.*
Size and space for approach and use (clear line of sight to important items for seated user, reach all components from standing or seated position, accommodate variations in hand and grip size, provide space for use of assistive devices or personal assistance).	*Ensure the access path onto the trail from parking/road/transit is accessible to all permitted users. Keep lines of sight clear for standing and seated trail users as well as those who cannot hear. Provide adequate tread width for those using assistive devices or requiring assistance.*

Examples of applying Universal Design to a trail:

- The trail should be free of barriers.

- If the trail grade must exceed 10%, the steep segments will be as short as possible, and the remainder of the trail will aim for a 5% grade or less.

- If the cross slope of the trail must exceed 5%, the steep sections will be as short as possible, and the remainder of the trail will be less than 5 percent.

- Provide level rest intervals regularly (e.g., every 100 feet) in those trail sections that exceed 5% grade.

- If the trail must pinch into less than 3 feet, the narrow section will be as wide as possible and as short as possible.

- Soft trail tread surfaces will be stabilized. This allows access for users of all abilities, discourages users from widening the trail (trying to avoid soft or wet areas), and minimizes erosive damage.

IMPACT is currently in partnership with the nonprofit organization, People Inc., which provides services for people with disabilities. Together, the organizations offer trail outings and host workdays that give members from People Inc. the opportunity to experience the natural beauty of the forest trails in a supervised setting. Trail 5 on the West Almond Trail System was adopted by People Inc. to provide regular trail maintenance to a wide, well-drained, and easily traversed trail that is accessible from the Stewart Forest Road trailhead or parking area. A representative of People Inc. also serves on IMPACT's Board of Directors.

[9] Trails for All Ontarians Collective (2006). Appendix B: Principles of Universal Design Applied to Trails. Ontario's Best Trails: Guidelines and Best Practices for the Design, Construction and Maintenance of Sustainable Trails for All Ontarians. Page 256.

Trail Needs

Under the "Trail Maintenance" section of this plan, a table outlining the Partnership Work Plan is described. This table will enable IMPACT and the NYSDEC to note what has been accomplished each year and what projects should be prioritized for the following year. IMPACT will maintain this table throughout the year, and the IMPACT Board of Directors will formally review it each fall to begin the Partnership Work Plan that they will take to a subsequent meeting with the NYSDEC. At that meeting, the NYSDEC and IMPACT can work together to finalize what can be accomplished in the following year and create a time frame and funding mechanism for each element (Appendix T1).

Are New Trails Needed or Wanted?

User groups are often interested in new and different amenities. New trails are no exception. The NYSDEC strives to honor the public's desire while considering the multiple uses of the land, such as forest management, habitat improvement and protection, and water quality monitoring.

Increased recreational use is beneficial in many ways and promotes an outdoor recreation economy in a rural, economically depressed area of New York State. The increase in trail and camping use needs to be balanced with natural resource conservation, wildlife habitat protection, and other land management responsibilities. Currently, the NYSDEC's policy is to have groups approach them with their requests. The NYSDEC considers the request and reaches a decision by considering the State Forest Unit Management Plan, Strategic Plan for State Forest Management, State Open Space Plan, and other resource needs.

IMPACT continues to work with the NYSDEC West Almond Forestry office to expand trail development, improvement, and maintenance on other State Forests and trails in Allegany County, in addition to the West Almond Trail System. IMPACT has recommended to the NYSDEC that new trails can more easily be made when logging contracts are completed.

Trail Reroutes

Rerouting trails is typically the least expensive way to improve trails. This will be an ongoing, annual discussion between the NYSDEC and IMPACT. The geospatial data and GIS information will be very useful in determining the location of chronic problem areas on trails that could benefit from being rerouted.

If reroutes are considered, IMPACT recommends highlighting interesting natural features (views, large rocks, big trees, water, etc.). Due diligence will be done to avoid sensitive areas such as wetlands and sensitive habitats for rare, threatened, and endangered species.

