NEW YORK STATE OF OPPORTUNITY. | Department of Environmental Conservation

CANISTEO RIVER BASIN UNIT MANAGEMENT PLAN

DRAFT

Towns of Cameron, Greenwood, Hornellsville, Howard, Jasper, Rathbone

County of Steuben

February 2018

DIVISION OF LANDS AND FORESTS
Bureau of Forest Resource Management, Region 8

DIVISION OF FISH AND WILDLIFE
Bureau of Wildlife, Region 8

7291 Coon Road
Bath, New York 14810

www.dec.ny.gov

NYS Department of Environmental Conservation's 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)

Preface

It is the policy of the New York State Department of Environmental Conservation (the Department) to manage state lands for multiple benefits to serve the people of New York State. This plan has been developed to address management activities on this unit for the next 10-year period. (Factors such as budget constraints, wood product markets, and forest health problems may necessitate deviations from the scheduled management activities.)

The Unit Management Planning Process

New York State's management policy for public lands follows a multiple use concept established by New York's Environmental Conservation Law. This allows for diverse enjoyment of state lands by the people of the state. Multiple use management addresses all demands placed on these lands, such as: watershed management, timber management, wildlife management, mineral resource management, rare plant and community protection, recreational use, taxes paid, and aesthetic appreciation.

In this plan, an initial resource inventory and other information is provided, followed by an assessment of existing and anticipated uses and demands. This information is used to set goals and management objectives. Management actions tables provide an estimated cost and timetable for accomplishing these objectives.

Strategic Plan for State Forest Management

This unit management plan is designed to implement the Departments Statewide Strategic Plan for State Forest Management (SPSFM). Management actions are designed to meet local needs while supporting statewide and eco-regional goals and objectives.

The SPSFM is the statewide master document and Generic Environmental Impact Statement (GEIS) that guides the careful management of natural and recreational resources on State Forests. The plan aligns future management with principles of landscape ecology, ecosystem management, multiple use management and the latest research and science available at this time. It provides a foundation for the development of Unit Management Plans. For more information on management planning, see SPSFM page 21 at http://www.dec.ny.gov/lands/64567.html.

Prepared by the Canisteo River Basin Unit Management Planning Team:

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Acknowledgments

The Canisteo River Basin Unit Management Planning Team would like to gratefully acknowledge the efforts of all those who contributed to this plan. We particularly would like to thank the following people for information and review they provided:

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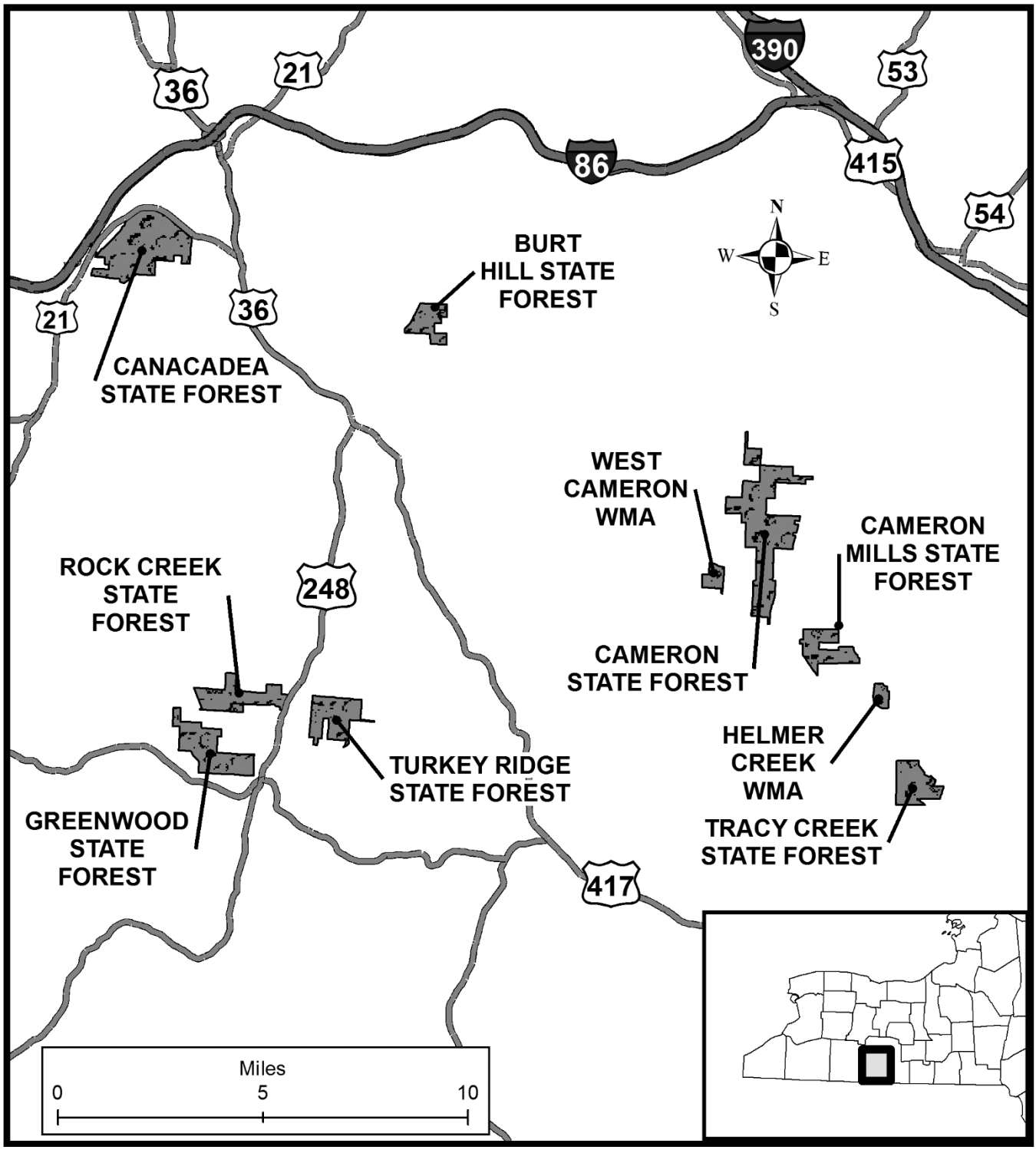
CANISTEO RIVER BASIN UNIT LOCATION MAP

Additional maps are in Appendix M: Maps, starting on page 182.



INFORMATION ON THE UNIT

Identification

The approximately 7,727 acre Canisteo River Basin Unit (Unit) includes eight State Forests (SF) and two Wildlife Management Areas (WMA). For management purposes, each state forest is consecutively numbered in the order in which they were acquired in each county, or two county combinations. WMAs are commonly referred to by name.

These ten properties are managed by two different Bureaus within the Department; Under the Division of Fish and Wildlife - Bureau of Wildlife (Wildlife) or, under the Division of Lands & Forests - Bureau of Forest Resource Management (Forestry).

The foresters and forest technicians within the Bureau of Forest Resource Management manage more than 780,000 acres of State Forests (SF), which include Reforestation Areas, Multiple Use Areas, Unique Areas, State Nature and Historical Preserves, and approximately 800,000 acres of Conservation Easements throughout the State. These lands are managed to provide watershed protection, wildlife habitat, ecosystem health, timber production, and recreation opportunities. Within this Unit, that includes Burt Hill SF, Cameron SF, Cameron Mills SF, Canacadea SF, Greenwood SF, Rock Creek SF, Tracy Creek SF, and Turkey Ridge SF.

The staff of the Bureau of Wildlife are responsible for managing all the wildlife species in the State of New York. In addition, wildlife biologists, wildlife technicians, foresters, and forest technicians are responsible for more than 200,000 acres of land which has been purchased by the State and designated as Wildlife Management Areas (WMA) or occasionally Unique Areas or Multiple Use Areas. These properties are managed to provide quality wildlife habitat and wildlife dependent recreational opportunities. Within this Unit, that includes Helmer Creek WMA and West Cameron WMA.

The Division of Operations serves as the centralized support service unit to design, build, operate and maintain the Departments infrastructure.

The use of this Unit is important to the economy, and to the health and well-being of the people of the state.

Table 1: Size of the State Lands in this Unit Management Plan

Name	State Forest Number	Acreage	Est. Boundary Line (Total Exterior)*	Est. Road Frontage*
Burt Hill SF	Steuben Reforestation Area # 19	398	4.3 miles	1.3 mile
Cameron SF	Steuben Reforestation Area # 4	1,996	16.3 miles	4.9 miles
Cameron Mills SF	Steuben Reforestation Area # 18	544	5.9 miles	1.3 miles
Canacadea SF	Steuben Reforestation Area # 15	1,632	8.4 miles	0 miles
Greenwood SF	Steuben Reforestation Area # 1	911	7.2 miles	1.2 miles
Helmer Creek WMA	N/A	126	1.8 miles	0.8 miles
Rock Creek SF	Steuben Reforestation Area # 12	704	7.0 miles	1.3 miles
Tracy Creek SF	Steuben Reforestation Area # 16	568	4.6 miles	1.0 miles
Turkey Ridge SF	Steuben Reforestation Area # 17	683	6.9 miles	0.3 miles
West Cameron WMA	N/A	165	2.4 miles	<0.1 miles
	Total	**7,727**	**64.8 miles**	**12.2 miles**

*Exterior boundary and road frontage are calculated values from ArcGIS; road frontage is on roads open for public vehicle use, and does not include the Department interior administered roads. In areas where the Department owns on both sides of a road only one length was added to the total.

Table 2: Web Page and Location

Name	NYS DEC Web Page	County	Town(s)	WMU
Burt Hill SF	www.dec.ny.gov/lands/37436.html	Steuben	Howard	8T
Cameron SF	www.dec.ny.gov/lands/38940.html	Steuben	Cameron	8T
Cameron Mills SF	www.dec.ny.gov/lands/38892.html	Steuben	Cameron	8T
Canacadea SF	www.dec.ny.gov/lands/38917.html	Steuben	Hornellsville	8X
Greenwood SF	www.dec.ny.gov/lands/38937.html	Steuben	Greenwood	8X

Name	NYS DEC Web Page	County	Town(s)	WMU
Helmer Creek WMA	www.dec.ny.gov/outdoor/24438.html	Steuben	Rathbone	8T
Rock Creek SF	www.dec.ny.gov/lands/37458.html	Steuben	Greenwood	8X
Tracy Creek SF	www.dec.ny.gov/lands/37444.html	Steuben	Rathbone	8T
Turkey Ridge SF	www.dec.ny.gov/lands/37443.html	Steuben	Greenwood and Jasper	8X
West Cameron WMA	www.dec.ny.gov/outdoor/24447.html	Steuben	Cameron	8T

History of the Canisteo River Basin Unit

The Unit was inhabited prior to the Revolutionary War by the Seneca Native American Tribe. This tribe was part of a larger group, known as the Iroquois Confederacy. The Iroquois, or Haudenosaunee – meaning “people of the long house”- consist of six tribes or nations: the Mohawks, the Oneidas, the Onondagas, the Cayugas, the Senecas and the Tuscaroras (joining the confederacy in 1722). The Iroquois thrived by hunting, fishing and farming on the local landscape; their population was estimated around 9,000 just before the outbreak of the American Revolutionary War in 1775. During the Revolutionary War, General John Sullivan was commissioned to open western New York to people of European descent. This began a series of skirmishes that eventually led to the removal of the Senecas from the area. Many of Sullivan’s soldiers, having observed the potential for agriculture from the Senecas, eventually settled in the area.

In 1788, Oliver Phelps and Nathaniel Gorham purchased 2,600,000 acres from the State of Massachusetts, which owned all the land known as “western” New York. The pre-emption line delineated the boundary between New York and “western” New York. In 1789 part of this land was granted by quick-claim deed to Arnold Potter. After this Potter offered the land to settlers at very low prices. In 1790, they sold 1,250,000 acres to Robert Morris, who sold 750,000 acres to William Pulteney. Colonel Charles Williamson was the chief land agent for the Pulteney purchase. He sub-divided the Pulteney tract and sold by contract to individual homesteaders.

The various towns surrounding the unit were settled starting as early as 1796, and as late as 1844. From 1870- 1900 much of the area was cleared for many types of wood products, mainly lumber. Much of the lumber as well as other products went down the Canisteo River on “arks” and found their way to the Chesapeake Bay. Once the area was depleted of timber, farming began.

By the late 1800's only 30% of the land area was forested, the remainder having been cleared for agriculture. The Industrial Revolution combined with soils poorly suited to long-term agriculture, began another change. By 1900, many agricultural farms in the upland areas of Steuben County were abandoned. Over time these areas have reverted back to forest land.

Information on the Unit

In response to the decline of agriculture and the demand that the abandoned and eroding farmlands be returned into productive activity, the New York State legislature passed the "Reforestation Act of 1929" followed shortly by the 1931 Hewitt Amendment. This legislation authorized the Conservation Department to acquire land by gift or purchase for reforestation purposes. These State Forests consisting of not less than 500 contiguous land, were to be forever devoted to "reforestation and the establishment and maintenance thereon of forests for watershed protection, the production of timber, and for recreation and kindred purposes". Shortly afterwards, the nation was plunged into the Great Depression, accelerating the abandonment of agricultural lands.

Wildlife Management Areas have a varied history of acquisition. Many were gifted to the New York State by the Federal Government or other cooperating public or private organization. Some parcels were purchased with Bond Act funds or Federal Aid in Wildlife Restoration Program funds. The latter which is commonly called the Pittman-Robertson Act is a federal fund supported by hunters from their purchase of firearms and ammunition.

In 1933, the Civilian Conservation Corps (CCC) was begun. Thousands of young men were assigned to plant millions of trees on the newly acquired state and national lands. In addition to tree planting, these men were engaged in road and trail building, erosion control, watershed restoration, forest protection, and other projects.

During the war years of 1941-1945, little was accomplished on the state and national areas. Plans for further planting, construction, facility maintenance, and similar tasks had to be curtailed. However, through postwar funding, conservation projects once again received needed attention.

The Park and Recreation Land Acquisition Act of 1960 and the Environmental Quality Bond Acts of 1972, 1986 and 1996 contained provisions for the acquisition of additions to state properties, unique properties, and areas which provide open space or special recreational opportunities. These lands would serve multiple purposes involving the conservation and development of natural resources, including the preservation of scenic areas, watershed protection, forestry, and recreation. Today properties purchased under these acts are collectively known as Unique Areas, Multiple Use Areas or lumped in with earlier purchases as part of a State Forest or Wildlife Management Area.

Burt Hill State Forest

Burt Hill SF was acquired in 1962 under the Park and Recreation Land Acquisition Bond Act for $7,565.00. It was designated Multiple Use Area Steuben 34.1 / Steuben Reforestation Area 19, and later named Burt Hill SF. The acquisition paperwork includes the note: "The designation "Reforestation Area" for this parcel is made for identification purposes only, and does not describe or designate the purpose for which it is being acquired." Through 1974 several Temporary Revocable Permits (TRPs) were issued to the Canisteo Valley Archers for a field archery course, all evidence of the archery course has since been removed.

Cameron State Forest

This is the fourth Reforestation Area in Steuben County, with the first parcels purchased in 1934 and 1935, then a pause for WWII followed by additional purchases in 1947, ’48, ’50, and ’51. Then additional parcels were added in 1964 and ’65 under the Park and Recreation Land Acquisition Act. In most cases these were from individuals or families, but in a couple of cases it was from the executer/executrix for the late owner. In most cases any buildings were completely removed, however in the case of The Stone House, built in 1876, located on Stone House Rd, this proved difficult to do. For many years the outer stone walls remained standing, but in recent years they’ve finally started to crumble, and now most of it has fallen.

Three ponds were built on the Cameron SF for wood duck habitat in the 1950's and late 60's. These were built through a cooperative effort of state, county and federal government. Cameron Pond and the Public Forest Access Road providing access to it was completed in 1970. The gas pipeline that crosses the majority of the property was constructed in 1974. In 1960 a portion of West Cameron Rd was moved to a new location.

Cameron Mills State Forest

The acquisition of this SF began in 1948 and was finalized in 1963 with the purchase of four separate parcels from three different landowners, for a total of $6,480.00 under the Park and Recreation Land Acquisition Act of 1960. These parcels were combined into Steuben Reforestation Area 18, which was later named Cameron Mills SF.

Canacadea State Forest

In 1941 the first couple of landowners sold to the Department to start this SF, additional reforestation acres were added in 1951. Then under two different Bond Acts additional parcels were added in 1963 and 1980. In 1946 about four acres were transferred to the US Dept. of Public Works for the Almond Dam flood control project, and then in 1967 about 60 acres were transferred from the US Army Corp to the Department. This property is accessed by two different right-of-way easements, only one of which is in regular use by staff and public. See the Concurrent Use & Occupancy, Deeded Exceptions, Easements, and Rights of Ways (pg. 21) for additional information.

Greenwood State Forest

This was the first State Forest in Steuben County, the first four landowners selling to the Department in 1931, with additional parcels added in 1946 and 1948, all for $4 per acre. In 1933 “Proposal E” was rejected because of title issues, but in 1966 was acquired from different owners under the 1960 Land Acq. Act. The most recent addition was in 1985, on which an unpaved Public Forest Access Road has been constructed.

This Greenwood SF was the site of the first natural gas well drilled on state property. In 1934 the first natural gas well was drilled on what is now the Greenwood SF by the Home Gas Company. During the same time period, several more wells were drilled on the state lands in the area. From August 18, 1934 through the 1954 report to the legislature, these

wells returned approximately $170,000 in revenue to the state. This does not include any revenue from current gas storage or forest management activities. Given that the Department acquired this property for just over $2,300, this represents a pretty fair return on investment.

When the gas supply was depleted, natural gas was pumped into these wells for storage. Transmission lines cross the unit with a pump station located just off state land on Rock Creek Rd in the town of Greenwood. For additional information on this natural gas storage lease (R-85948) between the State of New York and the Columbia Gas Co, see Concurrent Use & Occupancy, Deeded Exceptions, Easements, and Rights of Way, and Other Rights Outstanding in Third Parties section on page 21 for additional information or see Mineral Resources on page 36.

Helmer Creek Wildlife Management Area

Helmer Creek WMA was acquired in 1993 from the USDA Farmers Home Administration because it provides significant habitat for a state threatened species, the timber rattlesnake.

Rock Creek State Forest

The first purchase was made in 1938, with additional parcels added in 1941, 1947 and 1960. This property is subject of a natural gas storage lease (R-85948) between the State of New York and the Columbia Gas Co, see the Concurrent Use & Occupancy, Deeded Exceptions, Easements, and Rights of Way, and Other Rights Outstanding in Third Parties section on page 21 for additional information.

Tracy Creek State Forest

This was purchased from one landowner, in 1947 for $2,276.80. At the time of acquisition water rights to a spring were reserved, as well as a small 0.6-acre inholding. In 1963 Learn Rd was re-routed to its present location. In 1948 and 1956 records indicate wildland fire on this property.

Turkey Ridge State Forest

The first 570 acres from three landowners was acquired in 1947, all for $4 per acre under the Reforestation Act. In two cases, the selling of the property was done by the executrix of the will of the current owner. One parcel was rejected in 1947, but later sold by a different owner to the Department in 1963 under the Park and Rec. Acq. Act. In 1975 the most recent acquisition was done to provide better access, and shortly after acquisition the unpaved Public Forest Access Road was constructed on it.

West Cameron Wildlife Management Area

West Cameron WMA was deeded to the State of New York in 1947 to satisfy a mortgage loan against the property. The land was administered by the Office of General Services (OGS) until 1980 when the property was considered for possible public sale. A transfer of

jurisdiction was completed in 1982 from OGS to Wildlife. An additional 4-acre parcel was subsequently purchased to provide public access to the WMA.

Terrain

The Unit is located within the Susquehanna River Basin. The vast majority of acreage is located within the Canisteo River Basin, with a small portion located in the Cohocton River Basin. The Unit lies on the northern edge of the Allegheny Plateau. Elevations on the Unit range from 1,040 feet in Cameron Mills SF to 2,380 feet in the Turkey Ridge SF.

Elevations on Burt Hill SF vary from 1537 to 2119 feet above mean sea level (North American Datum of 1983). Significant terrain features are Stephen's Gulch and nearby Burt Hill. Aspect is variable and slopes are gentler overall than on other properties in this unit.

Elevations on Cameron SF vary from 1071 to 1882 feet above mean sea level (North American Datum of 1983). Significant terrain features include Oregon Hill and Cameron Pond. Aspect is variable. Rock outcrops predominate the steep sloping southwestern portion of the property facing the Canisteo River.

Elevations on Cameron Mills SF vary from 1040 to 1727 feet above mean sea level (North American Datum of 1983). Significant terrain features include Cameron Creek and a large sloping grassland. Aspect is variable.

Elevations on Canacadea SF vary from 1,249 to 2,066 feet above mean sea level (North American Datum of 1983). Significant terrain features include Newcomb Hill, Almond Lake and nearby Canacadea Creek. Aspect is variable.

Elevations on Greenwood SF vary from 1,600 to 2,370 feet above mean sea level (North American Datum of 1983). Significant terrain features include Greenwood Hill and Brown Hollow Creek. Aspect is variable.

Elevations on Helmer Creek WMA vary from 1,025 to 1,418 feet above mean sea level (North American Datum of 1983). The most prominent terrain feature is Helmer Creek. Aspect is variable.

Elevations on Rock Creek SF vary from 1,416 to 2,329 feet above mean sea level (North American Datum of 1983). Significant terrain features include Erskin Hollow Creek and Rock Creek. Aspect is variable.

