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Senior Independent Study Project Final Report
Geospatial Analysis of the Appalachian Mountain Club's Delaware Valley Chapter

Executive Summary

The Appalachian Mountain Club (AMC) is an America's oldest nonprofit outdoor recreation and conservation organization. The organization promotes the protection, enjoyment, and wise use of the mountains, rivers, and trails of the Appalachian region. Based in Boston MA, the AMC counts some 90,000 members in 12 chapters, from Washington DC to Maine.

The Delaware Valley chapter, the focus of this project, has approximately 5,000 members and is centered in the Philadelphia metropolitan area. There are two sub-groups within the chapter, which are not geographically located in the Philadelphia region; the Lehigh Valley Group which focuses on the Allentown-Bethlehem-Easton area; and the Mid-Jersey Group, which focuses on central New Jersey. Both sub-groups schedule activities and events that are also part of the Delaware Valley schedule.

The Delaware Valley chapter hosts scores of hiking events per year, which are organized by volunteer leaders. The locations of the hikes are scattered throughout the Delaware Valley region and beyond. All hike participants are required to fill out a sign-in sheet at the beginning of each hike; the location of the hike, date, level of difficulty and miles hiked are included. After a hike, the sign-in sheets are transferred to the hiking chair-person, who collects and tabulates this data, via Microsoft Access. As a result of this record-keeping, the chapter produces copious amounts of data that can be used to readily perform spatial analysis.

To date, the chapter has never analyzed how its hikes, leaders and participants are distributed and related to each other. Additionally, the chapter has never produced a map that highlights all of the various hiking sites located within its boundaries.

Focus/Goals of Project

- Conduct analysis and subsequent production of maps that determines spatial distribution/correlation of hike locations, hike leaders and hike participants, providing an overview of hiking sties that are utilized or underutilized.
 - The period of the study spans 18 months, beginning in January 2006 and ending June, 2007

Map Project

Processing the Chapter's Tabular Data

The chapter utilizes Microsoft Access databases to track hike information, including membership lists, locations hiked, hike leaders, and miles hiked at each location. This data was converted into Excel files, and then simplified (unnecessary attributes deleted). The files created are:

- **Membership:** Includes the population of chapter members, per zip code.
- **Hike Sites:** Hiking locales used by the chapter. It also includes any and all hike sites (within reason) that were not utilized by the chapter.
- **Hiked Sites:** Includes the locations for all hikes conducted for the chapter, including number of participants, miles hiked, etc.

All hike sites utilized in this project are federal, state, county local and private units, which have a minimum of 5 miles of hiking trails.

Data Issues

Chapter population- Since there is no method to differentiate between active/non active members; all chapter members listed in the database were included in the analysis.

Hike leaders- Upon review of the approved hike leader list, it was determined that many hike leaders were not active in leading hikes during the analysis period. These individuals were included in the analysis.

Specific hike sites correlated to individual hikers- A one to one relationships between hike events and individual hikers attending those events was not possible; the database files pertaining to hike participation describes hike site and number of hikers, but does not contain the names of individual hikers who participated.

Hike locations not determined- Some hikes (<10) at local level could not be located, and were therefore not included in the analysis.

Insufficient hike information submissions- There were numerous event entries missing hike miles and/or # of participants, and were therefore not included in the analysis.

Naming hike locations- It was found that there is some amount of inconsistency and ambiguity in hike event naming by leaders. In some cases, it was quite difficult to ascertain exactly where a hike event occurred. Therefore, some sites may be categorized differently than the hike leader intended.

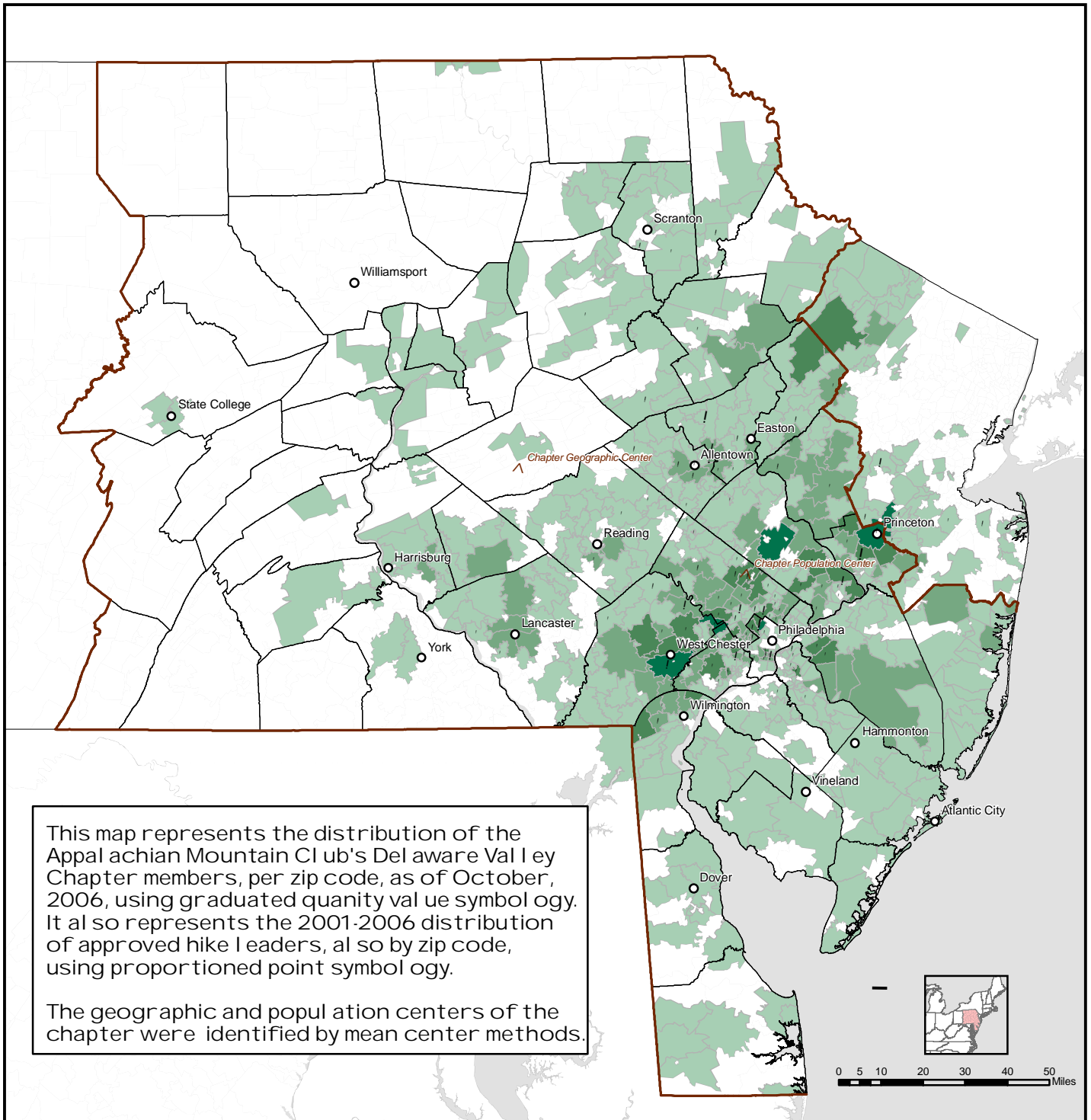
Some of the many examples include:

- “AT Hike, Northern NJ” versus “AT, NJ Section 1”
- “Delaware Water Gap Hike” versus “Delaware Water Gap, Mt Mohican Loop”
- “Hike to Manayunk” versus “Schuylkill River Trail/Manayunk”

After data was collected and prepared, a series of six analyses in ARCMAP were performed, which include:

- Demographic Analysis
- Frequency of Hikes
- Potential Hike Locations
- Underutilized Hike Site
- Actual Hike Sites and Cumulative Miles Hiked
- Site Analysis

Demographic Analysis Appalachian Mountain Club Delaware Valley Chapter



Demographic Analysis

The Demographic Analysis and resultant map identifies the distribution of the chapter's members, per zip code, using graduated quantity value symbology, where darker green implies a higher population density, lighter greens imply less density, and white implies no population.