Wayfinding kiosks at Turnpike State Forest.
Photo credit: NPS / Lelia Mellen

Wayfinding

The kiosks and up-to-date maps are the responsibility of the NYSDEC. The State Forests have a consistent brand notifying trail users that they are on State Forests. When there are two panels on a kiosk, there is flexibility regarding information that can be added. Kiosks need to be checked regularly for hornets, wasps, and bees.

The large trail map at the kiosks should be kept updated. If it is not, this can be noted to the NYSDEC and added to their annual Operations Work Plan. The maps and information on the signs should be reviewed by various partners to assure that:

- The information is correct.

- The content is visually appealing and understandable to a diverse audience.

- The kiosks are appropriate in their setting.

- The maps and information are appealing to the public, inviting, and informative.

Finally, a schedule should be created so that the kiosks and signs are checked regularly to ensure that they are intact and legible. A regular schedule for staining the kiosks and checking their stability is included in the NYSDEC annual work plan.

Vandalism and trash are often problems in remote places. Often, as beneficial use increases, such as families frequenting a place, vandalism is reduced. Other ways to try to reduce unwanted behaviors include:

- The Leave No Trace[10] program which the NYSDEC is an advocate of. The Seven Principles of Leave No Trace provide an easily understood framework of minimum impact practices for anyone visiting the outdoors. Leave No Trace signs should be installed at each trailhead.

- "Carry In, Carry Out" language should be visible at the trailheads.

- Social media blasts explaining how to be a good steward can also be useful.

[10] Department of Environmental Conservation. Hiking.

Signage

Trail markers and directional signs are great for boosting users' confidence that they are where they want to be. Numbered trails are also helpful.

IMPACT would like to have wayfinding signs at trail junctions. IMPACT will provide a list of desired signs to the NYSDEC so that the signs can be created. The wayfinding signs should include mileage to destinations, such as to the Stewart Forest Road trailhead parking from Lockwood Forest Road and Trail 4 Junction, or miles to Palmer's Pond from the intersection of Stewart Forest Road and Trail 6.

After new signs are made, the NYSDEC and IMPACT will work together to install them. When trails have been rerouted, IMPACT will remove old trail markers and install new trail markers to prevent any confusion. IMPACT and the NYSDEC will work together to determine whether old infrastructure, like signs or culverts, should be removed to reduce confusion.

Trail Adopter and Trail Ambassador Programs

IMPACT would like to create a Trail Adopter and/or Trail Ambassador Program.

Trail Adopters are given a short section of trail that they become responsible for. Adopters are asked to go over their section a set number of times per year, performing basic trail maintenance, such as removing debris from end sections of culverts, cutting brush, clearing blowdowns, and reporting larger problems to IMPACT. Training can be provided to show Trail Adopters the fundamentals of trail maintenance. Recognition, awards, and incentives are great ways to boost these volunteers' morale, enthusiasm, and pride.

Trail Ambassadors help build local engagement, help identify and solve deferred maintenance problems, and can encourage casual users into lifelong advocates. Volunteer trail ambassadors greet fellow outdoor enthusiasts, answer questions about the trail system, educate trail users, administer minor first aid in emergencies, provide trail monitoring, and give useful information about responsible trail use. Ambassadors usually go through some form of training and are asked to patrol the trails a set number of times a year, with identifiable "Trail Ambassador" clothing. At the completion of a patrol, Ambassadors submit a report about any trail maintenance concerns, estimate how many people they saw on the trail, and identify those users' modes of travel. All of these functions help the trails in innumerable ways.

Junior Trail Ambassador Program: IMPACT could even start a Junior Trail Ambassador Program which gives young people the opportunity to enjoy the trails with their families. It could help teach youth about the West Almond Trail System, encourage outdoor recreation and environmental awareness, and spur other youth to experience the trails. A successful Junior Trail Ambassador Program will provide incentives, rewards, and recognition for those youth participating.