Elevations on Tracy Creek SF vary from 1,080 to 1,688 feet above mean sea level (North American Datum of 1983). The most prominent terrain feature is Tracy Creek. Aspect is variable.

Elevations on Turkey Ridge SF vary from 1,662 to 2,380 feet above mean sea level (North American Datum of 1983). The most prominent terrain feature is Norton Hollow Creek. Aspect is variable.

Elevations on West Cameron WMA vary from 1,459 to 1,958 feet above mean sea level (North American Datum of 1983). Aspect is primarily east facing.

Climate

Climatic data is supplied by the United States Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS).

The average winter high temperature is 36° Fahrenheit and the average daily minimum temperature is 18°F. In summer, the average daily high temperature is 80°F. Plateau summits are markedly cooler than the lowland farming areas.

Annual precipitation averages 31-36 inches. Precipitation is well distributed throughout the year and is usually adequate for all crops.

Average seasonal snowfall is 70-75 inches. In winter, snow occurs frequently and covers the ground much of the time. Snow depths vary greatly with elevation, but on the average, snow depths are measurable for 3 months. The number of such days varies greatly from year to year.

Sunshine occurs for 65% of daylight hours in the summer and 30% in the winter.

The prevailing wind is from the west to southwest. Average wind speed is at its highest, 12 M.P.H., in February.

Taxes

State Forest lands acquired for reforestation purposes pursuant to Section 9-0501 of the Environmental Conservation Law (ECL) are subject to taxation for all purposes except county tax. These lands are listed on the respective Town Tax Rolls in Roll Section 3, as Taxable Lands of the State.

However, some individual proposals were not acquired under ECL 9-0501, but under a bond act or other unique authority, and are Wholly Exempt from real property taxes. These parcels are listed on the respective Town Tax Rolls in Roll Section 8 as Wholly Exempt properties.

Further confusing the situation, these two different types of individual proposals are often combined into a single state forest.

In general, unless specifically authorized and required by law, WMAs are exempt from real property tax.

Individual town tax rolls

Taxes on taxable State Land are handled just like a private owner's taxes, except all the tax bills are sent from the County Treasurers and go directly to the State Comptroller.

The Comptroller then pays the taxes to the County Treasurer's office, who passes the money on to the towns and school districts, in some way, shape, or form.

See also the History of the Canisteo River Basin Unit section (pg. 11), and Appendix C: Taxes paid on the Department Lands (pg. 137), lists the estimated taxes paid in 2014 on the lands of the Unit. Further details may be found in Section 534 of the Real Property Tax Law.

Landscape View of Existing Uses

The purpose of this section is to take a brief look at land use patterns beyond the boundaries of Department ownership. This plan only applies to the Canisteo River Basin Unit, but it does not exist in a vacuum.

The uses and conditions of the adjacent private and/or publicly owned land will impact the Unit and will be considered when planning actions on the Unit. This type of "landscape look" is valuable in helping to place the Unit in its proper context.

The land adjacent to the Canisteo River Basin Unit is largely owned by private landowners. One big exception is The US Army, Corps of Engineers, which administers a flood control reservoir adjacent to Canacadea SF.

The following table was created from the 2011 U.S. Geological Survey's National Land Cover Dataset. Note that this is a unified, nationwide, dataset. This dataset is also multi-resolution. All data for this table was extracted at a scale of 1:24,000. As such, results should be directly comparable from one town to the next. Note further that, given that the data is multi-resolution a different scale may produce slightly different results than this table displays.

As shown in the following table, all six towns are well forested, with agriculture also making up a large percentage of the towns.

Table 3: USGS Land Use and Land Cover Data

Please note that this data was extracted from the USGS Land Use and Land Cover data. Also, note that the data is displayed, by town, for the entire town. See Table 2: Web Page and Location (pg. 10) and Appendix M: Maps (pg.182) for which properties in which town.

	Cameron	Greenwood	Hornellsville	Howard	Jasper	Rathbone
11 - Open Water	0.59%	0.04%	0.52%	0.38%	0.06%	0.77%
21 - Developed Open Space	2.47%	3.56%	4.71%	3.28%	3.57%	2.56%
22 - Developed Low	0.1%	0.35%	1.73%	0.43%	0.19%	0.13%
23 - Developed Medium	None	0.06%	0.66%	0.04%	0.04%	0.01%
24 - Developed High	None	0.01%	0.16%	None	0.01%	None
31 - Barren Land	0.01%	0.03%	0.15%	0.12%	0.02%	0.01%
41 - Deciduous Forest	39.4%	50.2%	43.47%	30.91%	36.1%	36.6%
42 - Evergreen Forest	13.21%	3.47%	None	6.8%	3.25%	10.49%
43 - Mixed Forest	17.47%	5.31%	17.71%	10.55%	5.44%	16.94%
52 - Shrub / Scrub	1.75%	4.8%	1.94%	1.97%	4.04%	1.83%

	Cameron	Greenwood	Hornellsville	Howard	Jasper	Rathbone
71 - Grassland Herbaceous	0.07%	0.25%	0.87%	0.14%	0.12%	0.06%
81 - Pasture / Hay	14.73%	19.74%	18.31%	24.55%	33.07%	20.71%
82 - Cultivated Crops	12.97%	12%	8.41%	20.37%	14.07%	9.21%
90 - Woody Wetlands	0.13%	0.15%	0.98%	0.4%	0.01%	0.13%
95 - Emergent Wetlands	0.26%	0.03%	0.38%	0.06%	0.01%	0.55%

Roads

The Departments transportation system provides for both public and administrative access to the unit. The Canisteo River Basin Unit is accessed by a combination of Town, County and State Highways and public forest access roads (for those areas administered by Forestry) or the same categories of public highways and administrative access roads (for those areas administered by Wildlife). Department roads, and some town roads are not maintained for winter travel.

Many abandoned roads and old farm lanes are used as recreational trails. Roads and trails are constructed to standards that will provide reasonably safe travel and to keep maintenance costs at a minimum. There are six types of transportation corridors providing different levels of access, depending on the standards to which they are constructed. The Department reserves the right to limit access to state lands when public safety or resource damage issues occur.

The next several paragraphs give brief descriptions of the six types of roads that can be found on lands administered by Forestry.

Public Forest Access Roads (PFAR) - Permanent, unpaved roads which may be designed for all-weather use depending upon their location, surfacing and drainage. These roads provide primary access for administration and public use within the Unit. The design standards for these roads are those of the Class A and Class B access roads as provided in the Unpaved Forest Road Handbook (8/04)

Haul Roads - Permanent, unpaved roads which are not designed for all weather travel, but may have hardened or improved surfaces with artificial drainage. They are constructed according to best management practices primarily for the removal of forest products or other management needs. They provide limited access within the Unit for log trucks and other heavy equipment. These roads may or may not be open for public motor vehicle use, depending on management priorities and objectives. They may serve as recreational access corridors, but are not maintained according to specific standards or schedules. The design standards for these roads are below those of the Class B access roads as provided in the Unpaved Forest Road Handbook.

Access Trails - Temporary, unpaved roads which do not provide all weather access within the Unit. They are not designed for long term and repeated use by heavy equipment. These corridors were originally constructed for the seasonal removal of forest products by skidding

to landings or other staging areas. Constructed according to best management practices, these trails may be used to support other management objectives such as recreational access corridors. Maintenance is limited to activities which minimally support seasonal access objectives.

Recreational Trail - Unpaved recreational corridors which do not provide all weather access within a Unit, and are designed to achieve specific recreational access objectives. Constructed according to best management practices, and following accepted regional standards for design, these trails may be used to support multiple types of seasonal recreation access. Maintenance is limited to activities which minimally support the access objectives and design.

Public Road - Permanent, paved or unpaved roads primarily designed for motor vehicle travel which are maintained by federal, state or local government. These roads may or may not provide year-round access.

Rights-Of-Way (ROW) - Permanent, paved or unpaved roads which allow the Department access to state properties while crossing private land, or, corridors across state properties allowing access to private in-holdings.

The PFARs and haul roads are all maintained by the Department and the access trails that are accessible by mower are also maintained. The PFARs are open to the public use all year round but are not maintained during the winter months. The haul roads and access trails are used by the public for hiking, biking, cross country skiing, and snowshoeing. The public forest access roads, haul roads and some of the access and recreation trails are used by the Department for administrative access. See Appendix M: Maps (pg.182) for names and types of roads and trails. There are also many other unmarked trails connecting some of the access trails.

Burt Hill SF has no Department roads on it.

Cameron SF has about 900 ft. of PFAR ending at the Cameron Pond parking lot. In addition, there is a haul road about 0.2 mile long which connects to the gas transmission line bisecting the property. The gas line has about 3 ½ miles that can also be used for administrative access to sections of the property.

Cameron Mills has about ¼ mile of Haul Road to the west of Pump Station Rd and about 0.4 mile of access Rd to the east.

Canacadea SF contains about 2.3 miles of PFAR accessible from Erie Ave. in the Town of Almond. The road forks near the top of the hill, the right fork ends at a turnaround/ parking area, and the left fork ends at a beautiful overlook of Almond Lake (there is also a turnaround/ parking lot).

Greenwood SF has one PFAR, it is about 0.3 mile long and ends in a turnaround / parking lot. There is a haul road that provides access to the well pads and gas pipeline. It is slightly longer than a half mile, there is also about a mile of gas pipe line, some of which can be used to access sections of the property.

Information on the Unit

Helmer Creek WMA has a total of approximately 0.2 miles of PFAR, split between two locations, the longest section is off of CR 119, the rest is off of CR 24. Behind the gate is 0.2 miles of haul road that provides additional access to the interior property.

Rock Creek SF has a total of about 1.5 miles of PFAR, about 0.8 miles heading east and 0.7 miles heading south from the end of O'Hargan Rd.

Tracy Creek SF has about 1 mile of haul road which is accessed off of Tracy Creek Rd.

Turkey Ridge SF contains a 0.6 mile PFAR which is accessed from Norton Hollow Rd. near the intersection of Woodworth Rd. The access road ends at a turnaround / parking lot.

West Cameron WMA has approximately 0.1 miles of PFAR off Angel Road. There is also an additional 0.4 mile of interior haul road behind the gate, to provide better access to the interior property.

In general, the various properties of this Unit are well served by State, County, and Town roads systems. All town and county highways are assumed to exist as a result of a prescriptive easement. Stated another way, they were established by use, rather than through a specific legal dedication process, and there are no deeds conferring the right to construct them. Since these are prescriptive easements they are limited to the width actually occupied by the highway, subject to a 49.5 foot (3 Rods) maximum width. The only exception to this might be where recent road or bridge projects necessitated acquisition of a dedicated easement. The prescriptive easement is for highway purposes only; no right exists to "sub-let" the easement to utility companies.

All state highways were acquired through appropriation by NYS DOT. The deeds from the previous owners to the Department generally excepts these areas. The boundaries depicted in this plan for the state highways are reasonably accurate. However, prior to beginning projects which involve the state highways, reference should be made to the actual appropriation documents for the pertinent highway segment.

Table 4: State, county, and town highways which serve the various state lands in this plan.

See also Appendix M: Maps, page 182.

Property	Road Name	Jurisdiction
Burt Hill SF	Burt Hill Rd	Town of Howard
	Feenaughty Hill Rd	Town of Howard
Cameron SF	Stone House Rd	Town of Cameron
	CR 10 / Bath-Cameron Rd	Steuben County
	Oregon Rd	Town of Cameron
	Gulf Rd	Town of Cameron
	West Cameron Rd	Town of Cameron
	Interior Rds. and Parking	NYS DEC

Property	Road Name	Jurisdiction
Cameron Mills SF	Pump Station Rd	Town of Cameron
	CR 119 / Canisteo River Rd	Steuben County
	Interior Rds. and Parking	NYS DEC
Canacadea SF	Depot Rd	Town of Almond
	Interior Rds. and Parking	NYS DEC
Greenwood SF	Brown Hollow Rd	Town of Greenwood
	Interior Rds. and Parking	NYS DEC
Helmer Creek WMA	CR 24 / Welch Rd	Steuben County
	CR 119 / Canisteo River Rd	Steuben County
	Interior Rds. and Parking	NYS DEC
Rock Creek SF	Erskine Hollow Rd	Town of Greenwood
	O'Hargan Rd	Town of Greenwood
	Van Sickle Rd	Town of Greenwood
	State Route 248	NYS DOT
	Interior Rds. and Parking	NYS DEC
Tracy Creek SF	CR 80 / Tracy Creek Rd	Steuben County
	Learn Rd	Town of Rathbone
	Saunders Rd	Town of Rathbone
	Interior Rds. and Parking	NYS DEC
Turkey Ridge SF	Norton Hollow Rd	Town of Greenwood
	Norton Hollow Rd	Town of Jasper
	Interior Rds. and Parking	NYS DEC
West Cameron WMA	Angel Rd	Town of Cameron
	Interior Rds. and Parking	NYS DEC

Concurrent Use & Occupancy, Deeded Exceptions, Easements, Rights of Way, and Other Rights Outstanding in Third Parties

Concurrent occupancy and use agreements, or boundary line agreements, are known for this Unit. There are deeded exceptions for utility rights of way and easements as they may exist on the date of acquisition by the state for all properties in this Unit.

As part of our inventory efforts a reasonably accurate GIS coverage has been created of the utilities in place as of the dates the individual units were last inventoried.

Information on the Unit

Utility companies include:

- Electricity: New York State Electric & Gas (NYSEG)
- Telephone: Armstrong Telephone; Verizon Telephone; Verizon Fiber Optic; Frontier Communications (both conventional copper and fiber optic); Bell Atlantic
- Natural Gas: Arlington Storage; Columbia Pipeline Group

See Appendix M: Maps (pg. 182) for locations of roadside utilities.

Most of the properties of this Unit have had one or more minerals related use activities or agreements. For additional information on this see the Mineral Resources section for information about oil and gas production, starting on page 36.

Burt Hill SF - Outstanding rights to remove the buildings on the property are noted in the acquisition paperwork. These rights are long expired; buildings were either removed or demolished by Department forces.

Cameron SF - There is a ROW associated with Proposal K, on the southerly portion of this property. It runs from County Route 10 to the easterly bounds of this Proposal. There is a lot of natural gas activity in close proximity to this property. The property has a very small portion held under a storage lease with Steuben Gas Storage. There is also a large natural gas pipeline which crosses this forest, north to south.

Cameron Mills SF - No outstanding rights noted in the acquisition paperwork.

Canacadea SF - There are several exterior ROW associated with this property. Including a ROW 2 rods in width running from Erie Street Rd to the easterly line of Proposal C. This ROW is the location of the current PFAR. The second ROW is 16’ in width, and runs from State Route 21 to the northerly edge of the railroad ROW. This serves Proposal H. Note that this ROW, due to its narrow width, its location, and the fact that it does not extend across the railroad, is nearly unusable. The third possible ROW is that the Department **may** have rights to the bed of the former Erie St / Rd, as well as the underpass providing access under the former Erie Railroad (now Western New York and Pennsylvania Railroad). This could provide additional access to the northern portion of this property. An opinion from the Bureau of Real Property or Department legal staff should be sought prior to attempting any action.

Greenwood SF - There are no known ROWs in favor of the state, exterior to this property. However, this state forest has a long history with oil and gas development. Proposals A, B, C, D, G, and F are the subject of a natural gas storage lease between the State of New York and the Columbia Gas Co. As a result, there are numerous storage wells, field pipe lines, and ancillary structures on this property. In addition to the storage lease, above, there is also a ROW for a petroleum pipeline on this forest, the National Transit Pipeline Co. (A SOCNY subsidiary company).

Helmer Creek Wildlife Management Area - There are no known ROWs in favor of the state, exterior to this property. However, there is an underground fiber optic cable line that runs the length of the eastern boundary along County Route 24 for Bell Atlantic. There is also an overhead electric service for NYSEG on the property. This line runs along the southern portion of the property from County Road 24 to County Route 119. NYSEG has a utility easement for the overhead electric service line. Also, the survey map shows a water source

near the northeast line being used by the adjoining property owner. Finally, there is a boundary line agreement on the western boundary line of the property. There is a 12 by 12 foot cemetery in-holding off county road 24 adjacent to the gate, which is surrounded by fence and survey pins.

Rock Creek SF - There are no known ROWs in favor of the state, exterior to this property. See the discussion regarding the storage lease for Greenwood SF, above. The same storage lease also affects this forest. Proposals A, B, C, D, and E are covered. There are numerous storage wells, field pipe lines, and ancillary structures on this forest. There is a question of title regarding the east line of Proposal D. Questions were submitted to the Albany office Bureau of Real Property in 2002.

Tracy Creek SF - There has been a lot of oil and natural gas activity both on and around this property. The Rathbone natural gas field was discovered in 1931, with wells drilled through about 1934. Three wells were believed to have been drilled on this state forest. Two are believed to have been plugged and abandoned. The wells are not believed to have had a pipeline associated. There are title questions on the northeasterly line of this property. These questions were forwarded to Albany office Bureau of Real Property / legal staff in 2000. There is an exception for water rights to a spring in the northeast corner of the property. These rights were originally reserved in a deed to the Whitmore family in 1867. As of 1947 the rights were still in use per the neighbor on the east. This property was purchased subject to a “timber deed” given to Lee Wheaton of Horseheads, NY. It included any and all trees above 8” stump diameter. This timber deed expired on April 17, 1947.

Turkey Ridge SF - There has been a lot of oil and natural gas activity around this property. See the sections regarding Greenwood and Rock Creek SFs, above, as many of the same issues occur on this forest. Proposals A, B, and C are subject to a ROW to Charles J. Hepburn, and later assigned to SOCNY for a petroleum pipeline. The pipe for this pipeline is still “in the ground” although the section on this state forest is no longer in use. It was replaced by a section of Columbia Natural Gas Corp. A – 5 line located on a different location. This pipeline was built under terms and conditions of a Temporary Revocable Permit.

West Cameron Wildlife Management Area - A quarter acre permanent easement exists along the southern property line. There are no known utilities located on West Cameron WMA. There are no known ROWs in favor of the state, exterior to this property.

Recreation

As is often the case, recreational use can be concentrated in certain areas and have seasonal variation. Wildlife-related recreation, including wildlife viewing, hunting, fishing and trapping, is the dominant and important use of the Unit. Consult the NYS DEC Hunting and Trapping, and the Fishing Regulations Guides for seasons, hours, and bag limits. Users are encouraged to adhere to ethical standards and consider other recreationalists.

Many of the recreation facilities started out as farm lanes, skid roads, town roads, log landings, etc. After they were no longer used for the original purpose they were converted to

recreational use. On occasion, as part of the active management, or other safety concerns, sections of trails, roads, parking lots, etc. may need to be temporarily closed to public use.

Depositing or leaving rubbish or waste material is prohibited. Cutting, removing, or destroying any living, or standing dead trees or plants is prohibited without written permission.

Additional information on the planned actions related to recreation can be found in the Public Recreation and Use Management section on page 102. Appendix D: Facilities (pg. 142) is a table of recreation and other facilities located on this unit.

State Forest vs. Wildlife Management Areas

There are different regulations regarding public use of Wildlife Management Areas, State Forests and State Parks. Please pay attention to what kind of public land you are using, what activities are allowed, and what are not allowed.

Recreation Opportunity Spectrum

The Recreation Opportunity Spectrum (ROS) is a USDA Forest Service developed scale of recreational settings, activities, and opportunities. This rainbow of opportunities ranges from an urban park to the primitive wilderness. Although the Department does not follow the precise categories that the Forest Service does, and the Department properties are not divided into the same categories, it is a useful guideline when considering recreational use and expectations of a Unit. State forests and state wildlife management areas fall near the primitive/wilderness end, in that it has much less development than Central Park in NY City, but more than can be found in most of the backcountry of Alaska.

The Forest Service web site at www.treesearch.fs.fed.us/pubs/6014 has additional information on the Recreation Opportunity Spectrum.

Off-Road Vehicle Use

There are no designated Off-Road Vehicle (ORV) trails on this Unit. New York State Vehicle and Traffic Law prohibits All-Terrain Vehicle (ATV) use on Public Highways which, by definition, also include Public Forest Access Roads, unless such roads are specifically designated for ATV use. ATV and ORV riding is not a specific program offered on Department properties. Existing management actions, poor soils, conflicts with other uses, impacts on neighboring residents, safety concerns, maintenance costs and challenges, and existing issues with illegal ATV and ORV use were some of the factors which have prevented the Department from developing ORV or ATV trails in the past. However, people with qualifying mobility impairments who possess a valid permit from the Department may operate ATVs on specifically designated and signed accessible trails. See Access for Persons with Disabilities (pg. 30), or visit www.dec.ny.gov/outdoor/2574.html. For more information regarding ATV access to State Forest please refer to the SPSFM, found online at www.dec.ny.gov/lands/64567.html.

Camping

Different camping regulations apply to State Forests and Wildlife Management Areas. Check current regulations prior to arriving.

Overnight camping is permitted on State Forests, however camping is not allowed within 150 ft. of any road, trail, spring, stream, pond, or other water source unless it is a designated campsite, see below for a list of designated sites. For groups of less than 10 people and for up to 3 nights, no permit is required. Longer stays, up to 14 days, and/or larger groups are allowed to camp with a free permit obtained from the NYS DEC Forest Rangers, at the Bath sub-office. Regardless of location, camping sites must be left in a neat, clean, and sanitary condition.

Camping is not allowed on Helmer Creek or West Cameron WMAs.