Chapter Geographic Center, located in Schuylkill County, approximately 70 miles northwest of Philadelphia. The Chapter Population Center is located in Montgomery County, approximately 20 miles northwest of Philadelphia. Both centers were identified via ARCMAP's mean center method.

Key points of the distribution analysis include:

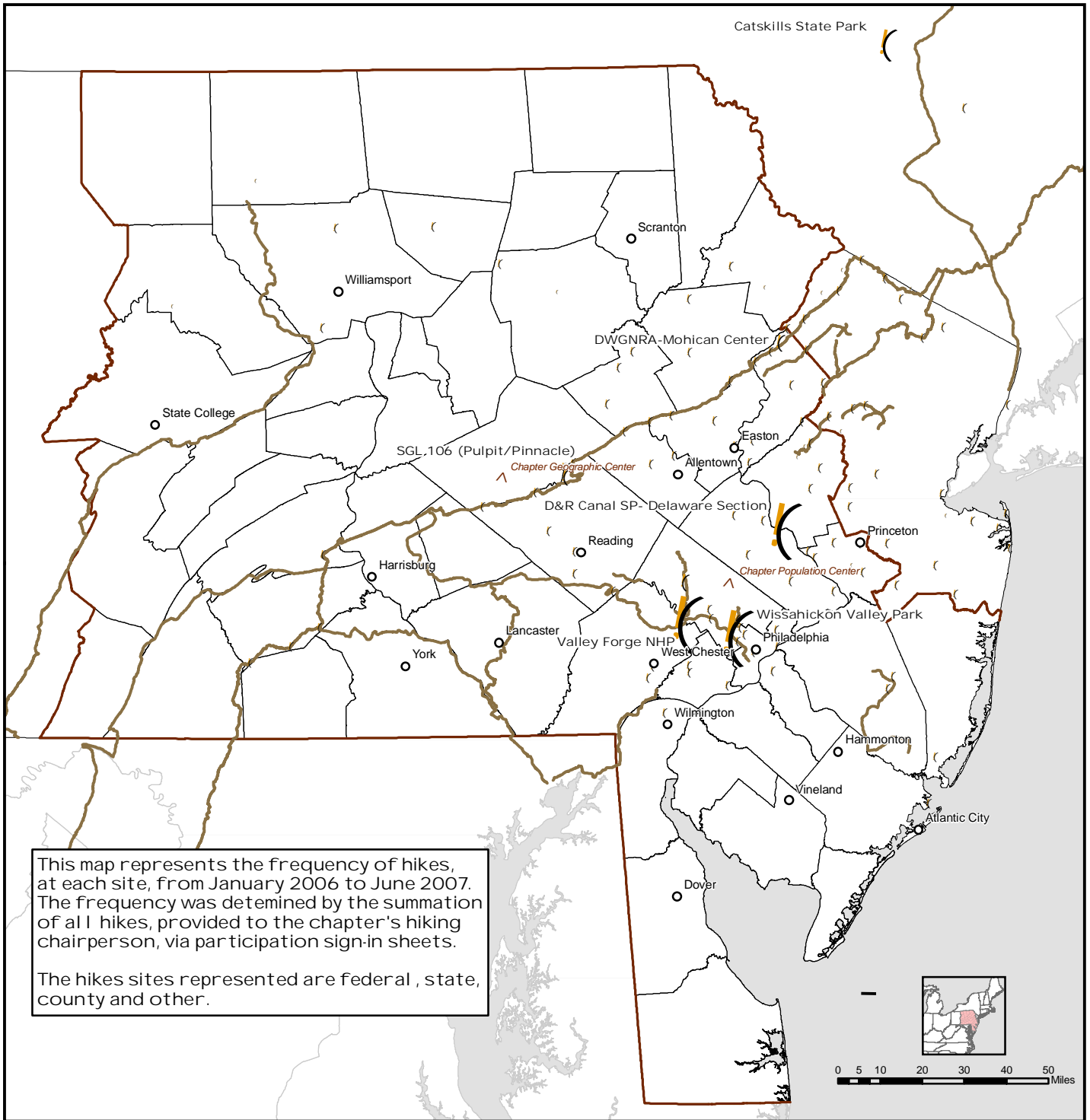
- The densest population occurs in a band in the Pennsylvania/Delaware counties that run along the west side of the Delaware River. This band then continues east of the river and includes the New Jersey counties of Mercer and Hunterdon.
- Somewhat lesser population densities occur in the Pennsylvania counties of Lancaster, Lehigh and Monroe, and Warren County, in New Jersey.
- A large population is present outside the chapter border in New Jersey, primarily in Middlesex, Somerset and Sussex counties.
- 11 counties in western and northern Pennsylvania have no chapter members

The Demographic Analysis also identifies the locations of approved hike leaders, per zip code, which are represented by graduated point symbology, where higher densities are represented by larger points.

Key points of the leader analysis include:

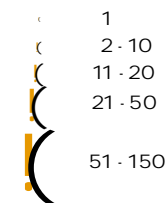
- Nearly all of the hike leaders are found within a 50 mile radius of the Chapter Population Center.
- The counties with the highest density of hike leaders are Pennsylvania's Bucks, Chester, Delaware, Montgomery, Northampton and Philadelphia counties.
- Pennsylvania counties Berks and Lancaster, despite sizable populations, have few hike leaders.
- The entire state of Delaware has less than 10 leaders, all of which are found in Kent County.
- Southern New Jersey, which includes the counties of Cape May, Cumberland, Salem, Atlantic, Ocean have no hike leaders, despite sizable populations.
- New Jersey counties Gloucester, Camden and Burlington have sizable populations, but relatively few hike leaders.

Frequency of Hikes Appalachian Mountain Club Delaware Valley Chapter



Legend

Frequency of Hikes,
Per Site



- AMC Delaware Valley Chapter Border
- Major Trails
- County Borders

Frequency of Hikes

The Frequency of Hikes analysis and resultant map identifies the frequency of hikes at each site hiked during the analysis period. The frequency was determined by summing all hikes sites, provided to the chapter's hiking chairperson, via participation sign-in sheets. The frequency is represented with graduated point symbology, where higher frequencies are identified by larger points, and lesser frequencies with smaller points.