Recognition Programs: IMPACT should create Recognition Programs for both volunteers and members, in addition to recognizing Trail Adopters and Trail Ambassadors. The NYSDEC already has a patch program for volunteers. IMPACT could use the NYSDEC's patch for volunteers and create its own system for IMPACT members. IMPACT should brainstorm possible organizations which could sponsor a patch program.

Promotion and Programming

IMPACT is completing a Strategic Plan in 2023. When complete, a link to IMPACT's Strategic Plan will be provided online at impactfriendsgroup.org.

The Strategic Plan will detail how IMPACT will enhance its operations with fund development, trail events, volunteer recruitment, and community outreach and public relations.

In addition, IMPACT should create a Communications Plan. Such a plan will define how they will promote their good work, how often missives should be sent out, what platforms should be used (social media, newspapers, radio, press releases, flyers, etc.), and who is responsible for reaching out to the constituents and responding to queries. It should also describe how these efforts will be assessed to determine how well the strategies are working.

Gail Bartas works with students from Alfred State College on trail maintenance.

Annual Events

IMPACT is very interested in reaching out to community members to help them learn about and enjoy the West Almond trails. As such, they plan to host several annual outreach events. These include:

- *First Day Hike on January 1*
- *Sunset moonrise hikes (February and March)*
- *April trail maintenance with college students*
- *I Love NY Parks Day on the first Saturday of May*
- *High school students and scout groups in community service*
- *National Trails Day in the first week of June*
- *Fall trail maintenance day in September*

Ongoing Activities

This Master Plan will guide the NYSDEC and IMPACT with stewardship of the West Almond Trail System. The Partnership Work Plan will be a living document, updated annually. The NYSDEC and IMPACT will prioritize projects, maintaining ongoing conversations about the status of the trails.

The partnerships that have been developed are crucial to maintaining the West Almond Trail System. For example, geospatial data about trail needs is reported by users directly to IMPACT. Alfred University plans to collect the data on a bi-annual basis. All geospatial data is then added to the database that helps IMPACT and the NYSDEC set the work plan.

This document and its appendices will be valuable for future funding opportunities. Documenting the completed projects will help show future funders and collaborators the good work – and track record – that exists between the NYSDEC and IMPACT.

Projects, programs, and events will continue to be held. IMPACT will learn from their experience and improve on each of these elements as they move forward.

Epilogue

Thanks to all of IMPACT's volunteers and Board of Directors; Greg Muller, NYSDEC Forestry; Lelia Mellen, National Park Service; Nicole Munkwitz, Alfred University faculty; and the Alfred University students who contributed to the completion of this important document. IMPACT anticipates that the methodology to collect data on existing trail conditions and the process to use the data to prioritize future trail improvement projects will be useful to other trail advocacy organizations.

Appendices

Documents

Maps

Tables

Figures

RESOURCES

▷ **Geospatial Data Transfer from Avenza Maps to ArcGIS** Attached at the end of this document.

▷ **IMPACT Website & Strategic Plan**

▷ **NYSDEC Open Space Plan** New York's Open Space Conservation Plan provides four overarching objectives to direct our priorities, policies, and actions: promote outdoor recreation; address climate change; ensure clean water, air, and land for a healthy public and vibrant economy; protect, use, and conserve our natural resources and cultural heritage. The plan provides actions that we can take in pursuit of each objective and a listing of associated programs and policies. The plan also contains a statewide list of priority conservation projects that are eligible for funding through the Environmental Protection Fund.