As stated earlier, camping is not allowed within 150 ft. of any road, trail, spring, stream, pond, or other water source unless it is a designated campsite. Table 5 is a list of designated sites, for the Canisteo River Basin Unit. See also the Recreation and Other Facilities Maps in Appendix M: Maps (pg. 182) and Public Recreation and Use Management (pg. 102).

Table 5: Designated State Forest Camp Sites:

State Forest	Designated Campsite	Description
Burt Hill SF	Burt Hill Lean-to	lean-to, fire ring, pit privy and picnic table
	Burt Hill Parking Lot	These are primitive camping sites, a semi-flat spot to set up on, but no other amenities.
Cameron SF	Cameron Pond Parking Lot	
	Cameron Pond Field (western edge)	
	W. Cameron Rd Parking Lot	
	Pipeline Gate Parking Lot	
	CR 10 Field	
Cameron Mills SF	(none)	
Canacadea SF	Scenic Overlook Parking Lot	
	MacDuff Parking Lot	
Greenwood SF	Greenwood South Parking Lot	
Rock Creek SF	Rte. 248 Parking lot	
	Wellhead Access Rd (NOT at the well head)	
	O'Hargan Rd Parking Lot	
Tracy Creek SF	Log Landing Parking Lot	
Turkey Ridge SF	Norton Hollow Rd Parking Lot	
	Turkey Rd Parking Lot	

Hunting and Trapping

Hunting and trapping are valuable wildlife management methods and popular outdoor activities on the lands and waters of the unit (see also the Recreation (pg. 21), Fish, Wildlife and Habitat (pg. 51) and Timber and Vegetation (pg. 40) sections). For hunting, both big and small game opportunities exist, with white-tailed deer being the most popular species hunted.

The Canisteo River Basin Unit spans two different Wildlife Management Units (WMUs), 8T (Helmer Creek WMA, West Cameron WMA, Cameron, Cameron Mills, and Tracy Creek SF) and 8X (Canaseraga, Rock Creek, and Turkey Ridge SF). There are 92 Wildlife Management Units in the state, ranging in size from approximately 100 to 3,000 square miles each. In this case WMU 8T is 385 square miles, and 8X is 401 square miles in size. Each WMU not only encompasses land containing similar physical attributes such as topography, soils, land cover, and elevation, but also of similar human-related attributes such as population density, development, and road density.

Small game hunting prospects are numerous and varied on the Unit. Ruffed grouse, woodcock, cottontail rabbit, grey squirrel, turkey and coyote are some favorite species pursued. There is limited marsh habitat to be found on the Unit, but some waterfowl hunting occurs, primarily for Canada geese and puddle ducks.

Although no specific harvest estimates exist for Canisteo River Basin Unit in particular, the Department does compile and maintain estimates for most of the species listed above on a regional, or WMU basis.

Season dates for hunting and trapping seasons on the Unit follow those for WMUs 8T and 8X, and range from early September through late March, with the bulk of activity occurring October through December. As far as other laws or regulations are concerned, all existing federal and state rules apply, as well as any that may be specific to Steuben County.

Deer and Black Bear Harvest

Because of the extent of forest cover on the areas, deer hunting on the Unit is primarily a forest-based activity. Deer hunters perform a valuable service to the State and local communities by being the tool the Department uses to regulate deer numbers. Deer hunters are reminded that permanent tree stands are prohibited on the Unit, as well as on all State lands. Also prohibited is any equipment that damages trees, including screw-in steps, eye-hooks, etc. Temporary stands may be used, on WMAs they must be removed at the end of each day, on SF they may be left for the season, if they are marked with the owners contact information.

Whitetail deer populations are monitored by using the buck take in the legal harvest as an index to the overall population. The Buck Take Objective (BTO) is the desired harvest for a WMU set by a Citizens Task Force (see www.dec.ny.gov/animals/7207.html for more information on Citizen Task forces). The BTO for WMU's 8T is 4.8 and 8X is 4.1, which is at the higher end of deer population levels as compared to other WMU's across the state. These higher allowable deer populations require careful monitoring of negative impacts to the environment such as excessive browsing of tree seedlings.

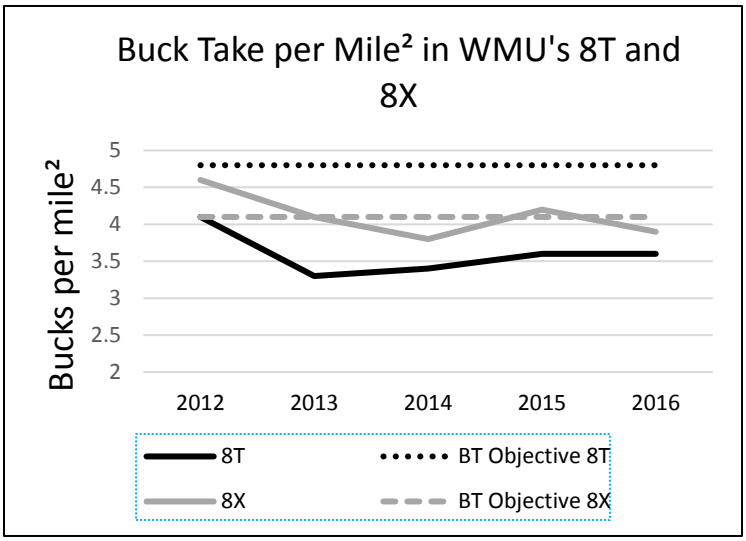
The deer population of WMU 8T has been below objective for some time now. It can be expected to see a gradual increase in the deer population more in line with the BTO over the life of this plan barring either a change in BTO or harsh winter conditions.

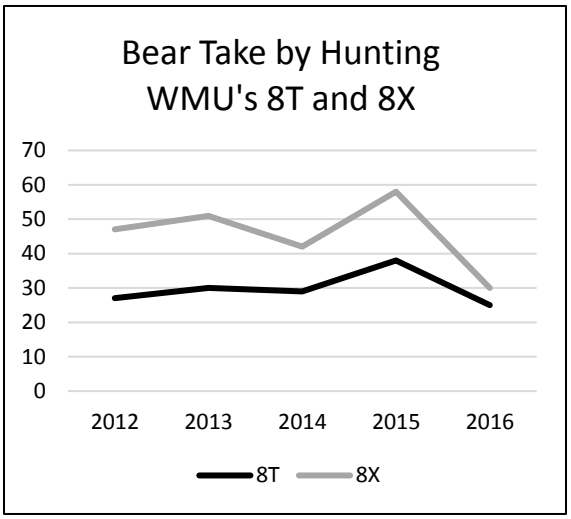
The deer population in WMU 8X has been relatively stable near the BTO. Deer management efforts will be directed to maintaining this population at or near the BTO.

Current and historical harvest information on deer and black bear can be located at: www.dec.ny.gov/outdoor/42232.html

The legal harvest of black bears by hunting in WMU's 8T and 8X are expected to remain consistent or slightly increase over the life of the plan as maturing forest continues to provide quality habitat for black bears. Bear harvest can fluctuate fairly significantly from year to year due to food availability and weather conditions.

Chart 1 and 2: Buck Take and Bear Take in WMU's 8T and 8X





Wild Turkey Harvest

Wild turkey harvest estimates, for both spring and fall seasons, are compiled and reported at the county level. Steuben County has averaged over the past 5 years a harvest of 740 turkeys in the spring and 125 in the fall. Detailed spring Wild Turkey Harvest can be found at: www.dec.ny.gov/outdoor/30420.html and detailed fall Wild Turkey Harvest can be found at: www.dec.ny.gov/outdoor/30412.html.

Furbearers Harvest

For trapping, all major furbearers of Western New York are present on the Unit, including mink, muskrat, red fox, grey fox, raccoon, coyote, beaver, skunk and opossum. River otter, bobcat, and fisher are three relatively recently returned species to Western NY, and their numbers are growing. A bobcat season and fisher season was instituted beginning in 2013 and 2016 respectively for parts of the southern tier, including WMU 8T and 8X. There is

currently no open season for trapping river otter in western NY. Harvest numbers for bobcat and fisher by county and town are available at: www.dec.ny.gov/outdoor/93855.html.

Fishing

Fishing on the unit is available in a few small streams with wild trout populations and a few small ponds with bass and pan fish populations. Rock Creek in Greenwood SF and Norton Hollow Brook in Turkey Ridge SF both contain wild brook trout. Cameron Pond Day Use Area in Cameron SF contains a 16-acre pond which provides fishing opportunities for largemouth bass and pan fish. See Appendix B: Animals of the Canisteo River Basin Unit Management Plan Area (pg. 122) for a list of fish that have been found nearby.

Public Fishing Rights (PFR)

This Unit Management Plan does not cover or include actions on any PFR's. However, since 1935, the Department has worked with private landowners to ensure access to the prime fishing waters of the state. During that time, more than 1,300 miles of PFR easements have been purchased on more than 400 streams across the state. PFRs are permanent easements purchased by the DEC from private landowners, giving sportsman and women access to fish and walk along the bank. Fishing rights also allow the public to park in designated parking areas and to access the stream via marked footpaths. Please note: the Department has only purchased rights for the public to fish along a stream corridor, not the land itself. The land where PFR exists remains in private ownership.

Fishing Access Sites (FAS)

Fishing Access Sites (FAS) consist of the Department owned land with the primary purpose of providing public fishing access and are managed by the Bureau of Fisheries. This includes boat launches on public waters and parking areas along streams and rivers to provide shoreline fishing. No FASs in this unit are included in this plan.

Trails

There are some designated recreation trails on the Unit, in addition to old roads, skid trails, and deer trails to explore. A few of these trails are currently marked and mapped, others are not. No attempt has been made to catalog these informal "herd paths" which exist on the Unit. All trails on the Unit can be used for walking, running, cross-country skiing, and snowshoeing. On WMAs bikes are only allowed on roads or designated trails, and there are no designated bike trails on Helmer Creek or West Cameron WMAs. On State Forests biking is permitted, unless posted as prohibited. Motorized vehicle use, including ATVs and UTVs, is prohibited, except where specifically permitted by signs, posted notice, or Department permit. See the tables in Appendix D: Facilities (pg. 142) and maps in Appendix M: Maps (pg. 182).

The Finger Lakes Trail crosses the northern portion of Burt Hill SF, and the trail along with the Lean-to, is maintained by the Finger Lakes Trail Conference (FLTC) under a Volunteer Stewardship Agreement (VSA). This hiking trail has approximately 3/4 mile on the state forest, but total length of the trail is about 585 miles, with Allegany State Park at one end and the Catskill Forest Preserve at the other. This portion of the Finger Lakes Trail is a segment

of the North Country National Scenic Trail, a 4,600 mile trail which extends from New York to North Dakota.

Cameron SF has a couple of Haul roads that are part of the state wide Motorized Access Program for People with Disabilities (MAPPWD) route system see Trail Access for Persons with Disabilities on page 30 for additional information.

Rock Creek SF had a snowmobile trail across it. As of the writing of this plan the VSA for the maintenance of it has expired, but it is still there if new volunteers want to take over.

The rest of the properties have no marked and designated recreational trails. Some of them have Public Forest Access Roads and/or haul roads, and old skid trails and other “herd paths” that are open for exploring at any time.

Universal Access

DEC has an essential role in providing universal access to recreational activities that are often rustic and challenging by nature, and ensuring that facilities are not only safe, attractive and sustainable, but also compatible with resources. For more information on universal access policies, please see SPSFM page 173 at www.dec.ny.gov/lands/64567.html

Application of the Americans with Disabilities Act (ADA)

The Americans with Disabilities Act (ADA), along with the Architectural Barriers Act of 1968 (ABA) and the Rehabilitation Act of 1973; Title V, Section 504, have had a profound effect on the manner by which people with disabilities are afforded equality in their recreational pursuits. The ADA is a comprehensive law prohibiting discrimination against people with disabilities in employment practices, use of public transportation, use of telecommunication facilities and use of public accommodations. Title II of the ADA requires, in part, that reasonable modifications must be made to the services and programs of public entities, so that when those services and programs are viewed in their entirety, they are readily accessible to and usable by people with disabilities. This must be done unless such modification would result in a fundamental alteration in the nature of the service, program or activity or an undue financial or administrative burden.

Title II also requires that new facilities, and parts of facilities that are newly constructed for public use, are to be accessible to people with disabilities. In rare circumstances where accessibility is determined to be structurally impracticable due to terrain, the facility, or part of facility is to be accessible to the greatest extent possible and to people with various types of disabilities.

Consistent with ADA requirements, the Department incorporates accessibility for people with disabilities into the planning, construction and alteration of recreational facilities and assets supporting them. This UMP incorporates an inventory of all the recreational facilities or assets supporting the programs and services available on the unit, and an assessment of the programs, services and facilities on the unit to determine the level of accessibility provided. In

conducting this assessment, DEC employs guidelines which ensure that programs are accessible, including buildings, facilities, and vehicles, in terms of architecture and design, transportation and communication to individuals with disabilities.

Any new facilities, assets and accessibility improvements to existing facilities or assets proposed in this UMP are identified in the section containing proposed management actions. (See the Access Management (pg. 71), Public Recreation and Use Management (pg. 102), Appendix D: Facilities (pg. 142), and Appendix M: Maps (pg. 182) sections.)

The Department is not required to make each of its **existing** facilities and assets accessible as long as the Department's programs, taken as a whole, are accessible.

For copies of any of the above mentioned laws or guidelines relating to accessibility, contact the DEC Universal Access Program Coordinator at UniversalAccessProgram@dec.ny.gov or 518-402-9428.

Trail Access for Persons with Disabilities

Wheelchairs are allowed anywhere pedestrians are allowed on state lands. The Federal/ADA definition of a wheelchair is:

> ***Wheelchair*** *- A manually-operated or power-driven device designed primarily for use by an individual with a mobility disability for the main purpose of indoor, or of both indoor and outdoor locomotion. This definition does not apply to Federal wilderness areas; wheelchairs in such areas are defined in section 508(c)(2) of the ADA, 42 U.S.C. 12207 (c)(2).*

Currently, on this Unit no trails meet the federal standards for wheelchair accessibility, see the Trails section (pg. 28) for additional information. In most locations, the ground is not firm and stable enough, and/or the slope is too steep, and/or the path is too narrow. Other trails and roads may present opportunities for people with motorized wheelchairs. Any construction of new trails will include an accessibility assessment.

While no ATV trails currently exist on this Unit, specific routes allow ATV use by permitted persons with disabilities, pursuant to NYS DEC Commissioners Policy #3 (CP-3). This program is known as the Motorized Access Program for People with Disabilities (MAPPWD). A permit must first be obtained from the Department. Individuals with qualifying disabilities may apply for a permit to operate an ATV or other vehicle on routes designated by the Department.

Cameron SF, and Tracy Creek SF have MAPPWD routes on them. Cameron SF has two, one short route connecting the parking lot with Cameron Pond, and a longer one along the gas pipeline to an overlook of the Canisteo River valley. Tracy Creek SF has one connecting from Tracy Creek Rd up to and across the open grassland on top. (For further information, contact the Department at 7291 Coon Rd, Bath, New York 14810. Planned changes to the MAPPWD trails on the Unit are located in the Public Recreation and Use Management (pg. 102) section of the Goals and Objectives chapter. See also Public Recreation and Use Management (pg. 102), Appendix D: Facilities (pg. 142) and Appendix M: Maps (pg. 182) of this plan, or the SPSFM, found online at www.dec.ny.gov/lands/64567.html.

Geology

Most surface geology in the Finger Lakes region and Southern Tier of New York was influenced by the processes of glaciation that occurred during the Pleistocene Epoch. Ice sheets from the last glaciation episode (Wisconsinan glaciation episode) retreated from the area approximately 10,000 years ago, leaving behind numerous sedimentary deposits and surficial features; including elongated scour features. Some of these scour features filled with water creating numerous lakes, small and large; the larger ones are now called the Finger Lakes.

Most soils and sediments in the region are related to past glacial activity, and subsequent weathering and erosion processes over the last 20,000 years. The underlying parent rocks (rocks that were subjected to the processes of glaciation, weathering and erosion) of this region are sedimentary rocks; specifically, shale, sandstone and minor limestone that were deposited in shallow seas that existed in this region during the Devonian Period of the Paleozoic Era, approximately 370 million years ago. Any post-Devonian rocks have been eroded from the region. The presence of rounded igneous and metamorphic clasts is indicative of past glacial activity transporting material into the region from the Canadian Shield to the north. The resulting surface geology of the State lands included in this Unit are similar due to their close proximity.

Soils

Soils are defined as the upper layer of earth; that portion of the earth's crust where plants grow. Under ordinary circumstances it is a black, dark brown, gray, or yellowish material, typically consisting of a mixture of organic remains, sand, silt, clay, and rock particles.

Each county in New York has a soil survey conducted by the USDA, which maps the soil type (in which similar soils are grouped together) and the slope and drainage classes. This survey also contains numerous other products relating to soil use and soil management. Due to the fact that the county soil surveys were completed during different time periods, data and especially soil type names may appear to change on the county line, when the actual difference in soil characteristics are not that great.

The information below, for each individual property, has been compiled from their respective county soil surveys. Very specific descriptions of the various soil types may be found at: https://soilseries.sc.egov.usda.gov/osdname.aspx

Additional soil data for each property is listed and mapped in Appendix M: Maps (pg. 182). This table contains the top three soil types found on each parcel, along with the major drainage class, also for the top three soil types.

Table 6: Soils

Name	Major Soil Type	Drainage Information
Burt Hill SF	Hornell-Fremont silt loam	somewhat poorly drained

Information on the Unit

Name	Major Soil Type	Drainage Information
	Kanona silty clay loam	somewhat poorly drained
	Mardin channery silt loam	moderately well drained
Cameron SF	Volusia channery silt loam	somewhat poorly drained
	Mardin channery silt loam	moderately well drained
	Lordstown-Arnot silt loam	well drained
Cameron Mills SF	Arnot channery silt loam	well drained
	Lordstown-Arnot silt loam	well drained
	Mardin channery silt loam	moderately well drained
Canacadea SF	Hornell and Fremont silt loams	somewhat poorly drained
	Kanona silty clay loam	somewhat poorly drained
	Lordstown-Arnot silt loams	well drained
Greenwood SF	Volusia channery silt loam	somewhat poorly drained
	Hornell-Fremont silt loams	somewhat poorly drained
	Mardin channery silt loam	moderately well drained
Helmer Creek WMA	Howard-Madrid complex	well drained
	Lordstown channery silt loam	well drained
	Lordstown-Arnot silt loam	well drained
Rock Creek SF	Hornell-Fremont silt loams	somewhat poorly drained
	Mardin channery silt loam	moderately well drained
	Lordstown-Arnot silt loam	well drained
Tracy Creek SF	Lordstown-Arnot silt loam	well drained
	Mardin channery silt loam	moderately well drained
	Lordstown channery silt loam	well drained
Turkey Ridge SF	Arnot channery silt loam	well drained
	Lordstown-Arnot silt loam	well drained
	Mardin channery silt loam	moderately well drained
West Cameron WMA	Fremont silt loam	somewhat poorly drained
	Hornell-Fremont silt loam	somewhat poorly drained
	Arnot channery silt loam	well drained
“channery” denotes accumulation of thin, flat, coarse rock fragments “gravelly” differs from “channery” only in that the coarse fragments are somewhat rounded. “flaggy” differs from “channery” only in that the coarse fragments are larger		

Surface Geology

Surficial deposits or the parent material of soils that overlay the bedrock in the Unit are predominantly glacial till except in topographically low areas and escarpments subjected to erosion. Bedrock outcrops of Devonian shales, siltstones, sandstones are located intermittently on the flanks and crests of ridges and hills when erosion of overlying glacial till causes the exposure of the bedrock. Kame sand and gravel deposits are located along the northern slopes of Canacadea SF, and are the result of glacial meltwater fluvial systems. Recent alluvium deposits have accumulated in topographical depressions such as stream channels and associated flood plains. Recent alluvium consisting of sand and gravel is found in the Canisteo River valley adjacent to portions of Cameron SF, Cameron Mills SF, Tracy Creek SF and Helmer Creek WMA and along Bennetts Creek in the far eastern portions of Greenwood and Rock Creek SFs. Detailed descriptions of the surficial geologic materials deposited around the state lands within this Unit are provided in Table 7: Parent Material and Bedrock (pg. 33).

Further information on the surface geology of the region is provided by the: “Surficial Geologic Map of New York – Finger Lakes Sheet”, New York State Museum - Geologic Survey, Map and Chart Series #40, 1986.

Bedrock Geology

Bedrock underlying the Finger Lakes region and Allegheny Plateau of the Southern Tier of New York is inclusive of sedimentary rock units deposited in association with ancient seas and their marine-fluvial-deltaic environments of deposition during the Cambrian [550-500 million years ago (mya)], Ordovician (500-440 mya), Silurian (440-400 mya) and Devonian (400-350 mya) Periods of the Paleozoic Era.

Younger bedrock units deposited during the post-Devonian periods (such as Mississippian and Pennsylvanian periods) have been subsequently eroded away by erosional and glacial processes. Underlying the Paleozoic rocks are pre - Paleozoic Era rocks or Pre-Cambrian rocks generally considered to be composed of igneous and metamorphic rocks. These rocks are generally referred to as “basement” rocks.

Subsurface rock formations dip (become deeper) to the south-southwest at an average dip angle of about one degree or deepens 100 feet per each mile traveled to the south/southwest. Progressively older rock units outcrop farther to the north, confirming the southerly dip of strata in the region.

Geologic structural features in the region generally trend in a northeast to southwest direction. North-south trending faults have also been identified in the region. Additional information regarding area structural features can be obtained from the “Preliminary Brittle Structures Map of New York”, New York State Museum Map and Chart Series No.31E, 1974.