- Ranking of the sites with 10 highest frequencies:

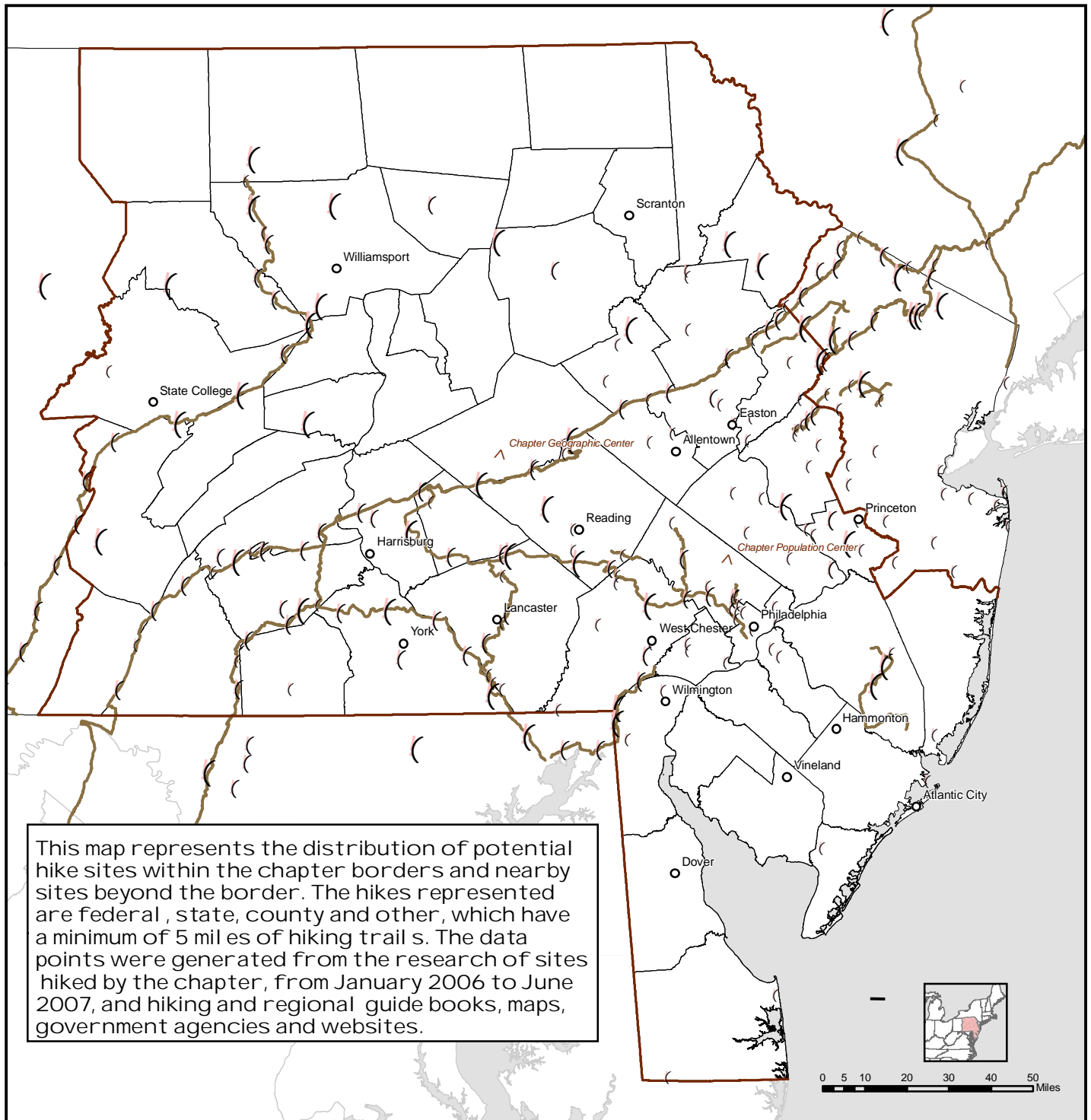
Rank	Site	Frequency
1	Valley Forge NHP, PA	131
2	Wissahickon Valley Park, PA	128
3	Delaware and Raritan Canal State Park, NJ (Delaware River Section)	53
4	Catskills State Park, NY	43
5	Delaware Water Gap NRA, NJ (Mohican Center)	18
6	Perkiomen Trail, PA	17
7	PASGL 106 (Pulpit/Pinnacle)	14
8	Appalachian Trail Pennsylvania Section 2	9
9	Nockamixon State Park, PA	9
10	Norristown Farm Park	9

Key points of the frequency analysis include:

- Only 2 sites out of the 10 highest ranked sites (Catskills State Park, NY, Delaware Water Gap NRA NJ/Mohican Center) are farther than 50 miles from the chapter's population center.
- A majority of the chapter's hikes occurs along a 30 mile corridor along the Pennsylvania/New Jersey border, coinciding with dense chapter and hike leader populations.
- There is a large distribution of hikes outside of the chapter border, primarily in Middlesex, Somerset and Sussex counties of New Jersey.
- Catskills State Park, NY, while lying well out of the chapter's borders, ranks very high in terms of frequency.

Consult Appendix B for rankings of all hike site frequencies.