▷ **Allegany County Trail Plan: A Guide to Future Trail Usage and Development Forest Service**

▷ **National Park Service – Rivers, Trails and Conservation Assistance Program**

▷ **New York Final Statewide Greenway Trails Plan & Final Generic Environmental Impact Statement, April 2021**

▷ **New York Statewide Comprehensive Outdoor Recreation Plan 2020-2025**

▷ **NYSDEC: Lands and Forests Policy, Guidance, Planning Documents**

▷ **USDA Forest Service: Standard Trail Plans & Specifications**

▷ **USDA Forest Service: Trail Construction and Maintenance Notebook**

▷ **USDA Forest Service: Accessibility Resources**

▷ **USDA Forest Service: Sharing the Trails**

▷ **IMBA: Mountain Bike Trails**

▷ **NYSDEC: Leave No Trace**

▷ **American Trails: Resource Library**

▷ **Minnesota DNR: Trail Planning, Design, and Development Guidelines**

Geospatial Data Transfer from Avenza Maps to ArcGIS

This document is intended to guide users through the process of moving GPS data from Avenza Maps (Avenza Systems Inc.) into ArcGIS for spatial analysis and representation. This document was created using the free Avenza Maps version 4.1 and ArcGIS Pro version 2.7.0 during the year 2022. This process may change as future versions of both are released. Avenza Maps Pro, a purchasable version of the application allows users to directly import and export shapefiles to and from ArcGIS.

Avenza Maps

Avenza Maps is a mobile app which allows users to plot, record, and track GPS coordinates both on- and offline. There is a free version available for both Apple and Android products.

In Avenza Maps, after data collection has been completed, users should export the data either by email or to a file sharing service, such as Dropbox. To export, users will select the Map Layers symbol in the bottom right corner of the application.

Users will then tap the layer they wish to export and select the Export Features symbol in the bottom left corner.
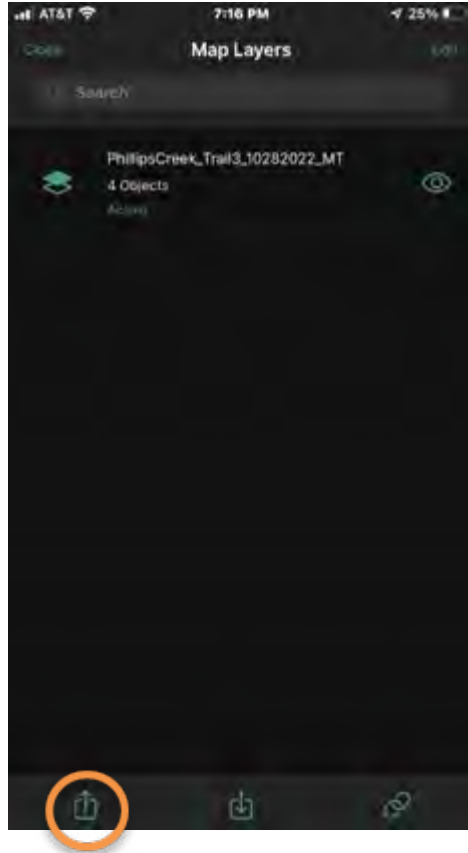
Select the Export to Others option. After selecting Export to Others, users can rename their file, and ensure that it is being exported as a KML file. Keyhole Markup Language (KML) files are used to store, share, and express geographic data. Users then choose the export destination such as email or Dropbox.
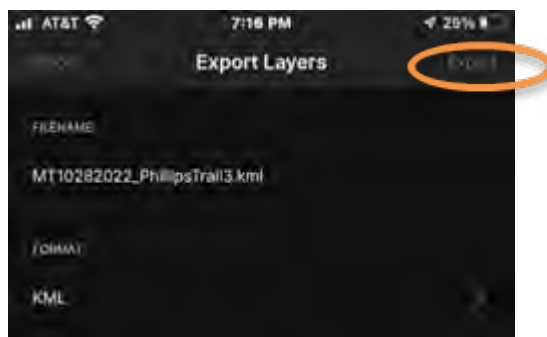
Removing Timestamps from KML Files

After exporting the KML file from Avenza Maps, the Timestamps from the data files must be removed. If Timestamps remain, it creates a Time Slider in ArcGIS Pro. This Time Slider can

make it difficult to symbolize the coordinate data as data may not appear even if it exists within a data table. To make the process as seamless as possible, it is best to disable the timestamps prior to opening the data in ArcGIS.