Bedrock of the Canisteo River Basin Unit

The majority of the state lands within this Unit contain bedrock that are shales, siltstones, sandstones of the Conneaut, Canadaway, and Java Groups that were deposited during the

Information on the Unit

Upper Devonian Period. The Conneaut Group consists of the Germania Formation, Whitesville Formation, Hinsdale Sandstone, Wellsville Formation, and Cuba Sandstone. The Canadaway Group consists of the Machias Formation; Rushford Sandstone; Caneadea, Canisteo, and Hume Shales; Canaseraga Sandstone; and South Wales and Dunkirk Shales. The Java Group consists of the Wiscoy Formation, and the Hanover and Pipe Creek Shales. Commonly these rock units are at the surface (outcropping) or near the surface beneath surficial deposits (subcropping). The older rock formations form the bedrock in the northern portions of the Unit due to the structural dip to the south.

Further information on the bedrock geology of the region is provided by the: Geologic Map of New York - Finger Lakes Sheet - New York State Museum and Science Service - Map and Chart #15, 1970.

Table 7: Parent Material and Bedrock

State Land Name	Parent Material and Bedrock
Greenwood SF	Glacial Till - deposition of clay, silt, sand, gravel, cobbles, and boulders beneath glacial ice.
	Recent Alluvium - fine sand to gravel generally confined to flood plains in a valley which may be overlain by silt in larger river valleys. Present on the SF near Bennetts Creek.
	Bedrock –shales, siltstones, and sandstones of the Upper Devonian Conneaut and Canadaway Groups. Bedrock outcrops throughout most of the SF.
Cameron SF	Glacial Till - deposition of clay, silt, sand, gravel, cobbles, and boulders beneath glacial ice.
	Bedrock - shales, siltstones, and sandstones of the Upper Devonian Canadaway and Java Groups.
Rock Creek SF	Glacial Till - deposition of clay, silt, sand, gravel, cobbles, and boulders beneath glacial ice.
	Recent Alluvium - fine sand to gravel generally confined to flood plains in a valley which may be overlain by silt in larger river valleys. Present on the SF near Bennetts Creek.
	Bedrock – shales, siltstones, and sandstones of the Upper Devonian Conneaut and Canadaway Groups.
Canacadea SF	Glacial Till - deposition of clay, silt, sand, gravel, cobbles, and boulders beneath glacial ice.
	Kame Deposits – coarse to fine sand and gravel deposited adjacent to glacial ice occurs along the northern slopes of the SF.
	Bedrock – shales and sandstones of the Upper Devonian Canadaway Group.

State Land Name	Parent Material and Bedrock
Tracy Creek SF	Glacial Till - deposition of clay, silt, sand, gravel, cobbles, and boulders beneath glacial ice.
	Recent Alluvium – fine sand to gravel generally confined to flood plains in a valley which may be overlain by silt in larger river valleys. Present in the eastern portion of the SF near the Canisteo River.
	Bedrock – shales and sandstones of the Upper Devonian Java Group.
Turkey Ridge SF	Glacial Till - deposition of clay, silt, sand, gravel, cobbles, and boulders beneath glacial ice.
	Bedrock – shales, siltstones, and sandstones of the Upper Devonian Conneaut and Canadaway Groups. Bedrock outcrops on hilltops and western slopes.
Burt Hill SF	Glacial Till - deposition of clay, silt, sand, gravel, cobbles, and boulders beneath glacial ice.
	Bedrock – shales and sandstones of the Upper Devonian Canadaway Group.
Cameron Mills SF	Glacial Till - deposition of clay, silt, sand, gravel, cobbles, and boulders beneath glacial ice.
	Bedrock - shales, siltstones, and sandstones of the Upper Devonian Canadaway and Java Groups.
Helmer Creek WMA	Glacial Till - deposition of clay, silt, sand, gravel, cobbles, and boulders beneath glacial ice.
	Recent Alluvium – fine sand to gravel generally confined to flood plains in a valley which may be overlain by silt in larger river valleys. Present in the southern portion of the WMA along the Canisteo River.
	Bedrock - shales, siltstones, and sandstones of the Upper Devonian Canadaway and Java Groups.
West Cameron WMA	Glacial Till - deposition of clay, silt, sand, gravel, cobbles, and boulders beneath glacial ice.
	Recent Alluvium – fine sand to gravel generally confined to flood plains in a valley which may be overlain by silt in larger river valleys.
	Bedrock - shales, siltstones, and sandstones of the Upper Devonian Canadaway and Java Groups.

Mineral Resources

Oil and Gas

Section 23-1101 of the ECL and State Finance Law authorizes the Department to make leases on behalf of the State for exploration, production and development of oil and gas on State lands. On all State lands, gas well drilling, pipelines, and related road development must be in compliance with the Governor's and Commissioner's directives, Tract Assessments, the Generic Environmental Impact Statement on the Oil, Gas and Solution Mining Regulatory Program finalized in 1992 (GEIS), this Unit Management Plan, and any other relevant documents.

The Final Supplemental Generic Environmental Impact Statement on the Oil, Gas and Solution Mining Regulatory Program for Horizontal Drilling and High-Volume Hydraulic Fracturing to Develop the Marcellus Shale and Other Low-Permeability Gas Reservoirs (FSGEIS) was issued May 2015 and the subsequent Findings Statement was issued in June 2015. These documents constitute the Department's findings in accordance with the State Environmental Quality Review Act with respect to whether permits related to high-volume hydraulic fracturing in the Marcellus Shale and other low-permeability gas reservoirs can be issued. The findings conclude that high-volume hydraulic fracturing is prohibited in the state.

New York State manages the surface estate through the NYS DEC Division of Lands and Forests or the NYS DEC Division of Fish and Wildlife, and the mineral estate is managed through the NYS DEC Division of Mineral Resources.

Historical Drilling & Production

The drilling of the first commercial oil well in the United States occurred in Titusville, Pennsylvania in 1859.The results of this drilling activity carried over into neighboring New York State in 1863 which eventually led to the drilling of thousands of oil wells in western New York. The eastern fringe of this activity extended into the Town of Greenwood near Rock Creek and Greenwood SFs. Oil has been produced in the southwestern portion of Steuben County from the 1890's to present. The Department maintains records for roughly 325 oil wells in the Town of Greenwood. However, the Department routinely discovers wells for which no records exist. Accordingly, the actual number of oil wells drilled may be substantially larger than what records indicate. There are currently only four actively producing oil wells in the Town of Greenwood.

Over 190 natural gas wells were drilled in the six towns in which Canisteo River Basin Unit is located; however, there are currently only four actively producing gas wells.

Natural gas has been produced in paying quantities from this part of New York since the 1930's. Tracy Creek SF, Helmer Creek WMA, and the area adjacent to Cameron Mills SF is in the Rathbone natural gas field, which was discovered in 1931. Thirty-one wells were drilled in this field during the 1930s targeting the Upper Devonian formations. Of these, 24 produced natural gas and one produced oil. The wells were typically 900 to 1,500 feet in depth. None of the wells are actively producing and no records exist to confirm whether the wells were properly plugged and abandoned. These wells have been orphaned/abandoned by the

operators that drilled them. Three wells are potentially located on Tracy Creek SF, as of the writing of this plan only one has been located.

The Greenwood field was discovered in 1931 with gas production from the Oriskany Sandstone at approximate depths of 4200 to 4800 feet. Twenty-two wells were drilled in the Greenwood and North Greenwood fields from 1931 through 1948. Ten of these wells were considered to be non-producers and were plugged soon after drilling. Six wells were drilled on Rock Creek SF and four wells were drilled on Greenwood SF. All wells in the Greenwood and North Greenwood fields have been plugged or have been converted to wells associated with natural gas storage operations.

During the 1930s through the 1940s, additional field discoveries were made in this part of New York. The Howard field is located approximately 2 ½ miles north of Burt Hill SF. Eleven wells were drilled in this field between 1935 and 1941 to the Oriskany Sandstone at approximate depths of 3400 to 3600 feet. The Jasper field, located in the Towns of Jasper and Cameron, was developed between 1938 and 1943 with 13 wells drilled to the Oriskany Sandstone.

The Wyckoff field is 2 ½ miles southeast of Turkey Ridge SF where four wells were drilled in 1967 to the Oriskany Sandstone. This field has been developed from 2005 through 2010 to gas storage in the Oriskany Sandstone and Onondaga Limestone.

In 1971 and 1972, two wells were drilled that produced gas from the Onondaga Limestone in the Thomas Corners field located approximately ½ mile north of Cameron Mills SF. The Thomas Corners natural gas storage field was developed in 2008 through 2009 in the Onondaga Limestone at approximate depths of 3600 to 3900 feet.

Natural gas is routinely stored in depleted reservoirs deep underground. New York State has 27 such facilities, seven of which are within or close to properties in this Unit. In this Units' storage field, natural gas can be injected into the Oriskany and/or Onondaga Formations during low demand months and withdrawn as market conditions and contract obligations dictate. At this time oil and gas leases for underground gas storage exist on Rock Creek, Cameron, and Greenwood SFs. Gas is stored in the Oriskany Sandstone in the Greenwood and North Greenwood fields at facilities located on Rock Creek and Greenwood SFs. These facilities are operated by Columbia Gas Transmission, LLC. The project at Cameron SF (includes only the northern most 10 acres) involves the Thomas Corners natural gas storage field permitted by Arlington Storage Company, LLC to store gas in only the Onondaga Limestone.

Recent Drilling and Production

A major natural gas "play" occurred more recently (1999 – 2006) in the Trenton/ Black River formation in eastern Steuben County. This created an interest in leasing state lands in the Unit for oil and gas exploration. The only well drilled to the Trenton and Black River formations in the Towns where the state lands in this Unit are located is the Miller 1 well

drilled by Triana Energy, Inc. in the Town of Howard in 2003. This well never produced and was plugged in 2016.

Since the 1990s, there have been very few wells drilled near state lands in the Unit for the production of oil and/or gas; however, there have been a number of wells drilled to support natural gas storage operations.

The most recent well developed for oil production near this Unit was a well originally drilled to produce gas from the Oriskany Sandstone in 1991 but was plugged back to 1900 feet in 2016 to produce oil from the Upper Devonian sandstones. This well is located in the Town of Hartsville, Steuben County approximately three miles south of Canacadea SF.

Mineral Leasing Activity

Initial title review indicates that there is nothing in the documents vesting title in the People of the State of New York to indicate a split mineral estate. This information is offered with the qualification that further mineral reservations may exist and that no expressed or implied warranty of title is offered in this document.

Properties within this unit have been subject to oil and gas leases in the past. An exploration and development lease on Canacadea SF, was approved by the Department in April/May of 1998, for a primary term of five (5) years. In March of 2003, the Department received competitive bids for the sale of oil and gas leases on Cameron, Tracy Creek, Cameron Mills, and Burt Hill SFs. These lease agreements have expired. Additional discussion and the status of oil and gas leases and natural gas storage leases are as follows:

- Burt Hill SF – this was leased for oil and gas production to Fortuna Energy Inc. from June 2, 2003 to June 2, 2008. There was no drilling associated with this lease and the lease is expired.
- Cameron SF – this has a very small portion (approx.10 acres of Proposal H) held under a storage lease since 1995 with Steuben Gas Storage Company (now Arlington Storage Company, LLC) with contract # R-197368. This lease is for underground storage rights only and no surface entry or disturbance is allowed. The term of the lease is “for as long as gas is stored” under the agreement. This lease allows natural gas storage only in the Onondaga Limestone. This forest was previously leased for oil and gas production to Fortuna Energy Inc. from June 2, 2003 to June 2, 2008. There was no drilling associated with this lease and the lease is expired.
- Cameron Mills SF – this was leased for oil and gas production to Equitable Resources Exploration in 1991 and subsequently to Cabot Oil and Gas Corporation from June 2, 2003 to May 9, 2006. This lease was terminated at the request of Cabot.
- Greenwood SF – Proposals A, B, C, D, G, and F are the subject of a natural gas storage lease (Contract # R-35948) between the State of New York and Columbia Gas Transmission, LLC. This lease was executed in 1969 for a 30-year primary term with a subsequent 20-year extension. This lease allows natural gas storage only in the Oriskany Sandstone. The lease will expire in 2019 and it is anticipated that a new lease will be negotiated. This lease allows natural gas storage only in the Oriskany Sandstone.

- Rock Creek SF - the same storage lease as referenced above for Greenwood SF applies to this property.
- Tracy Creek SF – this was leased for oil and gas production to Phillips Production Company from June 2, 2003 to June 2, 2008. There was no drilling associated with this lease and the lease is expired.
- Turkey Ridge SF – this has Proposal B subject of two “mineral” deeds to E. N. Mallon. It is believed that the Department acquired these rights by deed 974/397 which was recorded April 14, 1977. Proposals A, B, and C were leased for oil and gas production to Mapco Production Company in 1976. There was no drilling associated with this lease and it has expired.

Natural gas transmission pipelines are located on Greenwood, Cameron, Rock Creek and Turkey Ridge SFs.

Future Leasing Activity

In the future, the Department may receive requests to nominate lands contained in this unit for oil and gas leasing. In the event of this occurrence, the procedures outlined in Appendix I: Procedures for Oil & Gas Procurement section on page 175 will be used. Additional information related to oil and gas leasing of state land can be found on the Division of Mineral Resources website at www.dec.ny.gov/energy/1528.html, in the SPSFM at www.dec.ny.gov/lands/64567.html, and in the Mineral Resource Management section (pg. 114) of this plan.

Previous interest in exploration for natural gas in the areas surrounding state lands in the Unit has mostly been in developing production from the Oriskany Sandstone, Onondaga Limestone and Upper Devonian formations including the Marcellus Shale. Gas prices and economic incentive will dictate if there will be any interests in developing production from the Oriskany Sandstone, Trenton/Black River formations or other conventional natural gas reservoirs in the area.

Oil wells may be drilled in the future adjacent to state lands; however, the Department does not expect any requests in the near future for leases to develop oil reserves on any of the properties within this Unit.

There has been considerable interest in the state with the prospect of horizontal drilling and high-volume hydraulic fracturing of the Marcellus Shale and other low-permeability natural gas reservoirs. No exploration or extraction of the Marcellus Shale using high volume hydraulic fracturing will be considered for permitting on state lands per the May 2015 FSGEIS and June 2015 Findings Statement that recommended that high-volume hydraulic fracturing should not move forward in New York State.

The storage leases currently in place for Greenwood SF and Rock Creek SF will expire in 2019.

Mining

Sand, Gravel, Hard Rock and Other Mineable Materials

There are no mining contracts, permits or operations located on properties included in this Unit. Under Article 7 of the New York Consolidated Laws/Public Lands, any citizen of the United States may apply for permission to explore and /or extract any mineral on State Lands. However, current Department policy is to decline any commercial mining application(s) associated with State Lands.

Gravel and hard rock resources do exist in the areas surrounding and including some of the properties in this Unit. The parent geology of several of the properties in the Unit mostly consists of poorly sorted glacial till of variable texture along with exposed or near surface (within one meter) bedrock outcrops. These glacial till deposits would not yield large amounts of sand and gravel. Sand and gravel mines are common in areas of glacial kame deposits, or more recent alluvium deposits that are generally found in stream valleys. Sand and gravel resources in kame deposits do exist in portions of Canacadea SF and in alluvium deposits along the Canisteo River and Bennetts Creek.

Various hard rock deposits underlay this area, the most common being shale, sandstone, and siltstone. The depth to the deposit, its thickness, and its quality would determine the feasibility of developing these resources.

There are only a few active sand and gravel mining operations located close to properties comprising the Unit. Most of the mines in this part of New York are small and are operated by the towns or local construction companies. Although there are no active mines on this Unit, privately owned mining operations do exist immediately adjacent to and within one-half mile to two miles of properties in the Unit where kame and alluvium sand and gravel deposits are being mined (see Appendix M: Maps, pg. 182). Several active sand and gravel mines are located adjacent to Tracy Creek SF to the east and adjacent to the southwest portion of Cameron Mills SF where recent alluvium sand and gravel are being mined. There are also several active sand and gravel mines within two miles of Canacadea SF where kame deposits are being mined.

A portion of Helmer Creek WMA was developed as a commercial gravel operation prior to the Department’s acquisition of the property. A sand and gravel mine operated by the Town of Cameron and reclaimed in 2001 was located on the east side of Cameron Mills Risingville Road (CR 24) adjacent to Helmer Creek WMA.

There are a few mine sites near state lands in the Unit that are no longer in operation and have undergone reclamation returning the land to a productive use.

Timber and Vegetation

Plant communities are by nature dynamic and ever changing. Young stands of trees get older, and species composition changes with time. Disturbances from fire, wind, insects, disease, timber harvest, and other land use practices have been an important part of the history of New York forests and have determined the composition and structure of today’s

landscape. By applying different management or silvicultural practices, land managers can affect change in vegetative types and stages and associated use by wildlife.

The production of forest products is a clearly stated goal in the Reforestation Law of 1929 and is consistent with the proposed management actions in Canisteo River Basin Unit Management Plan. Future management is covered in the Timber and Vegetation Management section starting on page 75 and in Appendix F: Vegetation Management (pg. 147) and in Appendix M: Maps (pg. 182). For more information regarding timber management on State Forest please refer to Chapters 2 and 6 of the SPSFM at www.dec.ny.gov/lands/64567.html. In addition to this Unit Management Plan, Wildlife Management Areas have an individual Habitat Management Plan (HMP) which also covers the timber and vegetation management on the property. Both Helmer Creek WMA and West Cameron WMA have completed HMPs, approved in 2016 and 2017, respectively. For more information, please refer to the individual Habitat Management Plans at www.dec.ny.gov/outdoor/24438.html and www.dec.ny.gov/outdoor/24447.html.

Inventory of Current Vegetative Types and Stages

Division of Lands and Forests policy requires that a forest inventory be conducted every 10 years and whenever forest stands are changed by any silviculture operation or by the forces of nature. The properties in this Unit were last inventoried between 2010 and 2016, and will continue to be updated as needed. Forest inventory is the critical task in the vegetation management planning process, as it forms the basis for all science based vegetative management decisions in this plan. While not policy, Wildlife intends to follow the same inventory schedule on the properties they manage.

A stand is a group of plants with similar characteristics that are analyzed and treated as a single unit. Each property is divided into one or more compartments, and each compartment divided into stands. Compartments are given a letter designation, and stands a number. This letter-number combination is used for tracking, mapping and planning the actions and activities that happen in and on the properties.

Forest inventory is accomplished by a statistical analysis of stands. Samples are taken from random locations (called plots) within each stand. Information collected during a forest inventory includes, among other items, tree and shrub species and size, forest type, tree density, forest health issues, topography, drainage, previous management, and site limiting factors.

Timber size class is broken down into three different classifications: seedling/sapling is up to 5 inches in diameter, pole timber is 6 to 11 inches and sawtimber is 12 inches and up.

The required number of plots for each stand is dependent on the variability of the stand. As variability decreases, so will the number of inventory plots per stand, subject to a minimum number. For each plot, data is recorded in the field on a hand-held data recorder, and then electronically transferred via the internet to servers in Albany.

How the maps are created has also changed. They used to be hand drawn on aerial photos, and dot grids used to manually calculate acreage. Now it is digitally drawn using

ArcGIS on the computer over top of aerial photos corrected for skew and distortion. Then the computer program calculates acreage to a much more accurate degree.

All the properties within this Unit have been inventoried within the past 10 years. The data gathered was used to create Table 8: Vegetative Types and Stages (pg. 43) as well as several maps located in Appendix M: Maps (pg. 182), plan the management activities in the Timber and Vegetation Management section (pg. 75) and the Appendix F: Vegetation Management (pg. 147) for this Unit Management Plan.

During the inventory process notes are made and GPS data collected on areas that fall into Special Management Zones, protection forest, historic sites, waterfalls and other interesting natural features.

The vegetation on the Unit contains a mix of species, but the forested portion is dominated by oak-hemlock, northern hardwood, oak, and transition hardwood, mostly pole timber or sawtimber sized natural hardwood forests. The dominant species of trees are red oak, hemlock, sugar and red maple, other species present to a lesser extent include hickories, white and black oaks, white ash, white and red pine, aspen, birches, walnut, cottonwood, beech, Norway spruce and apple.

In the Southern Tier region of New York, northern hardwood forests predominate on the north facing slopes and oak-hickory forests occupy the south facing slopes. Past man-made disturbances have created even more diversity. Many of the formerly agricultural fields, for example, have reverted back to pioneer forest types composed of aspen, white ash, red maple and white pine. On the Unit there are relatively few seedling/sapling size stands. These stands are typically even-aged. (All of the trees in a stand are approximately the same age.)

A small portion of the unit is not forested, and includes wetlands, ponds, roads, grasslands and brushland cover types. The exception is on Helmer Creek WMA, which is almost half grassland and brushland cover.

The conifer segment is largely plantation, mostly red pine, Norway spruce, white pine, Scotch pine, and larch. Hemlock and white pine comprise most of the natural conifer stands. In addition, some of the hardwood forest stands have a softwood component made up of mostly white pine and/or hemlock.

Summaries of each parcel, and information on each stand, is available in Appendix F: Vegetation Management (pg. 147), and maps are available in Appendix M: Maps (pg. 182).