Potential Hike Locations Appalachian Mountain Club Delaware Valley Chapter



Legend

Hike Locations, per Hike Length

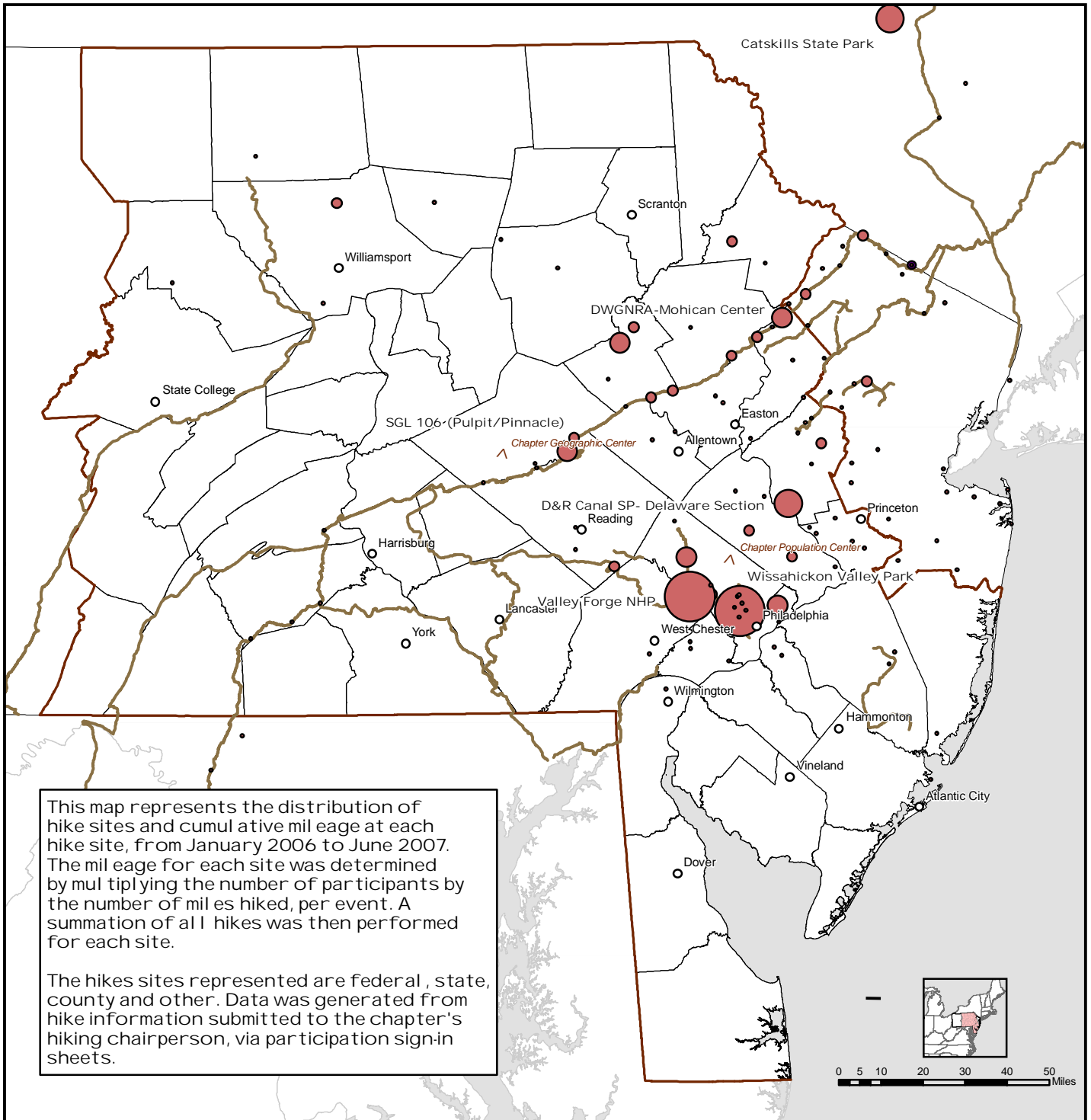
- { 5 - 10
- { 11 - 20
- { >20

- AMC Delaware Valley Chapter Border
- County Borders
- Major Trails

Potential Hike Locations

The Potential Hike Locations analysis and resultant map represents the distribution of hike sites within the chapter's border and nearby sites beyond the border. The sites are segmented into 3 categories, based on miles of hiking trails available (5-10 miles, 11-20 miles and >20 miles) and are represented by graduated point symbology. The hike sites were generated from the research of sites hiked by the chapter during the analysis period, and hiking and regional guidebooks, maps, government agencies and websites.

Actual Hike Sites and Cumulative Miles Hiked Appalachian Mountain Club Delaware Valley Chapter

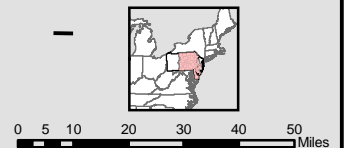


Legend

Total Miles Hiked,
Per Hike Site

- <500
- 501 - 1000
- 1001 - 2000
- 2001 - 3000
- >10000

- Major Trails
- AMC Delaware Valley Chapter Border
- County Borders



Actual Hike Sites and Cumulative Miles Hiked

The Actual Hike Sites and Cumulative Miles Hiked and resultant map represents the distribution of hike sites and cumulative miles at each hike site, during the analysis period. The mileage for each site was determined by multiplying the number of participants by the number of miles hiked, per event. A summation for each hike site was then performed. This data was generated from hike event information submitted to the chapter's hiking chairperson, via participation sign in sheets.

- Ranking of sites and corresponding cumulative mileage:

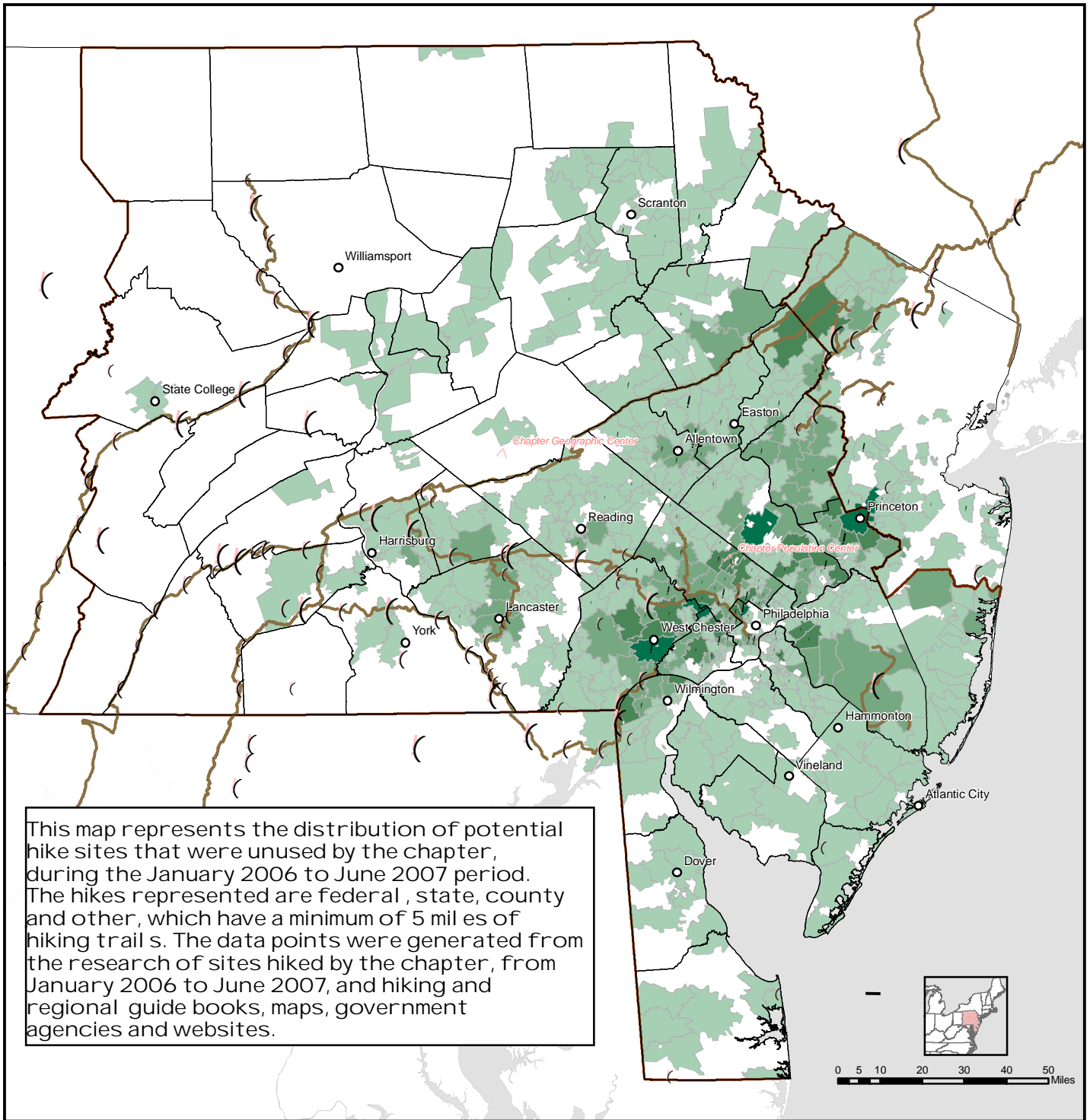
Rank	Site	Mileage
1	Valley Forge NHP, PA	14,223
2	Wissahickon Valley Park, PA	10,239
3	Delaware and Raritan Canal State Park, NJ (Delaware River Section)	2,974
4	Catskills State Park, NY	2,105
5	Delaware Water Gap NRA, NJ (Mohican Center)	1,845
6	PASGL 106 (Pulpit/Pinnacle)	1,408
7	Perkiomen Trail, PA	1,406
8	Pennypack Environmental Trust, PA	1,064
9	Hickory Run State Park, PA	911
10	French Creek State Park, PA	808

Key points of the cumulative miles hiked analysis include:

- Only 3 sites out of the 10 highest ranked sites (Catskills State Park, NY, Delaware Water Gap NRA NJ/Mohican Center and Hickory Run State Park, PA) are farther than 50 miles from the chapter's population center.
- A majority of the chapter's hikes and subsequent cumulative mileage occurs along a 30 mile corridor along the Pennsylvania/New Jersey border, coinciding with dense chapter and hike leader populations.
- There is a large distribution of hikes outside of the chapter border, primarily in Middlesex, Somerset and Sussex counties of New Jersey.
- Catskills State Park, NY, while lying well out of the chapter's borders, ranks very high in terms of cumulative miles.

Consult Appendix C for rankings of all cumulative miles hiked.