In a document viewer, change the extension of the KML to a .txt file. Open this file in either TextEdit or WordPad.

With the WordPad or TextEdit application, replace each <TimeStamp> with <!--<TimeStamp. Then replace all </TimeStamp> with </TimeStamp>-->. This creates a comment, or annotation, which preserves the time data but does not display it within ArcGIS.

```
<Placemark>
    <name>Placemark 3</name>
    <!--<TimeStamp>
        <when>2022-10-25T13:56:06-04:00</when>
    </TimeStamp>-->
    <styleUrl>#style9</styleUrl>
    <ExtendedData>
        <SchemaData schemaUrl="#schema2">
            <SimpleData name="pdfmaps_photos"><![CDATA[<img
    src="images/Placemark 3.jpg" /><br />]]></SimpleData>
```

Save the document. Then change the file format from .txt to .kml. This will allow the file to be opened in ArcGIS.

Converting a KML File to a Shapefile in ArcGIS Pro

This process has been outlined using ArcGIS Pro 2.7.0, some features may be different in other versions of the program, and some processes may not be available. Two methods have been outlined in this document to account for the difference in versions users may be operating.

Method One: KML to Shapefile Tool

To begin, open the Analysis pane in ArcGIS, located at the top of the screen. Click on Tools to open the Geoprocessing pane.
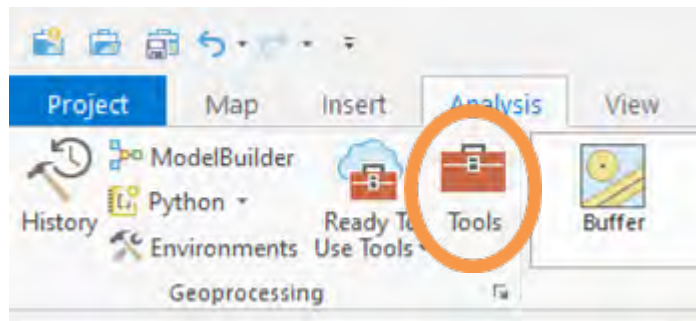
Under toolboxes, select the dropdown arrow next to Conversion Tools. There should be an option called From KML, select this, and then select KML to Layer. This process can also be done by typing KML to Layer in the geoprocessing search box.
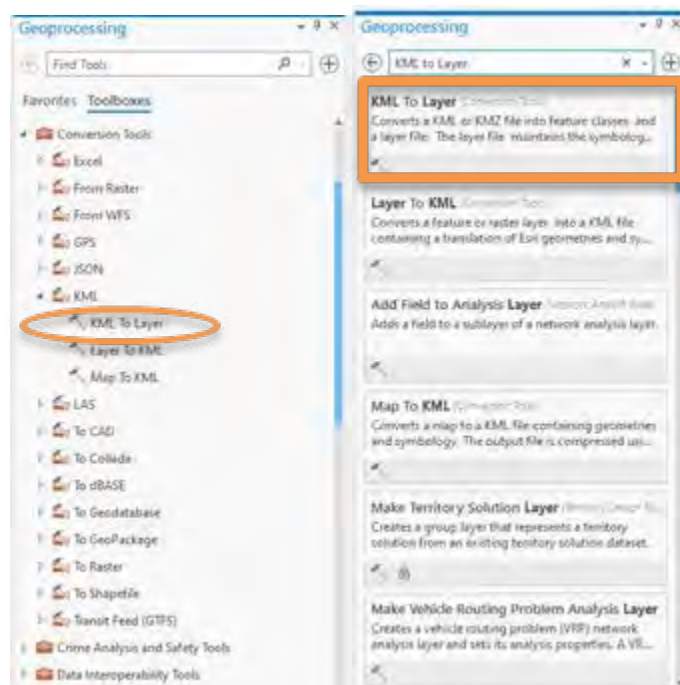
A dialogue box will open for the tool, there will be a folder icon next to the input box, select this and navigate to the KML file you wish to convert to a shapefile. For the output box select your desired geodatabase to save the shapefile in, sometimes ArcGIS will automatically fill this in with the geodatabase you are currently working in. You can rename the output feature or leave the default as the KML name.
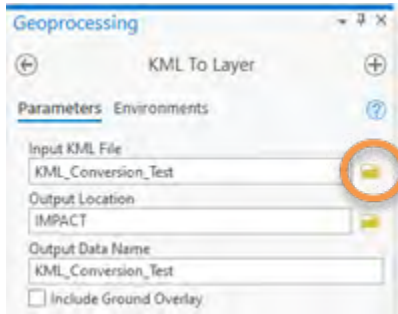
Once all parameters have been filled in, click Run in the bottom right corner.