Table 8: Vegetative Types and Stages

Inventory completed in 2010-2016	Acres by Ave. Tree Diameter Size Class					
Vegetative Type	**0-5 in (seedling-sapling)**	**6-11 in (pole)**	**12+ in (sawtimber)**	**Other**	**Total (Acres)**	**% of Total**
Natural Forest Hardwood	376	2,242	2,162		4,780	61.9%
Natural Forest Conifer/Conifer Hardwood*	48	888	432		1,368	17.7%
Plantation	45	747	318		1,110	14.4%
Wetland (Forest)	0	6	0		6	<0.1%
Wetland (Open / emergent and/or Shrub)				5	5	<0.1%
Ponds				82	82	1.0%
Grassland/Brushy				229	229	3.0%
Other (Rd, ROW, Parking, ownership conflict, etc.)				147	147	1.9%
Total (Acres)	469	3,883	2,912	463	7,727	
% of Total	6.1%	50.2%	37.7%	6.0%		100%

*Total percent of all conifer species is 33%, or more, of the total for the stand.

Changes in the Vegetative Types and Stages between 2003 and 2016

Table 9, below, is the Vegetative Types and Stages Table from the 2003 Canisteo River Basin Unit Management Plan. At the time, these records were estimated from the most recent inventories available. Depending on the property, inventory data was taken sometime between 1987 and 2001.

When Table 8 (above) is compared to Table 9 (below) it is possible to see some of the vegetative change that has happened in the time between the writing of these Unit Management Plans. However, some of that change is a result of how inventory is done, and the computer programs used to crunch the numbers.

In addition, small ponds, roads, and parking lots used to be included in the adjoining stand acreage, and are now separated out. Additional acres of wetland, and some of the pond, are a result of beaver activity and better type mapping. Forested wetlands are now separated out from upland (dry) forested areas and from open/emergent/shrub wetlands as they are managed in different ways.

The timber vegetation has grown. The number of acres with an average tree size 12 inches or better (sawtimber size) has increased from 27% to 38% of the total acres, and the number of acres of seedling/sapling has dropped dramatically from 13% to 6% of the total acres. How this impacts future timber management will be discussed in the Timber and Vegetation Management section starting on page 75.

Table 9: Vegetative Types and Stages as reported in the 2003 Canisteo River Basin Unit Management Plan

(Some differences are a result of technology and inventory changes, but general trends can be seen.)

Vegetative Type 2003 Canisteo River Basin UMP	Acres by Size Class				
	0 - 5 in	6 - 11 in	12+ in	other	% of Total
Natural Forest Hardwood	714	2,734	1,511		64.3%
Natural Forest Conifer	46	595	439		14.0%
Plantation	253	993	115		17.6%
Wetland				18	0.2%
Ponds				25	0.3%
Open/Brush				168	2.2%
Other (Rds., Parking lots, etc.)				104	1.3%
Total (Acres)	1,013	4,322	2,065	315	7,715
% of total	13.1%	56.0%	26.8%	4.1%	

Green Certification of State Forests

Only the State Forests in this Unit are included in the Green Certificate. The Wildlife Management Areas are not green certified for timber production. However, Best Management Practices for water and timber production are followed on all Department lands. In addition, timber sales on WMAs follow many of the same guidelines/policies used on State Forests, such as Special Management Zones, described in further detail below.

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SUSTAINABLE FORESTRY INITIATIVE SFI-00102

In 2000, New York State DEC-Bureau of Forest Resource Management received Forest Stewardship Council® (FSC®) certification under an independent audit conducted by the National Wildlife Federation - SmartWood Program. This certification included 720,000 acres of State Forests in DEC Regions 3 through 9 managed for water quality protection, recreation, wildlife habitat, timber and mineral resources (multiple-use). To become certified, the Department had to meet more than 75 rigorous criteria established by FSC. Meeting these criteria established a benchmark for forests managed for long-term

ecological, social and economic health. The original certification and contract was for five years.

By 2005 the original audit contract with the SmartWood Program expired. Recognizing the importance and the value of dual certification, the Bureau sought bids from prospective auditing firms to reassess the Bureaus State Forest management system to the two most internationally accepted standards - FSC and the Sustainable Forestry Initiative® (SFI®) program. However, contract delays and funding shortfalls slowed the Departments ability to award a new agreement until early 2007.

Following the signed contract with NSF-International Strategic Registrations and Scientific Certification Systems, the Department was again audited for dual certification against FSC and additionally the SFI program standards on over 762,000 acres of State Forests in Regions 3 through 9. This independent audit of State Forests was conducted by these auditing firms from May until July 2007 with dual certification awarded in January 2008.

State Forests continue to maintain certification under the most current FSC and SFI standards. Forest products derived from wood harvested off State Forests from this point forward may now be labeled as “certified” through chain-of-custody certificates. Forest certified labeling on wood products may assure consumers that the raw material was harvested from well-managed forests.

The Department is part of a growing number of public, industrial and private forest land owners throughout the United States and the world whose forests are certified as sustainably managed. The Department’s State Forests can also be counted as part a growing number of working forest land in New York that is third-party certified as well managed to protect habitat, cultural resources, water, recreation, and economic values now and for future generations.

High Conservation Value Forest (HCVF)

Under the State Forest Green Certificate, High Conservation Value Forests (HCVF) are those portions of State Forests which have known high conservation values that the Department feels should take precedent over all other land use and management decisions. HCVFs may not be identified on every Unit and State Forests that have an HCVF designated will not necessarily have multiple classifications. Sites that are identified as having exceptional values may be managed for timber, wildlife and/or recreation, however management activities must maintain or enhance the high conservation values present. Currently, HCVFs are assigned to one or more of five land classifications, four of which may be found on State Forests:

1. Rare Community - Forest areas that are in or contain rare, threatened or endangered ecosystems.

2. Special Treatment - Forest areas containing globally, regionally or nationally significant concentrations of biodiversity values (e.g. endemism, endangered species, and refugia).

3. Cultural Heritage – Forest areas fundamental to meeting basic needs of local communities (e.g. subsistence, health) and are critical to their traditional cultural identity (areas of cultural, ecological, economic or religious significance identified in cooperation with such local communities).

4. Watershed - Forest areas that provide safe drinking water to local municipalities.

5. Forest Preserve* - Forest areas containing globally, regionally or nationally significant large landscape level forests, contained within, or containing the management unit, where viable populations of most if not all naturally occurring species exist in natural patterns of distribution and abundance.

**Forest Preserve lands inside both the Adirondack and Catskills Park Blue line. Although Forest Preserve is not considered State Forest, they offer a significant high conservation value for lands managed by the Department.*

As of the writing of this plan there are no HCVF identified in this Unit. For more information on HCVFs please go to http://www.dec.ny.gov/lands/42947.html. See also the SPSFM (www.dec.ny.gov/lands/64567.html), Appendix M: Maps (pg. 182), Wetlands and Water Resources (pg. 56), Watershed and Wetlands Protection Management (pg. 94), and Timber and Vegetation Management (pg. 75), sections for further information on watershed protection.

Special Management Zones

Special management Zones (SMZs) provide guidance for buffers along riparian zones, wetlands, vernal pools, recreation trails, and other features. SMZs extend outward from wetland and adjacent area boundaries, the high-water mark of perennial and intermittent streams, vernal pool depressions, spring seeps, ponds and lakes, recreation trails, campsites, and other features requiring special consideration. The SMZ rules also provide guidance on crossing these features if and when this becomes necessary.

Buffers may consist of no treatment areas, or may be areas where the proposed treatment is modified to assure the continued function of these areas. Providing continuous overstory shading, retaining sufficient tree cover to maintain acceptable aquatic habitat, and protecting riparian areas from soil compaction and other impacts, all help to assure that these areas function as required and desired. DECs buffer guidelines also maintain corridors for movement and migration of many wildlife species, both terrestrial and aquatic.

The State Forest properties in this UMP are under the Division of Lands & Forests FSC and SFI certificates. The respective Green Certification bodies have encouraged the Department to codify what, in many cases, were existing good practices. For further information, please see: www.dec.ny.gov/docs/lands_forests_pdf/sfsmzbuffers.pdf.

The wildlife management properties in this Unit are not under green certification certificates. However, codifying existing good practices has also been done for the Wildlife Management Areas. For further information, please see: www.dec.ny.gov/docs/wildlife_pdf/yfismzrules.pdf.

Please also see Appendix M: Maps (pg. 182); for computer generated maps showing locations of these zones. The actual configuration of these zones can only be accomplished by field reconnaissance, which is well beyond the scope of this plan. Any significant deviation from the mapped boundaries would need to be documented in the diagnosis and prescription guiding the actual on the ground project.

For further information, please see also the following sections: Fish, Wildlife and Habitat (pg. 51), Timber and Vegetation Management (pg. 75) Fish and Wildlife Habitat Management (pg. 96) and the Watershed and Wetlands Protection Management (pg. 94) sections.

Representative Sample Areas

Representative Sample Areas (RSA) are stands which represent *common* ecological communities (i.e. forest types) of high or exceptional quality in their natural state. RSAs are setup to serve one or more of the following purposes:

1. To establish and/or maintain an ecological reference condition; or

2. To create or maintain an under-represented ecological condition (i.e. includes samples of successional phases, forest types, ecosystems, and/or ecological communities); or

3. To serve as a set of protected areas or refugia for species, communities and community types not captured in other protection standards such as an endangered species or a High Conservation Value Forest.

RSAs can simply be viewed as an effort to keep high quality examples of common ecosystems or assemblages from becoming rare in the landscape. An RSA designation does not prevent future management and in certain cases might require silvicultural treatment to achieve site conditions that will perpetuate the representative community. In addition, treatment of an RSA to mitigate unfavorable conditions that threaten the continuation of the target community will be allowed (ex. fire, natural pests or pathogens). Although allowed, silvicultural treatment or infrastructure development should not impact the RSA in a way that will degrade or eliminate the viability of the specific assemblage or community. For more information on RSAs please go to www.dec.ny.gov/lands/42947.html.

Significant Plants and Communities

An ecological community is a variable assemblage of interacting plant and animal populations that share a common environment. As part of the New York Natural Heritage Program (NHP) inventory, a classification has been developed to help assess and protect the biological diversity of New York State. The NHP inventory is a regularly updated database of information on rare animals, rare plants, and significant natural communities of New York State.

Communities and rare species are the mapping units or "elements" of the NHP inventory. Each community and species element is assigned an "element rank" consisting of a combined global and state rank. The global rank reflects the rarity of the element throughout

the world and the state rank reflects the rarity within New York State (The Nature Conservancy 1982). Global ranks for communities are not currently standardized by The Nature Conservancy, so the ranks listed in the community descriptions are estimated global ranks. (Ecological Communities of New York State. Carol Reschke, 1990).

- Global Ranks – reflects the rarity of the element throughout the world.
    - G1 = Critically imperiled throughout its range due to extreme rarity (5 or fewer occurrences, or very few remaining individuals, acres, or miles of stream) or extremely vulnerable to extinction due to biological factors.
    - G2 = Imperiled throughout its range due to rarity (6 – 20 occurrences, or very few remaining individuals, acres, or miles of stream) or highly vulnerable to extinction due to biological factors.
    - G3 = Either very rare throughout its range (21 – 100 occurrences), with a restricted range (but possibly locally abundant), or vulnerable to extinction due to biological factors.
    - G4 = Apparently secure throughout its range (but possibly rare in parts of its range).
    - G5 = Demonstrably secure throughout its range (however it may be rare in certain areas).
    - TU = Status of the subspecies or variety unknown.
- State Ranks – reflects the rarity within New York State.
    - S1 = Typically 5 or fewer occurrences, very few remaining individuals, acres, or miles of stream, or especially vulnerable to extirpation in New York State for other reasons.
    - S2 = Typically 6 – 20 occurrences, few remaining individuals, acres, or miles of stream, or very vulnerable to extirpation in New York State for other reasons.
    - S3 = Typically 21 – 100 occurrences, limited acreage, acres, or miles of stream New York State.
    - S4 = Apparently secure in New York State.
    - S5 = Demonstrably secure in New York State.
    - SH = No extant sites known in New York but it may be rediscovered.

Rare plants and communities have been systematically surveyed by New York's Natural Heritage Program. The State Forests in this unit were formally surveyed in 2006 as required under the Green Certification program. On the State Forests, the only thing documented is a rare shale cliff and talus community identified on Cameron Mills SF, with a ranking of S3/G4.

Although not identified by the Natural Heritage Program as rare, there are several unique grassland habitats at both Cameron and Cameron Mills SFs. On Cameron SF, a field of big bluestem was planted in 2002, with the first prescribed burn occurring in 2006. On Cameron Mills SF several fields with a mix of big bluestem, little bluestem, deertongue, and switchgrass were planted in 2006, with the first prescribed burn occurring in 2011.

No significant plants or communities have been identified by the Natural Heritage Program on either Helmer Creek or West Cameron WMAs. However, there are grassland/shrubland habitats that are maintained at both of these properties. At Helmer Creek WMA work was begun in 2010 to re-establish several fields that already contained a

small population of little bluestem. The fields at Helmer Creek WMA have been maintained by tree and brush clearing, mowing and burning. The first prescribed burn took place in 2011. West Cameron WMA has several grassland openings that have been maintained through mowing.

The unit does contain several small populations of pink lady slipper and Ginseng, which are native plants vulnerable to exploitation, likely to become threatened in the future throughout all or a significant portion of their range within the state if causal factors continue unchecked.

See Timber and Vegetation Management section starting on page 75 for additional information and future management plans for the grasslands/shrublands of this Unit. For information related to animals within this unit, refer to the Fish, Wildlife and Habitat section (pg. 51).

Grassland Focus Areas

Grasslands are an important and increasingly rare habitat across New York State. These dynamic habitats are home to many types of birds and other wildlife, including several that are listed as threatened or endangered. In many areas grasslands are fragmenting and disappearing due to changing land-use patterns, natural vegetative succession, and development.

New York State Grassland Focus Areas are parts of New York State that are of special importance to grassland birds. These focus areas were determined by analyzing data from the 2000-2005 Breeding Bird Atlas (BBA) and additional Department bird surveys. In this way, important geographical areas for rare grassland birds have been identified.

The target grassland bird species for Grassland Focus Areas are: bobolink, eastern meadowlark, grasshopper sparrow, Henslow's sparrow, horned lark, northern harrier, savannah sparrow, sedge wren, short-eared owl, upland sandpiper and vesper sparrow. Several of these species were detected during the BBA in survey blocks that overlap with the Unit, however, these blocks are large and the observations likely did not occur on the Unit, but rather within areas of agriculture and grassland nearby.

All the properties in the Canisteo River Basin Unit, except the northern half of Canacadea SF, overlap with the Southern Tier Grassland Focus Area. It is important to note that the properties within the Unit are mostly forested, and where grassland fields are present, they are generally small and surrounded by forest. Grassland dependent bird species typically require large patches of grassland in an open landscape, therefore grasslands on the Unit do not provide significant habitat for them. However, grasslands on the Unit provide important habitat for wildlife that typically inhabit forest, such as deer fawning and turkey brood rearing habitat. See Appendix M: Maps (pg. 182), Appendix B: Animals of the Canisteo River Basin Unit Management Plan Area (pg. 122), Timber and Vegetation Management (pg. 75) and Fish and Wildlife Habitat Management (pg. 96) for further details.

This plan does not and cannot cover any actions or activities on private land within the Grassland Focus Area. For assistance in managing your own grassland, please visit

www.dec.ny.gov/pubs/32891.html or contact the NYS DEC Bureau of Wildlife in the Bath or Avon offices.

Forest Matrix Blocks and Least Cost Path Corridors

The identification of large, unfragmented forested areas, also called Forest Matrix Blocks, is an important component of biodiversity conservation and forest ecosystem protection. Changes in both land use and climate will stimulate the alteration of movement patterns and range shifts for many species as they respond to changes in habitat availability and configuration along with changes in temperature, precipitation and the distribution of other species.

Research that combines data from natural, dynamic disturbance processes (e.g., fires, tornados, downbursts, ice storms, etc.) with the habitat needs of forest dwelling species in the Northeast U.S. has generated suggestions for how large forest blocks need to be in order to provide adequate continuous closed forests to maintain viable populations of a number of species. The two principal factors used to assess and recommend an appropriate size for proposed conservation areas of forested ecosystems, within a given ecoregion, are the home range of wide-ranging animal species and historical patch sizes that result from natural disturbance events within the landscape. Based on these assessments, a set of priority matrix forest blocks have been identified for four of the terrestrial EcoRegions within New York.

Securing connections between major forested landscapes and their imbedded forest matrix blocks is important for the maintenance of viable populations of species, especially wide-ranging and highly mobile species, and ecological processes such as dispersal and pollination over the long term. Identifying, maintaining, and enhancing these connections represents a critical adaptation strategy if species are to shift their ranges in response to climate change and other landscape changes. Various nonprofit, state, and federally funded connectivity modeling efforts have been completed or are underway around New York State. Using these models, Least Cost Path (LCP) corridors between identified blocks have been predicted. An LCP corridor represents the most favorable dispersal path for forest species based on a combination of percent natural forest cover in a defined area, barriers to movement, and distance traveled.

None of the properties in this unit are located within a forest matrix block; however, several are located within the LCP corridor linking the forest matrix blocks. The following properties are located entirely within the LCP corridor: Helmer Creek WMA, West Cameron WMA, Cameron Mills SF, and Tracy Creek SF. In addition, portions of Rock Creek SF, Canacadea SF, Cameron SF, Greenwood SF and Turkey Ridge SF are located within the LCP corridor. Burt Hill SF is completely outside the LCP corridor. See Appendix M: Maps (pg. 182) and Chapter 2 of the SPSFM at www.dec.ny.gov/lands/64567.html. The forested acres of the Unit will still be primarily managed for forest, along with all the other things listed in the Goals and Objectives chapter.

In addition, this plan does not, and cannot, cover any actions or activities on private land within the Forest Matrix Block but outside the boundaries of the Unit. For assistance in

managing your own forest, please contact the NYS Bureau of DEC Private Land Services for help. Visit www.dec.ny.gov/lands/4972.html or call the Bath or Avon offices.

Old Growth Forest

The NYS DEC Bureau of Forest Resource Management has adopted the following definition for Old Growth forests:

> **Old-Growth Forest** - The definition of "Old-Growth Forest" involves a convergence of many different, yet interrelated criteria. Each of these criteria can occur individually in an area that is not old growth, however, it is the presence of all of these factors that combine to differentiate "Old-Growth Forest" from other forested ecosystems. These factors include:
>
> An abundance of late successional tree species, at least 180 - 200 years of age in a contiguous forested landscape that has evolved and reproduced itself naturally, with the capacity for self-perpetuation, arranged in a stratified forest structure consisting of multiple growth layers throughout the canopy and forest floor, featuring (1) canopy gaps formed by natural disturbances creating an uneven canopy, and (2) a conspicuous absence of multiple stemmed trees and coppices. Old growth forest sites typically (1) are characterized by an irregular forest floor containing an abundance of coarse woody materials which are often covered by mosses and lichens; (2) show limited signs of human disturbance since European settlement; and (3) have distinct soil horizons that include definite organic, mineral, illuvial accumulation, and unconsolidated layers. The understory displays well developed and diverse surface herbaceous layers.

Department staff have not found any stands on the Unit that meet the above criteria. It does have stands of big trees, stands with old trees, and stands with big, old trees. Much of the Unit was previously used for farming or cleared for chemical wood, and ample evidence of this still exists in the form of old stone walls, foundations and wire fence along old hedge rows.

The Department is not implying that only Old Growth Forests are worthy of inclusion in State Forest Protection Areas, instead, the intent is to establish a consistent, science based approach to identify and classify old growth stands. Department staff will continue to protect areas other than old growth including sites where there are rare or endangered species, unique natural communities or sites where long-term protection can promote greater biodiversity in the landscape.

Through a process that may take centuries, and with no further human disturbance, it is possible to gradually revert to a state similar to old-growth.

Fish, Wildlife and Habitat

The fish, wildlife and their habitats found here are products of the landscape's history. Like many places in Western New York, European settlement in the 1700s and the decline of

Native American cultures set the stage for widespread changes in the distribution and richness of wildlife resources. Human-induced changes in land cover, along with unregulated exploitation of fish and wildlife resources, caused the decline of many wildlife species. Forests were either cut heavily or burned, resulting in most of the land being cleared for farming and pasturing. Most big game animals as well as native brook trout and other creatures of pristine and wild environments were either eliminated or greatly reduced in numbers. Streams filled with sediments. Wetlands were filled. Wild fires were suppressed. Very little of the landscape was left untouched.

In the 1930s the depression set the stage for the landscape pendulum to swing in a different direction. As farms failed, a large portion of the Unit started to revert back toward mature hardwoods. The resulting young forests lacked significant age to provide timber products, but the wildlife species that were adapted to these transitional habitats rapidly moved back onto the landscape. Cottontail rabbits and other farm wildlife that once were in great supply diminished, and species of young forests such as grouse and deer took advantage of the returning woodlands.

Today, forests have matured and forested habitats are one of the predominate environments on the Unit. Many of the wildlife species frequenting the Unit are those commonly associated with such habitats. Black bears, white-tailed deer, wild turkey, raccoon, woodpeckers and owls now exist where farm wildlife species thrived at the beginning of the 20th century.

Old fields, shrubby fields, or grasslands make up a small percentage of the Unit, but provide needed interspersion amidst the more common habitats. Woodcock, bobolink, field sparrows, meadow voles and northern harriers are some of the species using these more open habitats.

Few wetlands are present due to the rolling topography and most streams are of a high gradient type.

Several species that were absent entirely in the early 20th century have repopulated the region. The black bear population has been expanding for the past 30 years and sightings are now quite common. Bobcat and Fisher have rebounded to harvestable levels. Wild turkey, now common throughout the region were totally absent just 60 years ago.