Underutilized Hike Sites Appalachian Mountain Club Delaware Valley Chapter



Legend

Hike Lengths
 (5 - 10
 (11 - 20
 (>20

Hiker Population,
per Zip Code

0
1 - 10
11 - 23
24 - 43
44 - 95

Hike Leaders

1
2
3 - 4
5 - 6

— Major Trails
 — AMC Delaware Valley Chapter Border
 — County Borders

Underutilized Hike Sites

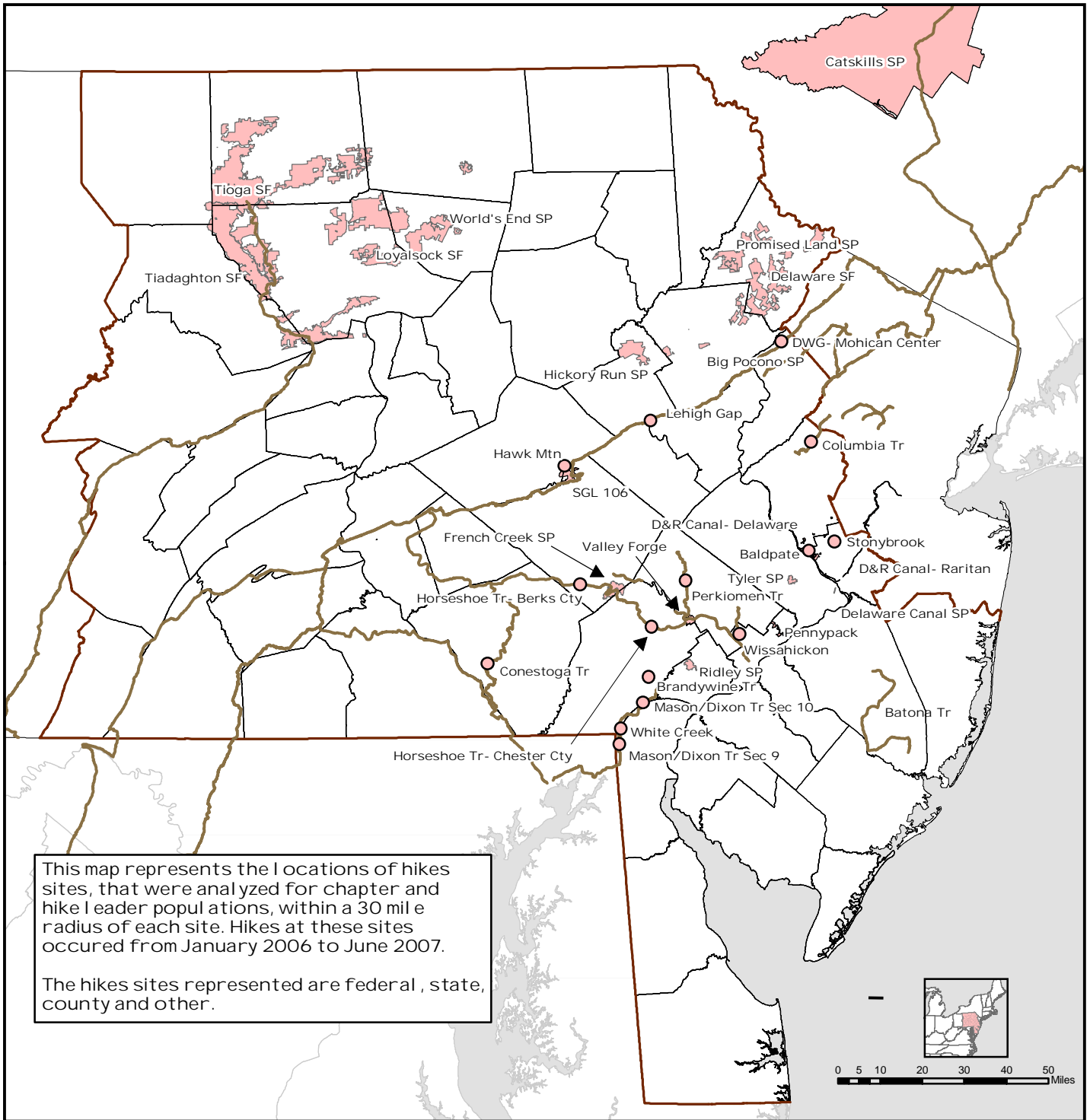
The Underutilized Hike Sites analysis and resultant map represent the distribution of potential hike sites that were unused by chapter hike leaders, during the analysis period. The hike sites are represented by graduated point symbology, with possible hike lengths at each site that are segmented into 3 categories (5-10 miles, 11-20 miles and >20 miles). To create this map, the Potential Hike Locations map was layered on top of the Demographic Analysis map; sites that had at least one actual hike during the analysis period were removed from the Potential Hike Locations layer.

Key points of the underutilized hike sites include:

- No activity on the Conestoga and Mason-Dixon trails in southern Pennsylvania, despite sizable chapter population nearby.
- No activity on the Horseshoe Trail in southeast/south central Pennsylvania, despite sizable chapter/hike leader populations nearby.
- No activity on the Batona Trail in southern New Jersey. While having a moderate chapter population, this region lacks a hike leader population.
- The western region of the chapter (central Pennsylvania) has substantial hiking resources, in the form of state parks and forests, and long distance hiking trails. This region experiences few hiking events, which coincides with a very small chapter population and no hike leader population.

Consult Appendix D for a complete listing of all underutilized hike sites.

Site Analysis Appalachian Mountain Club Delaware Valley Chapter



This map represents the locations of hike sites, that were analyzed for chapter and hike leader populations, within a 30 mile radius of each site. Hikes at these sites occurred from January 2006 to June 2007.

The hike sites represented are federal, state, county and other.

Legend

- Major Trails
- AMC Delaware Valley Chapter Border
- County Borders
- Large Area Hike Sites Represented as Shapes
- Small Area Hike Sites Represented as Points

Site Analysis

The Site Analysis represents 35 hike sites, utilized and underutilized by the chapter, during the analysis period. This analysis is intended to identify the possible reasons, based on chapter and hike leader populations, for site usage or lack of usage.

The Site Analysis map identifies, through shapes and points, the location of each hike site analyzed.

The criteria for selection of sites for analysis are:

- Hikes sites with high frequency (>10 hikes) and/or high cumulative miles (>1000 mi)
- Hike Sites with regular frequency (5 to 10 hikes) and/or cumulative miles (500 to 1000 miles)
- Hike Sites with minimal frequency (1 to 5 hikes) and/or cumulative miles (< 500 miles)
- Hike sites with no frequency and/or cumulative miles

The analysis was performed as follows:

- A 30 mile radius buffer was created for each site
 - This distance was chosen as a reasonable travel distance to/from a hike site, generally allowing a travel time of less than 1 hour.
- The Demographic/Hike Leader layer was clipped (extracted) by the 30 mile radius buffer.
- The populations of chapter members/hike leaders, per clip, were then derived from newly created attribute tables.