If there is a green arrow in the bottom right corner it means the process has succeeded, if there is a red symbol it means the process has failed.
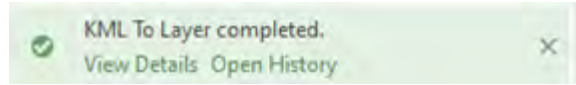
The converted file is now able to be viewed on the map.

Method Two: Creating a Shapefile from a Data Table

If the KML to Shapefile tool does not work, there is an option to create a shapefile using a data table such as Excel.

To start, a new feature class with the data will have to be created.

In the catalog pane, right click the geodatabase where the new feature class will exist. Select New and then Feature Class. The Create Feature Class tool will open. In this tool, users will enter a name for the feature class, choose the Feature Class Type: Points, Lines, or Polygons.

If the new feature class contains Avenza Maps Tracks, users should select Lines for type, and under Geometric Properties check the box marked m-values. This will allow ArcGIS to store route information.
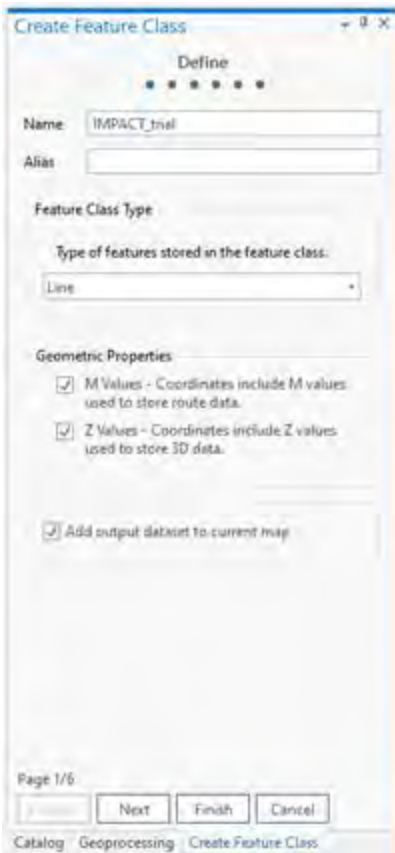
Users can elect to have the output dataset added to the current map by selecting the box. Click Next.

Here, users will add fields to the feature class by clicking where it says *Click here to add a new field.* Use the existing data table as a guide for the Field Names used. This makes the process of adding the data simpler and smoother. Users select Data Type when adding fields: Numbers (Double), Text, Dates, etc. Repeat this process until all of the fields are defined. Click next once all fields are defined and managed.
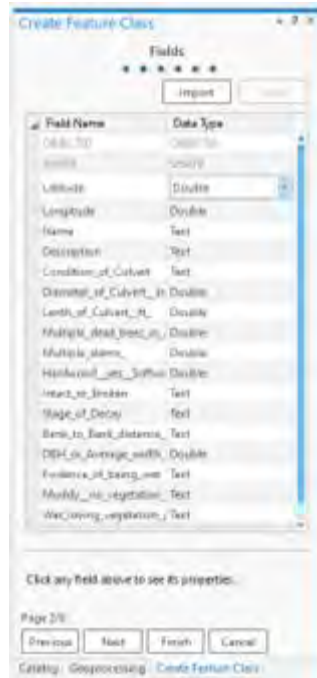
Note: If track data from Avenza Maps as well as point data are to be used, two separate feature classes must be made. One for point data, one for track/polyline data.