If the trend of agricultural land abandonment and reversion to brush land and forest continues, species that prefer large acreages of unbroken forest will continue to prosper.

Ecological Zones and EcoRegions

The Canisteo River Basin Unit lies within the Central Appalachians Subzone, which encompasses an area of approximately 8,830 square miles, with elevations ranging between 1,000-2,200 feet above sea level. The landscape is dominated by forests, reverting farm lands and occasional dairy farms. Habitat present for wildlife includes numerous structural types from old field and brush land, to mature forest.

The Canisteo River Basin Unit is located in the New York High Allegheny Plateau EcoRegion (HAP). The Nature Conservancy has defined an EcoRegion as an area of

ecological homogeneity, which is defined by similarities in soil, physiography, climate, hydrology, geology and vegetation. EcoRegions are mapped with well-defined boundaries, but rarely in nature do such abrupt changes occur. See Appendix M: Maps (pg. 182).

The High Allegheny Plateau EcoRegion is mostly located along the southern tier of New York and the northern tier of Pennsylvania. The EcoRegion is defined by high elevation features at the northern end of the Appalachian Plateau. Most of this EcoRegion is above 1,200 feet. Many northern species and communities reach their southern limit in HAP, while many southern species extend into the EcoRegion but not beyond.

The general land form of the region is mid-elevation hills separated by numerous narrow stream-cut valleys. One of the main features of the EcoRegion is an abundance of rivers and streams. The Delaware, Susquehanna, and Allegheny Rivers and their many tributaries cover the entire ecoregion. These three different drainages contribute to the high overall aquatic diversity in the ecoregion. The northern and eastern portions of the EcoRegion were glaciated, including the Canisteo River Basin Unit.

Mammals, Reptiles, and Birds

The area has a long history of deer hunting and has been well known to hunters throughout New York and surrounding states for many decades. In the past, this portion of the state has had high deer populations which has impacted desired forest regeneration and has negatively impacted the diversity of trees, shrubs, and herbaceous vegetation. Consideration needs to be given to the impact of deer browsing when planning timber management.

Black Bear are firmly established in the Unit. The large wooded acreages intermixed with agriculture provide a quality habitat for bear.

The habitats of the Canisteo River Basin Unit are home to most, if not all, of the common furbearers of Western New York including beaver, muskrat, red and grey fox, raccoon, coyote, mink, opossum, and skunk. Fisher, bobcat and river otter are all expanding their range in Western New York and have been well documented in Steuben County.

Upland game birds of the Unit include wild turkey, ruffed grouse, woodcock, and crow.

Indigenous waterfowl include Canada geese and several species of both diving and puddle ducks such as mallards, wood ducks, teal, mergansers, ring-necks and bufflehead. Waterfowl habitat is limited on the state lands to the few ponds and small wetlands. Resident population Canada geese have been a problem in some locations, most notably on Cameron SF where numerous droppings have resulted in complaints from fishermen and others using the ponds. Geese also cause agricultural damage to neighboring fields where they fly to feed. Treatment of nests to prevent eggs from hatching has been conducted over the past decade and will continue in the future.

Common small mammals include red and grey squirrel, cottontail rabbit, white-footed mouse, meadow vole, weasel, and several species of bats, although numbers of the latter have declined in recent years due to the effects of white-nose syndrome.

Information on the Unit

Common reptiles found within the Unit include the milk, water and garter snakes, and snapping and painted turtles, both of which are found in the ponds and wetlands of the Unit. Both of these species are almost entirely aquatic except when they come on shore to find appropriate soils to lay their eggs. See Appendix B: Animals of the Canisteo River Basin Unit Management Plan Area (pg. 122) for lists for occurrences from the most recent Breeding Bird Atlas (BBA) and Herp Atlas projects.

In addition, this Unit contains some of the last remaining populations of timber rattlesnakes (NYS Threatened) in western New York State. While these populations have been much reduced over the years, several important habitats are afforded protection by being in state ownership.

Wehrle's salamander was identified on the West Cameron WMA in a 1996 biodiversity inventory conducted by the New York Natural Heritage Program. This salamander has a state rank of S-2 indicating it is very vulnerable in the state with only 6 to 20 occurrences.

Songbird assemblages inhabiting the Canisteo River Basin Unit are dictated by the habitat types present. Forests are the predominate cover type on the Unit, and species such as the wood thrush, blue jay, Canada warbler, scarlet tanager and oven bird will be favored. The grasslands and fields of the Unit will be home to such songbird species as the meadowlark, bobolink, and field, and savannah sparrows.

Invertebrates

Invertebrates are the largest component of animal diversity within the Canisteo River Basin Unit, of which the most notable groups are: annelids (e.g., earthworms), arachnids (e.g., spiders, ticks), crustaceans (e.g., crayfish, woodlice), insects, and mollusks (e.g., snails, mussels). Due to this large diversity and the associated difficulty for comprehensive survey, little is known about the characteristic habitats, natural assemblages, or the current status of many of these species. By managing for a diversity of habitats, the Unit will best provide the requirements of these numerous invertebrates.

Certain invertebrates have received far more attention than others, due to their conspicuous behavior and appealing coloration, such as butterflies and dragonflies, and especially those listed as Threatened, Endangered or Special Concern Species (pg. 54) or Species of Greatest Conservation Need (pg. 54).

Survey efforts to document rare species on the Canisteo River Basin Unit were completed by the New York Natural Heritage Program in 1996, 1997, 2005 and 2006; no rare invertebrate species were observed during these surveys. Freshwater mussel surveys conducted in 2014 and 2015 within the Canisteo River found nine species, including the State Threatened green floater. Although these mussels were not found on the Unit, the streams on the Unit contribute to the water quality of the Canisteo River where these mussels occur.

Threatened, Endangered or Special Concern Species

There are two Threatened and four Special Concern species listed under the New York State Endangered and Threatened Species Regulations (6 NYCRR Part 182) known to occur

on the Unit. All native species present or formerly present in New York listed as endangered or threatened by the federal government are included in New York's listing.

In some cases, management on the Unit is carried out to favor the preferred habitat types of rare species known to occur. In other cases, the species listed below exist where they do in part because their habitat on state lands is protected from disturbance and development. Additional information can be found in the Fish and Wildlife Habitat Management section on page 96.

The timber rattlesnake, listed as Threatened, population is greatly reduced in New York from indiscriminate killing and illegal collection. Several properties of the Unit provide important habitat for this species, including Cameron SF, Cameron Mills SF, and Helmer Creek WMA. Habitats used by rattlesnakes need to be protected from activities that would prove detrimental to the snakes and managed to provide optimum habitat conditions. Usually the most critical habitat element (den sites) is on very steep slopes that are protected because of their inaccessibility. However, manipulation of the habitat in adjacent stands, including by timber harvest, may be desirable to remove shading of the sites or encourage undergrowth that provides security and foraging areas for snakes. Any activities in these areas should be reviewed carefully to ensure that they are compatible with the survival of this species.

The bald eagle is a Threatened species in New York with a population that has been steadily recovering in recent decades. Eagle nesting has not been documented on properties of the Unit; however, eagle use has been observed. Bald eagles commonly use trees on the Unit as perches and opportunistically scavenge on wildlife carcasses found here. Planned management on the Unit is not expected to negatively impact bald eagles and if nesting does occur on the Unit, actions will be taken to protect nest sites.

At least four Special Concern species are known to occur on the Unit. Forest breeding raptors, such as Cooper's hawk, red-shouldered hawk, and sharp-shinned hawk, have been observed on and near the Unit during breeding and migration seasons. In general, the major threat to forest breeding raptors is the loss of relatively large blocks of forest land, for example fragmentation by clearing and development. On the other hand, several Species of Greatest Conservation Need (SGCN) within the Unit, such as those dependent upon young forest habitat, would benefit from even-aged forest management that creates large areas of regeneration. Large areas of mature forest currently exist both on and adjacent to lands of the Unit and are expected to provide habitat for forest raptors into the future. Identification of forest raptor nesting territories on the Unit and avoiding disturbance during the breeding season should ensure their persistence.

The eastern long-tailed salamander, also listed as Special Concern, is known to occur on Tracy Creek SF. This species is generally associated with streams, where it lays its eggs on the underside of rocks submerged in water. Larvae develop in the water and move onto land as they metamorphose into adults, where they then spend the majority of their lives under rocks and rotting logs, and in rock crevices, often at the edge of springs and streams. Maintaining good water quality and avoiding disturbances, such as stream channelization, should ensure the persistence of this species where it occurs.

Information on the Unit

Summer surveys for threatened and endangered bat species occurred on Helmer Creek WMA in 2016 and on West Cameron WMA in 2017. These surveys consisted of acoustical recording and analysis of echolocation sounds to identify bat species. Results showed a probable absence of Indiana bat (endangered) and northern long-eared bat (threatened) on Helmer Creek WMA. Survey recordings for West Cameron WMA will be analyzed in the winter of 2017. These species hibernate underground in caves and abandoned mines, and in the summer forage and roost in forests. If found present, management activities would need to consider ways to avoid potential impacts to these species.

Nearly the entire Canisteo River Basin Unit is within the Southern Tier Grassland Focus Area (except the northern half of Canacadea SF). According to the BBA, several listed grassland bird species have been documented in survey blocks that overlap the Unit. However, State Forests and WMAs within the Unit do not contain significant grassland habitat suitable for grassland bird breeding. These species typically require large patches of grassland (25+ acres) in an open landscape, and grasslands found on the Unit are generally small, fragmented, and adjacent to forest. The largest grasslands of the Unit occur on Helmer Creek WMA (28 acres) and Tracy Creek SF (36 acres), but breeding bird surveys conducted in 2013 at Helmer Creek WMA did not find grassland dependent birds, and the presence of scattered trees in the grassland at Tracy Creek SF, although a valuable oak opening habitat, likely make it less suitable for grassland birds. Nevertheless, it is possible that these species may occasionally be found in larger grasslands on the Unit, most likely during migration. For information on grassland management see Grass and Brush Management in the Timber and Vegetation Management section (pg. 75).

The lists of known species located on or near the Canisteo River Basin Unit are found in Appendix B: Animals of the Canisteo River Basin Unit Management Plan Area (pg. 122).

Species of Greatest Conservation Need

The State Wildlife Grants program is a federal program that provides funds at the state level for conservation efforts aimed at preventing fish and wildlife populations from declining, reducing the potential for these species to be listed as endangered. In order to access these grant funds, New York State was required to develop a State Wildlife Action Plan (SWAP) that focuses on the “species of greatest conservation need.” This includes those species that are deemed rare, imperiled and those for which status has not been established. NYS DEC staff produced a list of 366 Species of Greatest Conservation Need (SGCN), of which 167 are High Priority SGCN. The list of species is certainly not exhaustive, but includes those species for which systematic assessments had been made by staff of the NYS DEC Division of Fish and Wildlife and the New York Natural Heritage Program. For further information on how the list was compiled, visit the web site www.dec.ny.gov/animals/7179.html which also has the entire list of species.

High Priority Species of Greatest Conservation Need that may occur on properties of the Canisteo River Basin Unit include, but are not limited to: brown thrasher, Canada warbler, eastern long-tailed salamander, and timber rattlesnake.

Wetlands and Water Resources

Water is an important determinant of what type and quality of habitat is found in any given place. Usually the Northeastern United States has plenty of water in the form of precipitation, surface and ground water. See also the Climate section (pg. 16), Watershed and Wetlands Protection Management section (pg. 94) an inventory of streams and ponded waters in Appendix E: Water Resources (pg. 144), and maps in Appendix M: Maps (pg. 182).

Streams

This Unit is located within the Susquehanna River basin. The streams within the Unit range from intermittent, meaning that stream flow does not occur year-round, to high quality trout streams with year-round flow. The majorities of the streams are class “C” and have fishery resources consisting of sucker and minnow species. Major named creeks consist of Cameron Creek, Helmer Creek, Norton Hollow Brook, Rock Creek, Tracy Creek, and Weaver Hollow Brook. Approximately 7.5 miles are classified C(T) or C(TS) under the NYS Water Resources Regulations, meaning they can support stocked trout populations (C(T)) or wild trout populations with successful trout spawning (C(TS)). Cameron Creek is classified as C(T) due to trout stocking which occurred over 30 years ago and Rock Creek is classified C(TS) due to documented wild trout populations. Wild trout populations have been documented in Norton Hollow Brook and this stream should be upgraded from C to C(TS).

Ponded Waters

The line between wetland and pond is subjective, and based on the amount of wetland vegetation present. Generally, it’s considered a pond if it has less than 25% cover of vegetation or soil, and wetland if it has more than 25% cover.

Ponds and Lakes

There are numerous unnamed beaver ponds, vernal pools, small dugouts, water holes, and other small ponds located throughout the Unit. The smaller ones, that do not have fish, provide valuable habitat for reptiles and amphibians, such as salamanders and frogs. The larger ponds can support fish, although not all of them do so. The volume and depth of water varies seasonally, with some drying up during the summer, and others holding water year-round. Some were created by humans, some were created by dams from beavers, and others are a result of glacial terrain features, but all provide a range of ponded water habitat.

One that is particularly easy to overlook is the vernal pool. Vernal pools (vernal meaning spring) in the Northeast are generally found in forests and are typically wet on a seasonal basis. In addition to being only seasonally wet, they tend to be extremely small, usually only fragments of an acre in size. No matter how inconspicuous they are, their contribution to the forest ecosystem in which they are found is monumental. Spotted salamanders, wood frogs, and many other amphibians and invertebrates depend on these pools as breeding sites.

Information on the Unit

There is one named pond on this Unit; Cameron Pond on Cameron SF. At least three other unnamed ponds are also located on this Unit. Almond Lake, a large flood control impoundment, managed by the US Army Corps of Engineers, is adjacent to Canacadea SF.

Wetlands

Wetlands (swamps, marshes, bogs, and similar sites) are places saturated by surface or ground water sufficient to support distinctive vegetation adapted for life in saturated soil conditions. Wetlands serve as natural habitat for many species of plants and animals and absorb the forces of flood and tidal erosion to prevent loss of soil. Wetlands cleanse water by filtering out natural and many manmade pollutants, which are then broken down or immobilized. In wetlands, organic materials are also broken down and recycled back into the environment, where they support the food chain. Wetlands are one of the most productive habitats for feeding, nesting, spawning, resting and cover for fish and wildlife, including many rare and endangered species.

Wetlands, though sometimes difficult to define, are easily accepted as valuable assets to the watersheds involved. Wetlands come in many shapes and sizes, some more obvious than others; however, our ability to notice them has nothing to do with how important they are to the environment. They have many widely recognized benefits including flood attenuation, water quality improvement, wildlife habitat, and groundwater recharge. Wetlands also play a major role in the global carbon cycle because they are an important carbon sink for atmospheric carbon dioxide. Despite their small proportion of landscape, wetlands constitute as much as 25% of global terrestrial carbon.

Wetlands are a minor component of the Canisteo River Basin Unit, present on only five of the ten properties and comprising less than 1% of the total Unit acreage. The majority of the Unit's wetlands are located on Cameron SF, where natural wetlands and constructed impoundments provide emergent, forested/shrub, and open water wetland types. Under a TRP the Upper Susquehanna River Coalition helped to create numerous vernal pools throughout the forested portion of the Unit. These wetlands provide important habitat for wetland-dependent wildlife, reliable water for upland wildlife during dry seasons, and facilitate wetland-related recreation opportunities.

Information about wetlands in this plan comes from two GIS data sets maintained by the Departments Data Selector. These sets are titled as New York Regulatory Freshwater Wetlands and National Wetlands Inventory. Considerable further information has also been developed from personal observation by cooperating partners and Department staff. Many of these wetlands are man-made, constructed under the CCC program or more recent habitat improvement programs.

There is only one New York State-protected freshwater wetland located within the properties of the Canisteo River Basin Unit. (See Table 10, below) In addition, there are numerous large and small wetlands identified in the National Wetlands Inventory coverage.

Please see also the map in Appendix M: Maps (pg. 182) for spatial information and site specific data, Appendix E: Water Resources (pg. 144) and Appendix G: Glossary (pg. 164) for definitions.

Table 10: NYS Freshwater Wetlands on the Canisteo River Basin Unit

Wetland	Location	Size on NYS DEC	Class*	Type
CM-1	Cameron SF	37.7 ac.	II	Palustrine; Forested/shrub, Emergent and Pond subtypes

* See Appendix G: Glossary pg. 164 for definitions.

Table 11: National Wetlands Inventory of the Canisteo River Basin Unit

Wetland Type	Number of Each Type	Acres*
Palustrine, emergent	3	7.7
Palustrine forested/shrub	12	22.7
Pond	5	17.8
Riverine	2	0.6
Totals	22	48.8

*This water acreage will change with water level and field delineation.

Aquifers

Most of the private residence water wells in this area tap fractured bedrock as their main source of supply. Flow rates are rather low (probably in the area of 1 – 5 gal/min).

Information about aquifers in this unit comes from one GIS data set maintained in the Departments Data Selector. This set is titled as Unconsolidated Aquifers @ 250K. This GIS coverage identifies many types of unconsolidated aquifers, including:

- Confined, Unconsolidated (none occurring in this unit)
- Main, Unconsolidated; with the following sub-types (with several sub-types occurring in this unit):
    - Confined, No Overlying Surficial Aquifer
    - Confined, Unknown Depth and Thickness
    - Kame, Kame Terrace, Kame Moraine, Outwash or Alluvium
    - Lacustrine or Eolian
    - Moraine
    - Primary Aquifer Region
    - Unconfined, High Yield
    - Unconfined, Mid Yield
    - Unknown

As per the above data set, portions of the Unit overlays unconsolidated aquifers. All are located in valley bottoms, resulting in only a small portion of any property overlapping with an aquifer. A small portion of Cameron SF, Cameron Mills SF, and Helmer Creek WMA overlay one described as an “unconfined, high yield”, aquifer. Flow rate (yield) is estimated as >100 gal/min. Rock Creek SF also overlays another aquifer with the same characteristics.

Canacadea SF overlay one described as an “unconfined, mid yield”, with an estimated flow rate of 10-100 gal/min.

No aquifers are noted for Burt Hill SF, Greenwood SF, Turkey Ridge SF, Tracy Creek SF and West Cameron WMA.

Use of Best Management Practices (BMP) for water quality has been shown to protect both surface and underground water quality. Further information on these BMP’s is provided by the publication: *New York State Forestry Best Management Practices for Water Quality: BMP Field Guide*.

Historic, Archaeological and Cultural Resources

The term cultural resources encompass a number of categories of human created resources including structures, archaeological sites and related resources. The Department is required by the New York State Historic Preservation Act (SHPA) (PRHPL Article 14) and SEQRA (ECL Article 8) as well as Article 9 of Environmental Conservation Law, 6NYCRR Section 190.8 (g) and Section 233 of Education Law to include such resources in the range of environmental values that are managed on public lands.

On lands managed by the Division of Lands and Forests, the number of standing structures is generally limited due to the nature of land use. Often those that remain are structures that relate to the Department’s land management activities such as fire towers, “ranger” cabins and related resources.

Archaeological sites are, simply put, any location where materials (artifacts, ecofacts) or modifications to the landscape reveal evidence of past human activity. This includes a wide range of resources ranging from precontact Native American camps and villages to Euromerican homesteads, cemeteries and graves as well as mills and other industrial sites. Such sites can be entirely subsurface or can contain above ground remains such as foundation walls or earthwork features.

Inventory of Resources

As a part of the inventory effort associated with the development of this plan the Department arranged for the archaeological site inventories maintained by the New York State Museum and the Office of Parks, Recreation and Historic Preservation (OPRHP) to be searched in order to identify known archaeological resources that might be located within or near the Unit. The two inventories overlap to an extent but do not entirely duplicate one another. The purpose of this effort was to identify any known sites that might be affected by actions proposed on the unit and to assist in understanding and characterizing past human use and occupation of the Unit.

The quality of the site inventory information varies a great deal in all respects. Very little systematic archaeological survey has been undertaken in New York State, especially on public lands. Therefore, all current inventories must be considered incomplete. Even fewer

sites have been investigated to any degree that would permit their significance to be evaluated. Many reported site locations result from 19th century antiquarian information, or artifact collector reports that have not been field verified. Often very little is known about the age, function or size of these sites. This means that reported site locations can be unreliable or be polygons that encompass a large area. Should systematic archaeological inventory be undertaken at some point in the future it is very likely that additional resources will be identified. (For more information on historic and cultural resources, see Chapter 3 of the SPSFM, found online at www.dec.ny.gov/lands/64567.html.)

A search of the OPRHP database resulted in not finding any known archeological sites on the properties of the Unit. Within the adjoining towns archaeological sites have been recorded for locations with more recent surveys, such as along roadways and new pipelines. However, there are signs of European settlements throughout the Unit. Including several cemeteries of known and unknown origin which are either maintained by the state or volunteers. The Unit has numerous home sites as well as remnants of stone, stump and rail fences, all evidence of prior land occupation and uses. See the History of the Canisteo River Basin Unit (pg. 11) section for a few notable locations on the different properties that make up this unit.

See the Archaeological and Historic Resources Management section starting on page 116 for additional information.

FUNDING, PUBLIC COMMENTS, POLICY CONSTRAINTS, and ILLEGAL USE

This plan strives to manage the diversity of the Canisteo River Basin Unit's biological and social resources for multiple use to serve the needs of the people of New York State. In order to manage the Unit for multiple use, the Department must manage the ecosystem in a holistic manner while reconciling the many and sometimes conflicting demands on the Unit. This must be done within the framework of Environmental Conservation Law (ECL), the New York Codes Rules and Regulations (NYCRR), the SPSFM, and the Departments policies and procedures. Within these constraints, a need exists for protection, goods, services, safe public water, and the perpetuation of open space.