The following tables summarize the analysis for each of the 4 hike site categories:

Hikes sites with high frequency (>10 hikes) and/or high cumulative miles (>1000 mi):

Hike Site	Frequency	Cum Miles Hiked/% of All Chapter Miles Hiked	Chapter Members Within 30 Mile Radius/% of All Chapter Members	Hike Leaders Within 30 Mile Radius/% of All Hike Leaders
Valley Forge NHP, PA	131	14,223/22.3%	2332/53.4%	105/58.0%
Wissahickon Valley Park, PA	58	10,239/16.1%	2208/55.2%	100/52.9%
D&R Canal SP, NJ (Raritan River Section)	53	2974/4.7%	2120/50.8%	121/66.9%
Catskills SP, NY	43	2105/3.3%	0	0
Delaware Water Gap NRA, NJ- Mohican	19	1846/2.9%	367/8.8%	10/5.5%
PA State Game Land 106 (Pulpit/Pinnacle)	13	1408/2.2%	318/7.6%	17/9.4%
Perkiomen Trail, PA	17	1406/2.2%	2353/56.4%	129/71.3%
Pennypack Environmental Trust, PA	8	1064/1.7%	2309/55.3%	103/56.9%

Summary of Analysis

- With the exception of Catskills SP, PASGL 106, and Delaware Water Gap/Mohican, all other hikes sites are located in regions with an extremely large chapter populations and hike leader populations. Therefore, there is a strong correlation between the large cumulative miles hiked and chapter/hike leader populations.
- The Delaware Water Gap/Mohican Center and PA SGL 106 are located in regions with relatively small chapter populations and hike leader populations, while Catskills SP is located entirely out of the chapter borders. However, these hike site rank among some of the highest in the chapter, in terms of cumulative hike miles.

Hike Sites with regular frequency (5 to 10 hikes) and/or cumulative miles (500 to 1000 miles)

Hike Site	Frequency	Cum Miles Hiked/% of All Chapter Miles Hiked	Chapter Members Within 30 Mile Radius/% of All Chapter Members	Hike Leaders Within 30 Mile Radius/% of All Hike Leaders
Hickory Run SP, PA	6	911/1.4%	437/10.5%	37/20.4%
French Creek SP PA	5	808/1.3%	1857/44.5%	84/46.4%
Tyler SP, PA	5	612/.9%	2524/60.4%	118/65.2%
Loyalsock SF, PA	4	531/4.7%	14/.3%	0
PASGL168 (Lehigh Gap)	6	519/.8%	405/9.7%	39/21.6%
Promised Land SP, PA	7	518/.8%	230/5.5%	6/3.3%
Brandywine Tr, PA	5	408/.6%	1390/33.3%	52/28.7%
Delaware Canal SP, PA	5	353/.6%	2339/56.0%	103/56.9%
Ridley Creek SP, PA	6	309/.5%	2304/55.2%	99/54.7%
Tiadaghton SF, PA	5	293/.5%	27/.7%	0
World's End SP, PA	5	229/.4%	31/.7%	0

Summary of Analysis

- French Creek SP, Tyler SP, Brandywine Trail, Delaware Canal SP and Ridley Creek SP are located in regions with an extremely large chapter populations and hike leader populations. *These sites could be considered candidates for additional hike events.*
- Hickory Run SP and, PASGL 168 are located in regions with smaller chapter populations and hike leader populations, but have relatively large cumulative miles hiked.
- Loyalsock SF, Tiadaghton SF and World's End SP are located in regions with small chapter populations and no hike leaders, but have moderate cumulative miles hiked.

Hike Sites with minimal frequency (1 to 5 hikes) and/or cumulative miles (< 500 miles):

Hike Site	Frequency	Cum Miles Hiked/% of All Chapter Miles Hiked	Chapter Members Within 30 Mile Radius/% of All Chapter Members	Hike Leaders Within 30 Mile Radius/% of All Hike Leaders
Baldpate Mtn. Preserve County Park, NJ	3	279/.44%	1564/37.5%	74/40.9%
Washington Crossing SP, NJ	3	251/.4%	2188/52.4%	102/56.4%
Columbia Trail, NJ	1	228/.4%	898/21.5%	33/18.2%
Tioga SF, PA	1	220/.4%	27/.7%	0
Stonybrook-Millstone Watershed Preserve, NJ	2	202/.3%	1188/28.5%	49/27.0%
Hawk Mtn Sanctuary, PA	3	149/.2%	194/4.7%	10/5.5%
Delaware SF, PA	1	121	581/13.9%	41/22.7%

Summary of Analysis

- Baldpate Mtn. Preserve, Washington Crossing SP, the Columbia Trail, Stonybrook-Millstone Preserve and Delaware SF are located in regions with large chapter populations and hike leader populations. *These sites could be considered candidates for additional hike events.*
- Tioga SF is located in a region with a very small chapter population and no hike leaders

Hike sites with no frequency and/or cumulative miles:

Hike Site	Frequency	Cum Miles Hiked/% of All Chapter Miles Hiked	Chapter Members Within 30 Mile Radius/% of All Chapter Members	Hike Leaders Within 30 Mile Radius/% of All Hike Leaders
Batona Trail, Southern NJ	0	0	903/21.6%	29/16.0%
Big Pocono SP, PA	0	0	497/11.9%	43/23.8%
Conestoga Trail, PA	0	0	322/7.7%	5/2.8%
Horseshoe Trail, Berks County, PA	0	0	1153/27.6%	43/23.8%
Horseshoe Trail, Chester County, PA	0	0	2165/51.8%	103/56.9%
Mason Dixon Trail, Sections 9 & 10	0	0	1620/38.8%	70/38.7%
PA SGL 211	0	0	93/2.2%	0
White Clay Creek Preserve, DE	0	0	630/15.1%	20/11.1%

Summary of Analysis

- The Batona Trail, the Chester and Berks counties sections of the Horseshoe Trail, and sections 9 and 10 of the Mason-Dixon Trail are located in regions with a large chapter populations and hike leader populations. *These sites could be considered candidates for additional hike events.*
- Big Pocono SP and White Clay Creek Preserve are located in regions with small chapter populations and hike leader populations.
- PASGL 211 is located in a region with a very small chapter population and no hike leaders.

Recommended Locations for Additional Hike Events

Based on the results of the site analyses, a summary of 15 hike sites was compiled. These sites are located in relatively large chapter and hike leader populations regions and should be considered as favorable sites, in terms of participation, for hiking events. These sites include:

- French Creek SP, PA
- Tyler SP, PA
- Brandywine Trail, PA
- Delaware Canal SP, PA
- Ridley Creek SP, PA
- Baldpate Mtn. Preserve County Park, NJ
- NJ Washington Crossing SP, NJ
- Columbia Trail, NJ
- Stonybrook-Millstone Watershed Preserve, NJ
- Delaware SF, PA
- Batona Trail, NJ
- Horseshoe Trail, PA, Berks County Section
- Horseshoe Trail, PA, Chester County Section
- Mason-Dixon Trail Section 9
- Mason Dixon Trail Section 10

Appendices

Appendix A: Establishment of Chapter Extent

Per the organization's by-laws, the Delaware Valley chapter includes the following counties:

Pennsylvania:

Adams	Dauphin	Luzerne	Pike
Berks	Delaware	Lycoming	Potter
Bradford	Franklin	Mifflin	Schuylkill
Bucks	Fulton	Monroe	Susquehanna
Carbon	Huntingdon	Montgomery	Tioga
Centre	Juniata	Montour	Union
Chester	Lackawanna	Northampton	Wayne
Clinton	Lancaster	Northumberland	Wyoming
Columbia	Lebanon	Perry	York
Cumberland	Lehigh	Philadelphia	Sullivan
Snyder			

New Jersey:

Atlantic	Cape May	Hunterdon	Salem
Burlington	Cumberland	Mercer	Warren
Camden	Gloucester	Ocean	

Delaware:

Kent	New Castle	Sussex
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Appendix B: Hike Frequency Rankings