Field definitions from other feature classes or .csv files can be imported by selecting Import, browsing to the file, and selecting Ok.

The next page is the Spatial reference page. Under XY Coordinate Systems Available select the desired coordinate system. Coordinate systems from layers in the map, or other feature classes can be used. Z-values give users the ability to model and manipulate three-dimensional features, if this is needed, users can check the box by Current Z and select the z-coordinate system desired. Once this has all been done, users can select Finish to accept default tolerance and resolution values or select Next to make necessary adjustments. The feature class is now created.
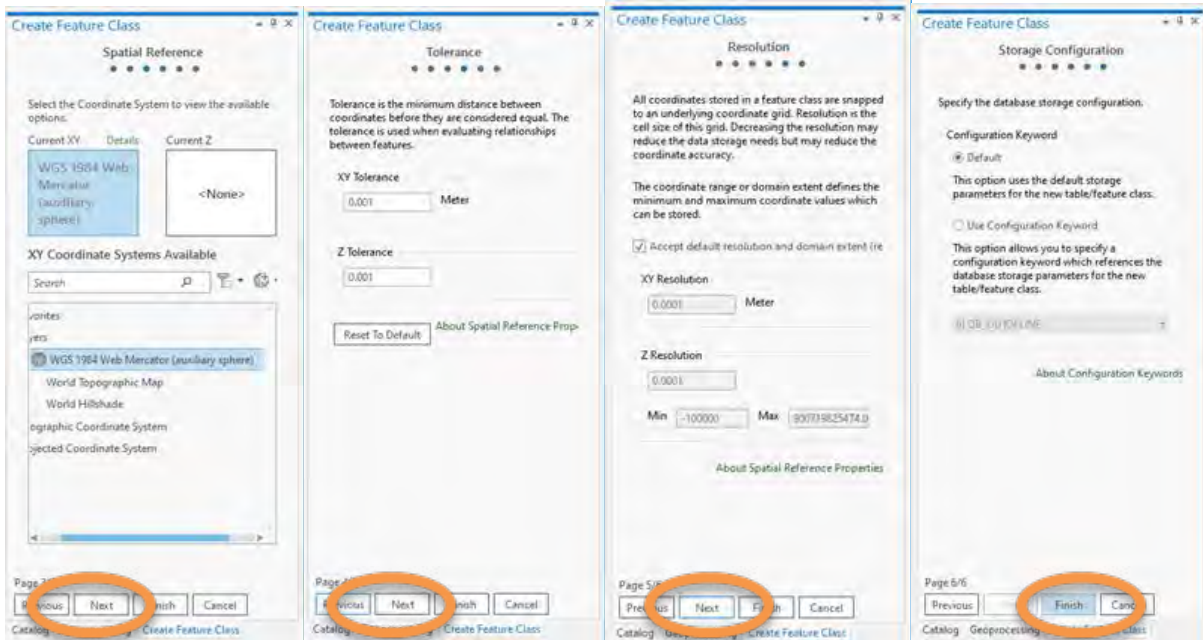
To add the spatial data to this new feature class, users can navigate to the Analysis tab. Click Tools and navigate to Data Management Tools, select Joins and Relates, and click Add Join.
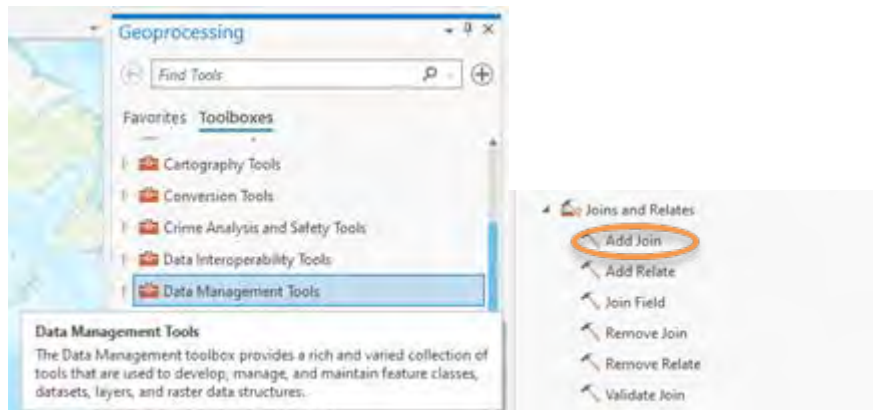