Many issues, including public needs, form the basis for the objectives and management actions set forth in this plan. The Department recognizes that planning must be done today to ensure effective management in the future.

On the Canisteo River Basin Unit, many different issues and needs form the basis for the objectives and management actions set forth in this plan. As the need for open space and outdoor recreation increased over the past years, so too have the facilities on state lands been modified and expanded to meet that demand. The Department recognizes that the welfare of this area requires a "focus" towards the future. Planning must be done now to ensure orderly and environmentally sound management in the future.

In summation, a complex combination of needs, issues and constraints on these demands together with the inventory of available resources will form the basis for the goals, objectives, and subsequent management actions which comprise this plan. For more information regarding statewide management of State Forests please refer to the SPSFM at www.dec.ny.gov/lands/64567.html.

Funding

Currently the NYS DECs Bureau of Forest Resource Management and Bureau of Wildlife have limited budgets to manage all of the Departments lands.

Funding, when available, is primarily derived from:

- Capital construction account (State General Fund monies)
- Environmental Protection Fund (EPF). This account is primarily funded from real estate transfer tax and other appropriations by the legislature. Appropriations from this fund may be used for a wide variety of projects including habitat enhancement for plants and animals, recreational facilities and forestry improvements such as pre-commercial thinning, artificial regeneration, and control of invasive species.
- New York Works. Fund to rebuild New York State's aging infrastructure and help the economy.

- Conservation Fund. Wildlife Management Areas only. A state fund consisting primarily of income from the sale of sporting licenses, fines from penalties from fish and wildlife law violations, sale of products off lands administered by the Division of Fish and Wildlife, and Return a Gift to Wildlife donations. Revenues attributable to the sale of oil and gas leases from Wildlife Management Areas are deposited into the Conservation Fund.
- Wildlife Restoration Program Funds. These are federal funds commonly referred to as Pittman-Robertson Funds. This is a federal program established from money received from excise taxes on the sale of sporting guns and ammunition. Use of land purchased, or activities funded, are federally regulated to certain activities.
- Sportfish Restoration Program Funds. These are federal funds commonly referred to as Dingell-Johnson Funds. This is a federal program established from money received from excise taxes on the sale of fishing equipment, and motorboat and small engine fuels. Use of land purchased, or activities funded, are federally regulated to certain activities.
- State Wildlife Grants. This program is a federal program that provides funds at the state level for the identification of species in greatest conservation need and provide for the protection and restoration of their populations and habitats

Regional allocations from these accounts must be shared by all Department lands within the region. There is no specific budget established to manage an individual site. Funding is distributed based on priorities for all of the region. Tasks listed in the work schedule in this plan are contingent upon available funding and commitments associated with higher priority projects within the region.

Cooperative partnerships using Volunteer Stewardship Agreements with private conservation organizations or other interested parties, or through Temporary Revocable Permits issued to municipal or county agencies can be used to complete projects on the Canisteo River Basin Unit. These partnerships are a valuable supplemental source for providing needed services.

Occasionally projects may also be accomplished during commercial sales of forest products. However, these services are limited to certain activities within the sale area.

Summary of Public Comments

As part of the unit management planning process, the Department is committed to active citizen participation. To achieve that involvement, adjacent property owners, local government officials, media and others potentially interested in the management unit were identified and placed on a mailing list. While public comments are accepted at any time, the formal citizen participation process began in December 2016, when an introductory letter was sent to those identified on the Canisteo River Basin Unit Management Plan mailing list. This letter briefly described the lands identified in the Unit Management Plan and potential topics to be covered by the plan. It also asked for verbal or written comments related to the Canisteo River Basin Unit Management Plan. Public comments and staff-identified issues have been summarized below. See below for a complete list of public comments received as a result of the February 2016 scoping letter. See Appendix A: Public Comment (pg. 119) for

the letters and emails received. Both from the scoping letter and those received as part of the public meeting and comment period on the draft.

The following is an overall summary of public comment received:

- Bird and other species observed in the area are those dependent on mature forests;
- The department road and bridge on the west side of Cameron Mills SF improved public access;
- The grasslands on Cameron Mills are too small to provide nesting habitat for most grassland bird species;
- Winter grasslands are important for wintering raptors, and private fields in corn stubble are of limited use to the raptors;
- Any changes will involve a trade-off among the species that use the area, but doing nothing has the same effect.

Policy Constraints

The laws, regulations, and policies listed below provide broad guidelines within which this plan is prepared. The Environmental Conservation Law of the State of New York is available to the public at local libraries, the Department offices, from private vendors, and at www.dec.ny.gov/regulations/regulations.html on the internet.

Laws

State Laws

- Environmental Conservation Law
- State Finance Law
- State Historic Preservation Act (SHPA) - Article 14 PRHPL

Environmental Conservation Law (ECL):

- ECL Article 8 - Environmental Quality Review
- ECL Article 9 - Lands and Forests
- ECL Article 11 - Fish and Wildlife
- ECL Article 15 - Water Resources
- ECL Article 23 - Mineral Resources
- ECL Article 24 - Freshwater Wetlands
- ECL Article 33 - Pesticides
- ECL Article 51 - Implementation of Environmental Quality Bond Act of 1972
- ECL Article 71 - Enforcement

New York Code Rules and Regulations (6NYCRR)

- Title 6
    - Chapter I - Fish and Wildlife
    - Chapter II - Lands and Forests
    - Chapter III - Air Resources
    - Chapter IV - Quality Services
    - Chapter V - Resource Management Services
    - Chapter VI - State Environmental Quality Review
    - Chapter VII- Subchapter A
        - - Implementation of EQBA of 1972
    - Chapter X - Division of Water Resources

NYS DEC Policies and Guidelines

- Strategic Plan for State Forest Management
- Young Forest Initiative Strategic Plan
- State Wildlife Action Plan
- Public Use of State Lands Managed by the Bureau of Wildlife
- Temporary Revocable Permits
- Motor Vehicle Use
- Timber Management
- Unit Management Planning
- Pesticides
- Prescribed Burns
- Inventory
- Acquisition
- Road Construction
- Motorized Access Permit for People with Disabilities Policy (MAPPWD) / Commissioners Police #3 (CP-3)
- Best Management Practices (Water quality)
- General Freshwater Wetlands Permit for Wildlife Management Area Management Activities
- Bureau of Fisheries Fish Stocking Policies
- Archaeological Site Protection
- Archaeological Research
- Volunteer Stewardship Agreements
- Memorandum of Understanding with BLM for FYO 2004/2005 (leasing of gas wells)
- Draft ATV Policy for Public ATV Access to Recreation Programs
- Plantation Management on State Forests
- State Forest Rutting Guidelines
- Retention on State Forests
- Clearcutting on State Forests
- Rules for Establishment of Special Management Zones on State Forests and Wildlife Management Areas
- Rutting Guidelines For Timber Harvesting on Wildlife Management Areas

- Retention Guidance on Wildlife Management Areas
- Plantation Management Guidance on Wildlife Management Areas
- Etc.

Federal Law

- Americans with Disabilities Act
- Federal Wetland Law 404 - Water quality
- Federal Land Policy and Management Act of 1976 (FLPMA)
- National Environmental Policy Act of 1969 (NEPA)
- General Stormwater SPDES Permit.
- Etc.

Current Known Illegal Use

Regular patrols are made by law enforcement officials such as Forest Rangers, Environmental Conservation Officers and even local Sheriff Deputies on Department lands. But with the limited resources available it is difficult to stop all illegal activities such as:

- ATV and dirt bike use
- Off road driving
- Dumping / littering
- Vandalism
- Construction of permanent blinds and/or tree stands
- Harvest of ginseng and protected plants or animals
- Poaching
- Underage drinking
- Boundary line encroachments / trespass
- Non-permitted use of state land
- Shooting of breakable targets
- Cultivation of marijuana
- Meth labs

Whenever possible, fines or other punishments as the law allows are imposed. As money and other resources allow the damage is fixed, dumping is cleaned up and illegal plants are removed.

Encroachments

There are several encroachments and/or trespasses, which are listed in Appendix K: Known Encroachments and/or Trespass, page 178.

GOALS AND OBJECTIVES

Vision

The vision of this plan is to ensure the biological integrity, improvement and protection of the Canisteo River Basin Unit. This shall be done within the multiple use concept of management, which strives to serve the needs of the people of New York State by providing a broad based, biologically diverse ecosystem. Management will be considered over a broad geographical area, not only to ensure the biological diversity and protection of the ecosystem, but also to optimize the many benefits to the public that these lands provide.

The Environmental Conservation Law holds the legal mandate enabling the Department of Environmental Conservation to manage the State Forests, Wildlife Management Areas, Unique Areas, Multiple Use Areas and other State Lands under its administration.

As stated earlier, it is the policy of the Department to manage state lands to serve the needs of the people and environment of New York State. This management will be carried out not only to ensure the ecological enhancement and protection of the ecosystem, but also to optimize the many benefits to the public that wild land provides. Management will be directed toward those activities which will enhance the resources of the land. They will be carried out in a manner which reflects the land designation and the land's capability for these uses and strives to optimize the benefits of state lands to the public.

Department lands within Canisteo River Basin Unit are unique compared with most private properties in the surrounding landscape. Private landowners have differing management objectives and property size is often smaller. State lands provide large expanses open to public recreation. State land management planning horizons extend over a very long time frame. This allows for a commitment to provide healthy and diverse ecosystems and to manage and enhance unique vegetative types.

To achieve the vision, this plan will provide specific management goals with measurable planning objectives. The objectives will be augmented and supported by a plan of action and a timetable. We have chosen, for planning purposes, to separate these into categories, while recognizing that they are interrelated.

Overall Goals

Goal 1 – Provide Healthy and Biologically Diverse Ecosystems

Ecosystem health is measured in numerous ways. One is by the degree to which natural processes are able to take place. Another is by the amount of naturally occurring species that are present, and the absence of non-native species. No single measure can reveal the overall health of an ecosystem, but each is an important part of the larger picture. The Department will manage State Forests and Wildlife Management Areas so that they

demonstrate a high degree of health as measured by multiple criteria, including the biodiversity that they support.

Goal 2 – Maintain Man-Made Assets of State Forest and Wildlife Management Areas

Man-made assets on State Forests and Wildlife Management Areas include structures, boundary lines, trails, roads and any other object or infrastructure that exists because it was put there by people. Many of these items need no more than a periodic check to make sure they are still in working order. Others need regular maintenance to counteract the wear of regular use. It is the Department's intent to ensure that all man-made items on State Forests and Wildlife Management Areas are adequately maintained to safely perform their intended function.

Goal 3 – Provide Recreational Opportunities for People of all Ages and Abilities

State Forests and Wildlife Management Areas are suitable for a wide variety of outdoor recreational pursuits. Some of these activities are entirely compatible with one another, while others are best kept apart from each other. Equally varied are the people who undertake these activities, as well as their abilities, and their desire to challenge themselves. While not all people will be able to have the experience they desire on the same property, the Department will endeavor to provide recreational opportunities to all those who wish to experience the outdoors in a relatively undeveloped setting.

Goal 4 – Provide Economic Benefits to the People of the State

ECL §1-0101(1) provides in relevant part that "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." (Emphasis added) In considering all proposed actions, the Department will attempt to balance environmental protection with realizing potential economic benefit.

Goal 5 – Provide a Legal Framework for Forest Conservation and Sustainable Management of State Forests and Wildlife Management Areas

Staff must have clear and sound guidance to direct their decisions and actions. Likewise, the public must have clear information regarding what they are and are not allowed to do on State Forests and Wildlife Management Areas. Both of these are provided by well-written laws, regulations and policies. The Department will work to improve existing legal guidance that has proved to be inadequate, and create new guidance that is needed but does not yet exist.

Management Objectives and Actions

For easier reading, the remainder of this chapter has been divided into sections by topic, although admittedly many objectives and/or actions are interrelated and could be found under more than one section.

Each topic includes a Management Objectives and Actions table, in which each action has been given a priority code and an estimated cost for the 10-year plan period.

Factors such as budget and staff constraints, and other environmental health problems may necessitate deviations from the scheduled management activities.

Priority codes:

1) C=Critical, Necessary to ensure public health and safety; To stabilize structures so as to not lose the money and time invested in them; Mandated by legislation.
2) H=High, Necessary for public use, and/or to improve habitat or other natural resources. Often this will be for new projects.
3) L=Low, Important for the enhancement of public use, habitats or other natural resources.

Estimated 10 yr. Cost:

The figures for the 10-year costs are *estimates* for budgetary planning purposes. Actual costs are determined at the time the action takes place. As required by New York State Policy, lowest acceptable bid will be used for all state purchase contracts. Budgeted amounts are not directly allocated to these individual action costs, and actual amount received is likely to be much less than the total amounts indicated in the table. See the Funding section on page 62 for further discussion on budgeting for this and other State lands under Department management.

Application of the Americans with Disabilities Act (ADA)

The Americans with Disabilities Act (ADA), along with the Architectural Barriers Act of 1968 (ABA) and the Rehabilitation Act of 1973; Title V, Section 504, have had a profound effect on the manner by which people with disabilities are afforded equality in their recreational pursuits. The ADA is a comprehensive law prohibiting discrimination against people with disabilities in employment practices, use of public transportation, use of telecommunication facilities and use of public accommodations. Title II of the ADA requires, in part, that reasonable modifications must be made to the services and programs of public entities, so that when those services and programs are viewed in their entirety, they are readily accessible to and usable by people with disabilities. This must be done unless such modification would result in a fundamental alteration in the nature of the service, program or activity or an undue financial or administrative burden. See also the Application of the Americans with Disabilities Act (ADA) section on page 29.

Goals and Objectives

Consistent with ADA requirements, the Department incorporates accessibility for people with disabilities into the planning, construction and alteration of recreational facilities and assets supporting them. An assessment was conducted, in the development of this plan, to determine appropriate accessibility enhancements. However, the Department is not required to make each of its existing facilities and assets accessible so long as the Departments' programs, taken as a whole, are accessible.

New facilities, assets and accessibility improvements to existing facilities or assets proposed in this Unit are identified in several of the tables found in this Goals and Objectives chapter.

Access Management

Access is a basic necessity for both public use and land management. The management goal for access is to maintain an infrastructure system sufficient to manage the Unit's natural resources and provide for public use of the area.

For all facilities see Appendix M: Maps (pg. 182) for their location and names, and Appendix D: Facilities (pg. 142) for number and size.

Signs

Most of the identification signs on the properties are in good repair, however over time they fade or are damaged by vandalism and/or weather. At the time of writing of this plan, only Helmer Creek WMA is in need of an additional identification sign.

Roads

The existing public road infrastructure provides adequate public access throughout most of the Unit. Some portions of the town roads are seasonal and are not maintained for winter travel. Other roads have been officially abandoned; others have not been maintained in years. Some continued to have vehicle traffic, others have not. (When a road is officially abandoned it may revert to whoever owns the property it crosses, subject to any outstanding deed restrictions.)

Additional information can be found in the Roads section (pg. 18), and information on encroachments and/or trespasses are listed in Appendix K: Known Encroachments and/or Trespass (pg. 178).

All of the Department roads will need maintenance, in the form of annual mowing of the road edge and periodic grading of the surface; the more heavily used roads open to the public more often than the infrequently used gated ones.

Parking

There are 20 unpaved parking areas on the Unit with a wide range of condition and size. Many of them could use a fresh layer of gravel or the boundaries defined in some fashion.

Staff have identified the need for additional parking to be constructed at the following locations:

- Burt Hill SF - near the intersection of Burt Hill Rd and Feenaughty Hill Rd.
- Cameron Mills SF - along Pump Station Rd.

If additional parcels are added per the Land Acquisition Management (pg. 112) section, it will be evaluated for possible parking lot locations.

Gates

Use of gates and rock barricades to restrict motor access to haul roads and access trails will continue. The costs to upgrade haul roads for public access are prohibitive. In addition, access restrictions are needed to maintain the "backwoods character" of the properties as well as to protect sensitive sites.

The Department reserves the right to limit access to state lands when public safety issues occur, and/or damage to the infrastructure or other resources is likely. To aid in this process several additional gates have been listed for construction, but the majority of the time will be locked open.

Staff have identified the need for additional gates and/or other barricades at the following locations:

- Cameron SF – Cameron Pond Rd/W. Cameron Rd – locked open
- Cameron Mills SF - Pump Station Rd/Field Haul Rd – locked closed and Pump Station Rd/fireline access – locked closed
- Canacadea SF – Canacadea PFAR - locked open
- Greenwood SF - Haul Rd/Brown Hollow Rd – locked open, South Greenwood parking lot/Haul Rd – locked closed at the end and Well Head Access/Brown Hollow Rd – locked closed.
- Rock Creek SF – O'Hargan Rd/PFAR – locked open and O'Hargan Rd./gas well access Rd – locked open
- Turkey Ridge SF – Norton Hollow Rd/Turkey Ridge PFAR – locked open

Boundary Line

There is approximately 64.8 miles of boundary line for this Unit, which is maintained with signs and painted blazes. In addition, there is approximately 6.7 miles of interior road frontage on public roads, which is generally signed but not painted, and about 5.5 miles of exterior road front boundary.

Current policy is to repaint the blazes and re-sign these boundaries every five to ten years to clearly delineate state lands. Road frontage should be posted as needed. Signs along the roads tend to disappear more quickly than boundary signs out of the public eye. Hence, the road side signs will probably need more frequent replacement.

Staff identified several known issues with boundary line encroachment or trespass. A re-survey of boundaries in question may be necessary in some of these cases, and will serve as first priority for the survey crew's time, in other locations a ruling from the judiciary will be required to solve deed issues. See Appendix K: Known Encroachments and/or Trespass (pg. 178).

Table 12: Management Objectives and Actions for Access Management

Management Objectives		Mgt. Act. No.	Management Actions	Frequency of Action*	Priority Code (Pg. 69)	Estimated 10 yr. Cost (Pg. 69)
1	Identify need for additional access	1.0	Evaluate site(s)	As Needed	H	10 Work Days
		1.1	Receive public comments	On-Going	C	5 Work Days
		1.2	Solicit public comments	Every 10 yrs (as part of the UMP process)	C	5 Work Days
2	Maintain roads	2.0	Inspect culverts	Annually or after weather damage	L	40 Work Days
		2.1	Replace culverts on about a 25 year interval, or when failure occurs.	As needed.	C	$4,000 per culvert
		2.2	Public Forest Access Roads - grade and maintain surface.	Minimum of every 2 years, or after weather damage.	H	$2,000 per mile
		2.3	Haul Roads - grade and maintain surface.	Minimum of every 5 yrs, or after weather damage.	H	$2,000 per mile
		2.4	Mow road right of way	At least annually.	H	2 Work Days and $500 per mile
3	Construct roads or parking areas	3.0	No road construction proposed	Not in this plan period	L	n/a
		3.1	Construct parking lots on Burt Hill SF and Cameron Mills SF	By year 10	L	$8,000 per lot
4	Maintain parking areas	4.0	Litter removal	At least annually.	C	50 Work Days
		4.1	Maintain all parking areas	Every 5 yrs	C	$10,000
		4.2	Maintain informational signs	Annually	C	$1,000
		4.3	Mow all parking areas	Annually	H	100 Work Days

Management Objectives		**Mgt. Act. No.**	**Management Actions**	**Frequency of Action***	**Priority Code** (Pg. 69)	**Estimated 10 yr. Cost** (Pg. 69)
5	Control access	5.0	Locate, construct and install gates per above.	Year 1 and 2	C	5 Work Days and $6,000 per gate
		5.1	Maintain gates and signs	Annually	H	100 Work Days
		5.2	Enforce NYS DEC policies	On-Going	C	Unable to predict costs.
6	Identify state property boundary lines.	6.0	Paint and post boundaries	Annually	H	80 Work days and $10,000
		6.1	Identify and resolve boundary encroachment issues.	ASAP	C	Unable to predict costs.
		6.2	Survey and blaze boundaries.	When encroach-ment issues are discovered, or line evidence disappears .	C	Contracted out - $4,500 to $5,500 per mile. NYS DEC surveyors – 12 to 15 work days per mile
7	Maintain signs	7.0	Repair and replace area signs as they are vandalized or fade.	On-Going	L	$500 per sign
		7.1	Change signs per above.	Once	L	
		7.2	Repair, replace and post other signs as needed.	On-going	L	50 Work Days

*Factors such as budget and staff constraints, and other environmental health problems may necessitate deviations from the scheduled management activities.

There may be additional unforeseen work in this category. Development of new or additional facilities will only be under taken after due consideration in the Unit Management Planning process.

Timber and Vegetation Management

Plant communities are, by nature, dynamic and ever-changing. Young stands get older and species composition changes with time. Management of vegetation can accelerate or slow down these inevitable changes in vegetative types and stages. The Canisteo River Basin UMP strives to maintain a balance of vegetative types and vegetative stages, the purpose of which is to enhance species diversity and abundance.

The Department forestry staff will practice silviculture; the art and science of controlling the establishment, growth, composition, health, and quality of forests and woodlands, in an effort to promote biodiversity and produce sustainable forest products. There are two fundamental silvicultural systems which can mimic the tree canopy openings and disturbances that occur naturally in all forests; even-aged management and uneven aged management. Each system favors a different set of tree species. In general, even-aged management includes creating wide openings for large groups of trees that require full sunlight to regenerate and grow together as a cohort, while uneven-aged management includes creating smaller patch openings for individual trees or small groups of trees that develop in the shade but need extra room to grow to their full potential. In addition, passive management strategies will be used through the designation of natural and protection areas, and buffers around those areas, such as along streams, ponds and other wetlands, where activity is limited.