Hike Site	State	Frequency	Hike Site	State	Frequency	Hike Site	State	Frequency
Valley Forge National Historic Park	PA	131	Washington Crossing St Park	NJ	3	Monmouth County Beaches	NJ	1
Wissahickon Valley Park	PA	128	Wawayanda St Park	NJ	3	Morristown Nat'l Hist. Park	NJ	1
D&R Canal State Park- Delaware River	NJ	53	Appalachian Trail- Maryland	MD	3	Paulinskill Valley Trail (Blairstown)	NJ	1
Catskills	NY	43	Appalachian Trail PASec 12	PA	2	Plainsboro Preserve	NJ	1
Delaware Water Gap NRA- Mohican	NJ	18	Appalachian Trail PA Sec 13	PA	2	Schooley's Mountain County Park	NJ	1
Perkiomen Trail	PA	17	Jacobsburg Environmental Center	PA	2	Sourland Mountain Preserve	NJ	1
Pulpit/Pinnacle	PA	14	Ironton Rail Trail	PA	2	Split Rock Reservoir Loop	NJ	1
Appalachian Trail PA-Sec 2	PA	9	Trexler Game Preserve	PA	2	Spruce Run Recreation Area	NJ	1
Nockamixon St Park	PA	9	West Chester	PA	2	Stokes State Forest	NJ	1
Norristown Farm Park	PA	9	Appalachian Trail NJ- Sec 4	NJ	2	Voorhees State Park	NJ	1
Pennypack Environmental Trust/Park	PA	8	Appalachian Trail NJ- Sec2	NJ	2	Washington Valley Park	NJ	1
Schuykill River Trail	PA	8	Assunpink WMA	NJ	2	Wells Mills Lake (Ocean Cty)	NJ	1
French Creek State Park	PA	7	Brendan Byrne State Forest	NJ	2	Brandywine Creek State Park	DE	1
Promised Land State Park	PA	7	Delaware Water Gap NRA- Millbrook Village	NJ	2	Susquehanna State Park, MD	MD	1
Merrill Creek	NJ	7	Duke Island Park	NJ	2	NYC	NY	1
Round Valley Recreation Area	NJ	7	Edwin Forsythe Nat'l Wildlife Refuge	NJ	2	Minnewaska State Park	NY	1
Hickory Run State Park	PA	6	Manasquan Reservoir County Park	NJ	2	Mohonk Preserve	NY	1
Lehigh Gap	PA	6	Monmouth Battlefield State Park	NJ	2			
Lehigh Gorge State Park-Glen Onoco	PA	6	Musconetcong Gorge	NJ	2			
Peace Valley Park Nature Center	PA	6	Norvin Green St Park	NJ	2			
Philadelphia-Center City	PA	6	Perth Amboy	NJ	2			
Ridley State Park	PA	6	Pine Barrens- General	NJ	2			
Appalachian Trail PA-Sec 4	PA	5	Point Mountain Nature Preserve (Hunterdon Cty)	NJ	2			
Brandywine Trail	PA	5	Stonybrook Millstone Watershed Preserve	NJ	2			
Delaware Canal State Park	PA	5	Susquehanna State Park	MD	2			
Tiadaghton State Forest	PA	5	Appalachian Trail NJ- Sec 1	NJ	2			
Union Canal Towpath	PA	5	Appalachian Trail PA-Sec 10	PA	1			
World's End State Park	PA	5	Appalachian Trail PA Sec 11	PA	1			
Nor-Bath Rail Trail	PA	4	Appalachian Trail PA-Sec 9	PA	1			
Philadelphia-Manayunk	PA	4	Blue Marsh Lake Recreation Center	PA	1			
Appalachian Trail NJ-Sec 2	NJ	4	Delaware State Forest-Thunder Swamp Trails	PA	1			
Delaware Water Gap NRA- Tammany/Sunfish P	NJ	4	Easton	PA	1			
Deer Path Park	NJ	4	Loyalsock State Forest-Old Logger's Path	PA	1			
Henry Hudson Trail	NJ	4	Mauch Chunk Lake County Park (Jim Thrope)	PA	1			
Mercer County Park	NJ	4	Nolde Forest Environmental Education Center	PA	1			
Palmyra Nature Center	PA	4	Philadelphia-Chestnut Hill	PA	1			
Patriot's Path	NJ	4	Sproul State Forest-Chuck Keiper Trail	PA	1			
Ramapo Mt State Forest	NJ	4	State Game Land ? Philips Canyon	PA	1			
Appalachian Trail PA -Sec 1	PA	4	State Game Land 38 (Dry Gap/Rich Gap)	PA	1			
Appalachian Trail PA-Sec 3	PA	4	Tioga State Forest-Pine Creek Gorge-Pine Cree	PA	1			
Appalachian Trail PA-Sec5	PA	3	Tohickon County Park (Bucks)	PA	1			
Hawk Mountain Sanctuary	PA	3	Appalachian Trail- Sec 6- PA 183 to PA 502	PA	1			
Loyalsock State Forest-Loyalsock Trail	PA	3	Appalachian Trail NJ- Sec 3	NJ	1			
Rickett's Glen State Park	PA	3	Appalachian Trail NJ-Sec 1	NJ	1			
Allamuchy State Park	NJ	3	Belleplaine State Forest - East Creek Trail	NJ	1			
Baldpate Mt.	NJ	3	Cheesquake St Park	NJ	1			
Black River County Park	NJ	3	Columbia Rail Trail	NJ	1			
Cooper River Park	NJ	3	D&R Canal State Park- Main (Raritan)	NJ	1			
Gateway NRA: Sandy Hook	NJ	3	Hacklebarney State Park	NJ	1			
Jenny Jump State Forest	NJ	3	High Point State Park	NJ	1			
Princeton	NJ	3	Huber Woods	NJ	1			

Appendix C: Actual Hiked Sites and Cumaltive Miles Hiked

Hike	State	Cumulative Miles
Valley Forge National Historic Park	PA	14223
Wissahickon Valley Park	PA	10239
D&R Canal State Park- Delaware River Section	NJ	2974
Catskills	NY	2105
Delaware Water Gap NRA- Mohican	NJ	1845
Pulpit/Pinnacle	PA	1408
Perkiomen Trail	PA	1406
Pennypack Environmental Trust/Park (PHL)	PA	1064
Hickory Run State Park	PA	911
French Creek State Park	PA	808
Appalachian Trail PA Sec 4	PA	798
Round Valley Recreation Area	NJ	782
Schuykill River Trail	PA	732
Delaware Water Gap NRA- Tammany/Sunfish Pond	NJ	704
Appalachian Trail PA Sec-2	PA	685
Lehigh Gorge State Park-Glen Onoco	PA	635
Tyler State Park	PA	612
Appalachian Trail PA Sec-1	PA	540
Appalachian Trail NJ Sec 5	NJ	534
Loyalsock State Forest-Loyalsock Trail	PA	531
Lehigh Gorge State Park	PA	530
Lehigh Gap	PA	519
Promised Land State Park	PA	518
Peace Valley Park Nature Center	PA	516
Patriot's Path	NJ	503
Merrill Creek	NJ	494
Rickett's Glen State Park	PA	482
Norristown Farm Park	PA	427
Nockamixon St Park	PA	421
Allamuchy State Park	NJ	412
Brandywine Trail	PA	408
Appalachian Trail NJ Sec 3	NJ	404
Brendan Byrne State Forest	NJ	392
Pine Barrens- General	NJ	392
Green Lane Park/Reservoir	PA	372
Trexler Game Preserve	PA	369
Delaware and Lehigh Trail	PA	362
Delaware Canal State Park	PA	353