In the Parameters Tab complete the following:

- Select desired feature class under Layer Name or Table View.

- Select field to use as the basis for the join from the drop-down list under Input Join Field Layer. (OBJECTID is typically used, but the field name should be the same with the same information contained in both the feature class as well as the data table. Creating an additional field in the data table labeled OBJECTID may be necessary.)

- Select the Excel table under Join Table.

- Select the field in the excel table used for the join under Output Join Field. (Again, either creating a new field called OBJECTID or using a pre-existing field with individual labels per data entry)

- Users can check Keep All Target Features if they would like all records retained. If left unchecked any records that do not have a match are not included.

Click Run. The Add Join tool will now complete the action.
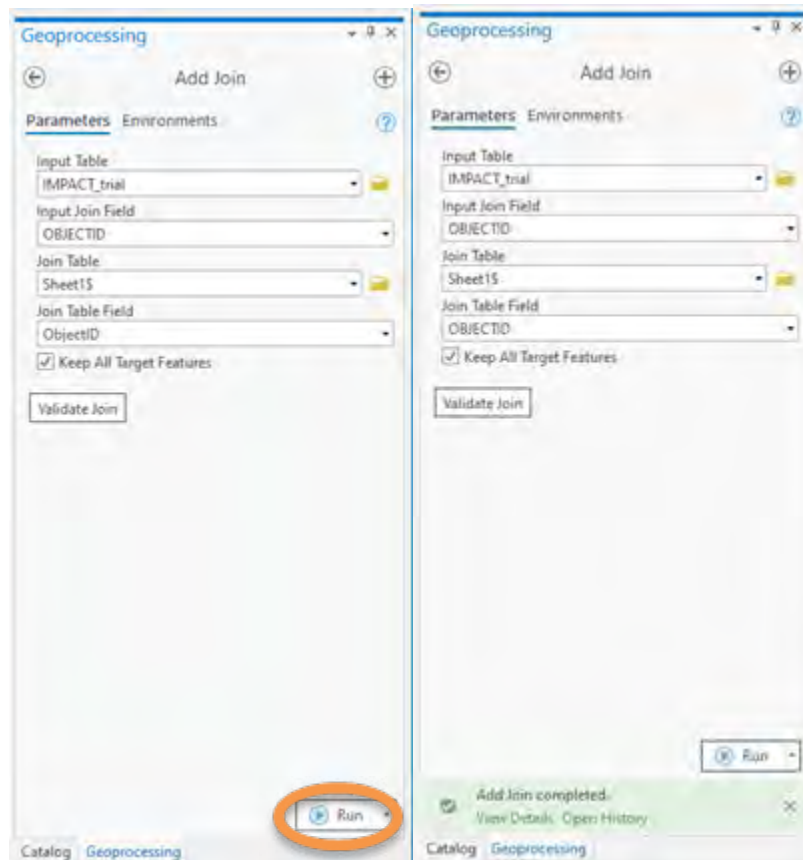
The Join Field tool can be used to create a permanent join, the process is the same.