Hike	State	Cumulative Miles
Wawayanda St Park	NJ	346
Appalachian Trail PA Sec5	PA	340
Palmyra Nature Center	NJ	336
Ridley State Park	PA	309
Philadelphia-Center City	PA	307
Susquehanna State Park	DE	297
Tiadaghton State Forest	PA	293
Fort Washington State Park	PA	292
Gateway NRA: Sandy Hook	NJ	288
Appalachian Trail PA Sec 3	PA	280
Baldpate Mt.	NJ	279
John Heinz National Wildlife Refuge	PA	263
Mercer County Park	NJ	256
MD AT - Turners Gap to Weaverton	MD	254
Washington Crossing St Park	NJ	251
Cooper River Park	NJ	247
Black River County Park	NJ	232
World's End State Park	PA	229
Columbia Rail Trail	NJ	228
Perth Amboy	NJ	225
Princeton	NJ	221
Tioga State Forest	PA	220
Jenny Jump State Forest	NJ	216
Ramapo Mt State Forest	NJ	216
Stonybrook Millstone Watershed Preserve	NJ	202
Nor-Bath Rail Trail	PA	182
Sproul State Forest-Chuck Keiper Trail	PA	176
State Game Land 38	PA	176
High Point State Park	NJ	162
Easton	PA	160
Philadelphia-Chestnut Hill	PA	156
Hacklebarney State Park	NJ	153
Hawk Mountain Sanctuary	PA	149
Delaware Water Gap NRA- Millbrook Village	NJ	147
Point Mountain Nature Preserve	NJ	144
Susquehanna State Park	MD	132
Monmouth County Beaches	NJ	128
Ironton Rail Trail	PA	126

Appendix C: Actual Hiked Sites and Cumaltive Miles Hiked, continued

Hike	State	Cumulative Miles
Delaware State Forest-Thunder Swamp Trails	PA	121
Mauch Chunk Lake County Park (Jim Thrope)	PA	121
Appalachian Trail NJ- Sec 2	NJ	120
Appalachian Trail NJ-Sec 2	NJ	120
Nolde Forest Environmental Education Center	PA	119
Blue Marsh Lake Recreation Center	PA	113
Washington Valley Park (Somerset Cty)	NJ	112
Appalachian Trail PA-Sec 13	PA	112
Sourland Mountain Preserve	NJ	104
Gunpowder Falls State Park	MD	100
Appalachian Trail NJ Sec 4	NJ	100
New York City	NY	96
Lackawanna State Forest- Pinchot Tr	PA	96
Loyalsock State Forest-Old Logger's Path	PA	93
MD AT - I-70 toTurner's Gap	MD	90
Appalachian Trail NJ Sec 6	NJ	90
Paulinskill Valley Trail (Blairstown)	NJ	90
Appalachian Trail PA Sec 6	PA	90
Appalachian Trail PA Sec 9	PA	87
Henry Hudson Trail	NJ	85
Manasquan Reservoir County Park	NJ	85
State Game Land ? Philips Canyon	PA	85
Tyler Arboretum Hike	PA	80
Monmouth Battlefield State Park	NJ	78
Tohickon County Park (Bucks)	PA	78
Brandywine Creek State Park	DE	77
Assunpink WMA	NJ	75
Mohonk Preserve	NY	70
Green Ribbon Trail	PA	66
Appalachian Trail NJ- Sec 1	NJ	65
Cheesquake St Park	NJ	65
D&R Canal State Park- Main (Raritan)	NJ	63
Edwin Forsythe Nat'l Wildlife Refuge	NJ	56
Md AT - Rt 340 to Weaverton	MD	56
Jacobsburg Environmental Center	PA	49
Lackawanna State Forest- Pinchot Trail	PA	48
Schuykill Ctr for Enviromental Education	PA	48
Deer Path Park	NJ	45

Hike	State	Cumulative Miles
Schooley's Mountain County Park	NJ	45
Stokes State Forest	NJ	44
Huber Woods	NJ	36
Plainfield Township Recreational Trail	PA	36
West Chester	PA	33
Wells Mills Lake (Ocean Cty)	NJ	31
Philadelphia-Germantown	PA	30
Duke Island Park	NJ	28
Voorhees State Park	NJ	28
Plainsboro Preserve	NJ	25
Spruce Run Recreation Area	NJ	25
Haddonfield	NJ	24
Split Rock Reservoir Loop	NJ	24
Musconetcong Gorge	NJ	22
Minnewaska State Park	NY	21
Catoctin Mountain Park	MD	20
Cunningham Falls State Park	MD	20
Norvin Green St Park	NJ	20
Appalachian Trail PA Sec 11	PA	18
Appalachian Trail PA- Sec 12	PA	18
Gambrill State Park	MD	15
South Moutain State Park	MD	10
Belleplain State Forest	NJ	7

Appendix D: Underutilized Hike Sites

Hike Site	State	Hike Site	State
Bald Eagle State Forest	PA	Middle Run Natural Area	DE
Big Pocono State Park	PA	Lums Pond State Park	DE
Black Moshannon State Park	PA	Trap Pond State Park	DE
Caledonia State Park	PA	White Clay Creek Preserve	DE
Colonel Denning State Park	PA	Appalachian Trail PA- Sec 7	PA
Conestoga Trail	PA	Appalachian Trail PA- Sec 8	PA
Conestoga Trail- Kellys Run	PA	Appalachian Trail PA- Sec 14	PA
Crow's Nest Preserve	PA	Appalachian Trail PA- Sec 10	PA
Darlington Trail (Perry County)	PA		
Delaware and Hudson Trail (Pike County)	PA		
Delaware Water Gap NRA- Mc Dade Trail	PA		
Evansburg State Park	PA		
Gettysburg National Military Park	PA		
Gifford Pinchot State Park	PA		
Hibernia County Park	PA		
Holtwood Recreational Area-Kelly's Run	PA		
Horseshoe Trail 1- Chester County	PA		
Horseshoe Trail 2- Berks County	PA		
Horseshoe Trail 3- Lancaster County	PA		
Horseshoe Trail 4- Southern Lebanon County	PA		
Horseshoe Trail 5- Dauphin County	PA		
Horseshoe Trail 6- Northern Lebanon County	PA		
Kings Gap Environmental Center	PA		
Lancaster Central Park	PA		
Little Pine State Park	PA		
Mason Dixon Trail Sec 1	PA		
Mason Dixon Trail Sec 2	PA		
Mason Dixon Trail Sec 3	PA		
Mason Dixon Trail Sec 4	PA		
Mason Dixon Trail Sec 5	PA		
Mason Dixon Trail Sec 6	PA		
Mason Dixon Trail Sec 7	PA		
Mason Dixon Trail Sec 8	PA		
Mason Dixon Trail Sec 9	PA		
Mason Dixon Trail Sec 10	PA		
Michaux State Forest	PA		
Mid State Trail	PA		
Middle Creek Wildlife Management Area	PA		
Moshannon State Forest	PA		
Nottingham County Park	PA		
Rothrock State Forest	PA		
Sprout State Forest	PA		
Tobyhanna State Park	PA		
Warwick County Park	PA		
York Heritage Trail	PA		
Allaire State Park	NJ		
Batona Trail	NJ		
Clayton Park (Morris County)	NJ		
Haddonfield	NJ		
Hartshorne Woods	NJ		
Mahlon Dickerson Reservation	NJ		
Palisades State Park	NJ		
Ringwood State Park	NJ		
Six Mile Run Reservoir	NJ		
Cape Henlopen State Park	DE		

Sources:

Appalachian Mountain Club, Delaware Valley Chapter
Delaware Department of Natural resources and Environmental Control
Horseshoe Trail Club
Keystone Trails Association
Maryland Department of Natural Resources
Mason Dixon Trail System
Mid State Trail Association
National Park Service
New Jersey Department of Environmental Protection
New York/New Jersey Trail Conference
New York State Office of Parks, Recreation and Historic Preservation
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