Timber and Vegetation Management Policies

The authority to sell forest products from the Department administered lands is provided by the ECL. To perpetuate the growth, health, and quality of the forest resources, the Department has implemented a sustained yield timber management program for State Forest lands.

The Division of Lands and Forests timber harvesting program on State Forests is governed in part by a Timber Management Handbook which includes both policies and guidelines to insure that management is carried out in a deliberate and professional manner. The Timber Management Handbook directs and regulates the practice of timber management on Department lands administered by the Division of Lands and Forests (Burt Hill, Cameron, Cameron Mills, Canacadea, Rock Creek, Tracy Creek, Greenwood and Turkey Ridge state forests). This handbook contains technical references, as well as direction on regulation, allowable cutting, silvicultural systems and procedures. For further discussion of Commercial Timber Sales, see Chapters 2, 3 and 6 in the SPSFM.

Other sources of direction for Department timber and vegetation management activities includes the SPSFM, Commissioner's policies, Division directives and the guidance and thresholds established in the State Forest Commercial Sales Program Environmental Impact Statement (EIS). All timber management activities that may be carried out will comply with the applicable guidelines and directives, as authorized under the ECL. Direction is also given in the Departments publication Best Management Practices for Water Quality, and the Management Rules for Special Management Zones, Plantation Management on State Forests, Rutting Guidelines, and Retention on State Forests. Furthermore, requirements for

Green Certification on State Forests, as described previously in the Timber and Vegetation section, are adhered to.

The Division of Fish and Wildlife has utilized timber harvests on WMAs for many decades. Habitat management on Bureau of Wildlife managed lands (Helmer Creek and West Cameron WMAs) is governed in part by the Programmatic Environmental Impact Statement on Habitat Management Activities of the DEC Division of Fish and Wildlife (1979) and the supplemental EIS currently in draft form. These documents provide current types of upland habitat management permitted on DFW administered lands, including timber harvests.

Traditionally, timber sales on WMAs have followed many of the same guidelines and policies created and used by Lands and Forests, as described above. Recently the Bureau of Wildlife has adopted many of those same policies or created similar policies and guidelines for harvests conducted on their lands. Habitat Management Plans (HMPs) will be written for each WMA in which specific management objectives and plans will be clearly defined. These documents will work in conjunction with other supporting documents, such as this UMP. The HMPs are complete for Helmer Creek WMA (2016) and West Cameron WMA (2017).

Timber and Vegetative Management Objectives

Staff have identified management objectives which strive to maintain a balance of vegetative types and stages which are different and unique to each area. Vegetation management objectives are dictated by the properties land designation. For example, Wildlife Management Areas base these decisions primarily on benefits to wildlife; State Forests are managed to provide watershed protection, wildlife habitat, ecosystem health, timber production, and recreation opportunities; Unique Areas protecting the cultural resources which make the property unique, and Multiple Use Areas on a combination of timber management, wildlife and recreation. The proposed timber and vegetative management is intended to enhance biodiversity, produce healthy and sustainable forest resources and enhance wildlife habitat diversity.

A decline in young stands has been observed throughout the northeast due to the control of natural disturbances such as wildfire, the decline in even-aged timber management on private lands, and the decrease in agricultural abandonment and succession. Young forests are temporary and typically follow a disturbance. With less disturbances, they quickly age into pole and saw timber stands and disappear from the landscape. Although management for a diversity of vegetative types and stages has occurred on many state properties, statewide there is need for a higher percentage in a young stage.

To address this issue, and the accompanying decline in associated wildlife species, Division of Fish and Wildlife (DFW), Bureau of Wildlife, developed the Young Forest Initiative (YFI) in 2015. The YFI aims to restore young forest habitat on most Wildlife Management Areas across the state. The objective of the initiative is to create and maintain at least 10% of each WMA's forested as young forest in perpetuity. This program is one of the primary considerations dictating timber and vegetation management decisions on properties administered by the Bureau of Wildlife within this plan, as well as in the Habitat Management Plan (HMP) for each WMA.

The identification of “Forest Matrix Blocks”, “Grassland Focus Areas” and wetlands, are important components of biodiversity conservation and forest ecosystem protection. These features need to be considered when developing management actions. See previous section on Timber and Vegetation (pg. 40) for addition information.

Inventory

Division of Lands and Forests policy requires that a forest inventory be conducted every 10 years and whenever forest stands are changed by any silvicultural operation or by the forces of nature. Forest inventory is the critical task in the vegetation management planning process, as it forms the basis for all science based vegetative management decisions in this plan. While not policy, the DFW intends to follow the same inventory schedule on the properties they manage.

The properties within this Unit have been inventoried within the past 10 years, and will be re-inventoried when necessary to maintain current data.

Current and Future Vegetation Types and Stages

As noted previously, the management objective is to strive to maintain a balance of vegetative types and stages for each property, with the ideal balance being different for each area.

See also the Vegetative Types and Stages table on page 43, Appendix F: Vegetation Management (pg. 147) and Appendix M: Maps (pg. 182).

Stand composition and vegetative type are influenced by many things. For these properties, the most important factors would be:

1) Site capability
2) Seed source
3) Past management
4) Deer density
5) Invasive species

Please note that it is impossible to predict exactly what the percentages of the various types and stages will be at the end of this plan period. This is due to two factors:

1) The significant role played by natural forces in the type and stage exhibited by any stand.
2) The fact that most tree species do not lend themselves to management over a 10 year period. In some cases, it may require 40 - 50 years before the results of any given management action can be adequately assessed.

Most of the Canisteo River Basin Unit does not have a significant component of grassy/brushy openings. These sites are important to wildlife and vegetation diversity and will be maintained as such. Most of the existing fields will not be allowed to convert to seedling/sapling, which means they will need to be mowed, brush hogged or burned on a regular basis.

Commercial Timber Sales

The primary method used to influence the timber and vegetation on State Land is the commercial harvest of timber. See the current timber and other vegetation in Table 7: Vegetative Types and Stages (pg. 43) and the Timber and Vegetation (pg. 40) section.

Timber resources include hardwood and softwood sawtimber, pulpwood, and firewood. Some of the factors affecting timber demand on the Unit include timber value, distance to markets, timber species and quality, the availability, or scarcity, of similar timber, international trade policies, and market demand.

The demand for timber on the Unit is part of the larger regional timber market which is part of the global market for wood products. For example - hardwood trees grown and cut on the Unit are often purchased by local loggers or sawmills, sawn into lumber at a mill within the region, and may eventually end up in a consumer product sold in Europe, Asia, or South America. The United States is a large part of the global market and has the highest per capita wood consumption of any nation. Wood products have been essential to the development of our country and continue to be an essential need of our society. As worldwide population continues to increase and the economies of other countries develop, there will be a continued long-term increase in the global timber demand.

At the local scale, there is a somewhat different demand for wood products. While many local loggers supply larger mills with hardwood logs, lesser valued products such as hemlock or larch logs and firewood can be profitably cut and sold to local markets. Hemlock and larch are often sawn by small local sawmills for use in barn construction. Firewood is cut by individuals for their own use or for resale to home owners.

Forest stands being considered for timber harvesting are prioritized based on the following criteria:

1) Adequate access;
2) Wildlife considerations;
3) Present and future forest health concerns (including invasive plants and pests);
4) Current distribution of vegetative stages within the Unit and surrounding landscape, including the ecoregion habitat gaps as per the SPSFM and the desired 10% young forest on WMAs as per the Strategic Plan for Implementing the Young Forest Initiative;
5) Ability to regenerate stands (if a regeneration harvest);
6) Existing timber and vegetation management priorities from other unit management plans in the state;
7) Market conditions;
8) Potential growth response of stands to treatment.

By law, any trees to be removed in a harvest must be designated, and paid for, prior to removal. Designation is made by Department forestry or wildlife staff. After designation is completed, a fair market appraisal is conducted. No products may be sold at less than the fair market value. Forest stands are prioritized for treatment based on the criteria outlined above,

and the desired future conditions identified by this UMP. Prioritization is done by Department foresters.

The ECL requires that different procedures are employed based on the appraised value of a timber sale. Sales that are appraised greater than $10,000 are called revenue sales and sales that are appraised at less than $10,000 are known as local sales. Revenue sale contracts must be approved by DEC's Central Office staff, and revenue sale contracts valued at $25,000 or more must be approved by the Office of the State Comptroller. The Regional Forester has the authority to execute local sale contracts. All sales valued at more than $500 (and those less than $500 which are thought to have substantial public interest) are publicly advertised and competitively bid. Law requires that forest product sales can only be awarded to the highest responsible bidder. The Regional sub-office in Bath maintains a mailing list of prospective bidders for forest product sales. Those interested in receiving bid information should contact the Bath office or visit www.dec.ny.gov/lands/69749.html for a list of currently advertised and recently closed bids.

There may be an opportunity to use up to 50% of the appraised timber sale value for in kind service work. This work must be necessary to access the sale and/or achieve management objectives. Examples of such work include but are not limited to: control of interfering/undesirable vegetation, establishing desirable regeneration and road construction and improvement. An assessment of the potential for this type of work will be done with each sale.

See Appendix F: Vegetation Management (pg. 147), or the HMPs, for additional information regarding scheduled timber harvests in the Unit.

Special Management Zones, Forest Retention and Rutting Guidelines

All silvicultural actions taken on Division of Lands and Forest properties are constrained by the Strategic Plan for State Forest Management (SPSFM), and policies for Special Management Zones, Forest Retention Guidelines, and Rutting Guidelines. Visit the web at: www.dec.ny.gov/lands/64567.html for additional information. For properties managed by the Division of Fish and Wildlife a similar set of guidance documents have been created specific to forest management on Wildlife Management Areas. Visit the web at: www.dec.ny.gov/outdoor/104218.html for additional information.

The Special Management Zones (SMZ) (pg. 46) establish continuous over-story shading of riparian areas and other land features requiring special consideration. The final configuration of the SMZ can only be done during sale layout, following field reconnaissance, which is beyond the scope of this plan. See also the Fish, Wildlife and Habitat (pg. 51) and the Watershed and Wetlands Protection Management (pg. 94) sections for further details.

The Retention on State Forests and Retention Guidance on Wildlife Management Areas contain strategies for conserving biodiversity in stands managed for timber production. Retention and recruitment of snags, cavity trees, coarse woody debris (CWD), fine woody material (FWM) and other features will advance the structural and compositional complexity necessary for conserving biodiversity and maintaining long term ecosystem productivity.

Goals and Objectives

The Rutting Guidelines for Timber Harvests and TRPs provide a tool to assist Department staff when administrating a timber harvest or Temporary Revocable Permit (TRP) on State Forests. A well planned and laid out access system, utilizing appropriate best management practices (BMPs), concentrates site disturbance, soil compaction, and rutting to these limited corridors while protecting water quality and overall site productivity of the general harvest area.

Protection Forest

Per the Timber Management Handbook protection stands receive special consideration whenever management activities, of any kind, are planned which may impact these stands. Examples include:

- seasonal harvest limitations,
- restrictions of type and/or size of harvesting equipment,
- special considerations for access.

Some protection stands are managed specifically to restrict or prohibit management activities. These practices may also be employed on other stands not designated as protection forest whenever site or vegetation protection is needed. Examples include: poorly drained soils, slopes over 15%, presence of historical or archeological features, recreational use, wildlife considerations, and preparation for forest regeneration. Wetlands do represent unique habitat types, and require Special Management Zones (pg. 46).

As part of the inventory process, 20 stands with a total of 484 acres have been designated as protection. This includes stands that are forested, forested wetland and wetland. The following stands have been given protection status:

- Burt Hill SF - No stands currently designated for protection.
- Cameron SF
  Stands:
  A-6 - 10 acres, Conifer Natural, designated to protect large stream side SMZ
  B-4 - 6 acres, Forested Wetland, designated to protect wetland
  C-750 - 5 acres, Archeological, designated to protect stone house and foundation
  D-12 - 31 acres, Conifer Natural, designated to protect steep slopes
  D-13 - 35 acres, Conifer Natural, designated to protect stream side SMZ
  H-6 - 33 acres, Conifer Natural, designated to protect steep slopes
  H-7 - 103 acres, Hardwood, designated to protect steep slopes
- Cameron Mills SF - No stands currently designated for protection
- Canacadea SF
  Stand:
  A-23 - 1 acre, Hardwood, designated to protect steep slopes
- Greenwood SF
  Stands:
  A-14 - 16 acres, Hardwood, designated to protect steep slopes
  A-41 - 32 acres, Hardwood, designated to protect steep slopes

- Helmer Creek WMA
  Stand:
  A-4 - 21 acres, Conifer Natural, designated to protect steep slopes and West Branch of Helmer Creek stream corridor.
- Rock Creek SF -
  Stand:
  A-18 - 29 acres, Hardwood, designated to protect steep slopes
- Tracy Creek SF
  Stands:
  A-9 - 7 acres, Conifer Natural, designated to protect steep slopes
  A-15 - 9 acres, Hardwood, designated to protect steep slopes
  A-23 - 9 acres, Hardwood, designated to protect steep slopes
  A-24 - 19 acres, Conifer Natural, designated to protect steep slopes
  A-26 - 71 acres, Confer Natural, designated to protect steep slopes
  A-29 - 19 acres, Hardwood, designated to protect steep slopes
  A-32 - 13 acres, Plantation, designated to protect steep slopes
- Turkey Ridge SF- No stands currently designated for protection.
- West Cameron WMA
  Stand: A-6 - 15 acres, Conifer Natural, designated to protect steep slopes and an un-named intermittent stream.

Current and Future Management

Due to the current vegetative types, stages, and species assemblages presented by these forests, the even-age system will continue to be the primary silvicultural system applied to the properties of this Unit during this planning period. Note that this is only for this planning period, and may change as vegetative types and stages change.

Silvicultural techniques used to manage the stands within this Unit will include:

- thinning and regenerating, even-aged stands;
- converting even-age stands to all-aged stands (where site and species assemblages are favorable);
- establishing protection areas to maintain and enhance diversity;
- protecting ecologically sensitive areas such as stream banks, wetlands, and steep slopes from intensive management.

The objective is to maintain and enhance well-adapted, native species in the Unit by using the most current silvicultural knowledge.

In some areas, difficulties with regenerating oak, conifer and other shade-intolerant and mid - tolerant species, have led to shade tolerant species such as Sugar and Red Maple becoming well-established. The presence of shade tolerant species will challenge the land managers' abilities to meet the overall vegetative goals of balancing forest types and stages.

When the time comes to regenerate oak stands it may be necessary to use techniques (such as prescribed fire, scarification, pesticide, fencing, etc.) which are not well known in this part of New York. Outreach to user groups and the general public will be critical in explaining

the science behind these techniques, why they are required, and why it is critical to reproduce the existing oak stands. In some cases, additional forms, plans, and/or SEQR may be required.

See Appendix F: Vegetation Management (pg. 147) for a stand by stand listing of commercial timber harvests planned for the 10 years of the Canisteo River Basin Unit Management Plan. Appendix M: Maps (pg. 182) includes maps of the planned commercial treatments.

Not all of the stands in the properties of the Unit will be subject to timber harvesting. It is important to note the stands with inadequate access, intensive recreational use, steep hillsides, and/or wetland terrain in the Unit do not lend well to timber harvesting.

Non-commercial treatment of stands is utilized to improve stand conditions. Non-commercial means that the trees are not valuable enough to sell. As a result, the work must be done by trained staff, trained volunteers, or through a procurement contract paid for by the Department. As people and/or money to contract the work becomes available, stands will be evaluated for non-commercial treatment.

Plantation Management

Most of the softwood plantations on the Unit consist of red pine, Norway spruce or Scotch pine. Most of the softwood stands are in the process of reverting to natural hardwoods. Any management of the plantations on State Forest will need to comply with the forest retention standards.

Most of the plantations within the Unit do not occur on soil types which are conducive to success by plantation conifer species. Therefore, this plan does not propose to replant any plantations. The better course is to allow these stands to succeed (either through management intervention or by natural forces) to native, natural, vegetation. This may, or may not, include a significant conifer component.

Natural succession within aging plantations is likely to follow one of two very different pathways. The first would be characterized by slow decline of the existing softwood overstory and a gradual release of the current crop of young seedling/sapling hardwoods in the seedling understory.

The second would be characterized by the existing softwood overstory being removed by a single catastrophic event (i.e. ice storm, heavy late season snow, unusual wind event, aggressive insect attack, etc.). This pathway would result in a much more rapid release of seedlings in the understory.

The composition of the understory is the key in both cases. Note that, particularly in the second scenario, if the understory is dominated by shrub species, a forested stand may not be the result. Rather a shrub savannah may result which might (depending on site factors) slowly succeed to a young hardwood stand.

In both scenarios, there is also the possibility that, if site factors are favorable, some of the softwood species from the original plantation may participate in the new stand. Anecdotal

evidence suggests that we should expect this, at least through the seedling - sapling stage. Long term persistence of these species on these sites may be somewhat less likely. Data regarding this type of situation has not been gathered long enough to have much information on the likely outcome. See also the discussion relating to desired conifer component.

The objective for managing plantations should be to try to mimic the first scenario. The stand is thinned to a density which will allow the establishment of desirable tree species in the understory of the stand. This treatment is later followed by the removal of the rest of the softwood overstory, once the number of new, young, trees in the understory is sufficient to assure a new stand.

While this is the primary objective, it is recognized that there will be those situations where nature will take its course and the second scenario will be played out. Once the catastrophic event occurs, the decision on salvaging the remaining woody material on the site will need to be made. This will be done on a case by case basis, depending on site and regeneration factors. It is impossible for us to estimate, at this time, the acreage which could be involved in salvage operations.

Conifer Component

Forest ecologists have identified conifers as an important component of the ecosystem. Whether planted or natural, they bring diversity and serve as a habitat niche for native wildlife species. About 14% of the Unit is in conifer plantations, and about 18% of the Unit is in natural conifer stands.

For the purposes of this plan a natural conifer stand is any stand where conifer species compose more than 33% of the stand, and it was of natural origins, not planted. Care must be taken to assure continuation and successful regeneration of these stands; this is especially important in drainage areas where Eastern Hemlock is the dominant tree species. Rarely would conversion of natural conifer stands to hardwood stands occur as a result of management actions. In many cases, particularly in regards to stands dominated by Eastern Hemlock, this will amount to a modified all–aged treatment. Stand regeneration efforts in these cases may stretch over a number of years.

Grassland and Brush Management

Statewide, grasslands are one of the most important parts of biodiversity, and these dynamic habitats are home to a significant community of bird species, including the threatened Henslow's sparrow and northern harrier hawks. Due to changing land-use patterns, natural vegetative succession, and development, grasslands are fragmenting and disappearing.

The Grassland Focus Areas (see Appendix M: Maps, pg. 182) were determined by analyzing the 2nd New York State Breeding Bird Atlas data for grassland birds for the entire state. To further refine the focus areas, the Department conducted point counts during the spring and summer of 2005.

Goals and Objectives

Overall the Unit does not have a significant amount of grassy/brushy openings, only about 3% of the total land area. There are several grassy/brushy openings at Cameron SF, Cameron Mills SF, West Cameron WMA and Helmer Creek WMA. Over the 10 years of this plan that amount should remain constant, or increase by no more than 155 acres (2% of the land area). The majority of the grassland management will take place on those properties with existing grassy/brushy opening. Clearing to create these openings will depend on funding, because of this, an exact year of action has not been picked.

Grassland consists of more than just grass species, but also includes native companion forb species such as milkweed, butterfly weed and brown-eyed Susan. Some of these respond well to fire, others respond well to less frequent mowing, but all will eventually lose to brush without some intervention. Almost none will survive in a mowed lawn setting. The frequency and timing of mowing or burning will influence what species return the following year, and which will not.

Existing, and future, grassy and brushy openings will need to be maintained, or they will revert to forest. Grass needs to be mowed at least every 3 years. If it isn't mowed, or burned, the grassland converts to brush and then the brush grows into trees. Brush growth response can vary greatly, but often needs hydro-axed or brush-hogged about every 5 to 15 years. Succession may be set back further by converting forest or brush to grass, as funding becomes available, this may be done.

Grassland areas over 25 acres or of any size that have documented presence of a listed species will be managed following the current grassland management BMPs. Generally, this requires avoiding mowing during the sensitive nesting or wintering seasons dependent on species present.

Applying lime and/or fertilizer can enhance the health of grasses over invasive plants such as spotted or brown knapweed, black or pale swallow-wort, burdock or goldenrod. A more expensive option for fields that have little or no grasses left growing is to use standard agricultural practices to return it to grassland. This includes mowing, plowing, tilling, and herbicide application and seeding. Additional paperwork, such as an herbicide application plan and SEQR are required prior to applying herbicide.

Fire can also be used to maintain grassland habitat. Most warm-season type grasses grow best following a fire. The soil heats up earlier in the spring with the black ash left after a burn, and the ash also provides a source of readily available nutrients for the growing grasses. Additional paperwork, such as a burn plan and SEQR are required prior to doing a controlled burn.

Typically, grassland acres are created out of timber acres by removing the woody plants, including stumps and roots, and planting grass seed. If created, the soil pH will be tested, and lime may be applied prior to seeding if funding allows. Best Management Practices would be used to control erosion.

Prescribed Fire

Prescribed fire is currently utilized in this Unit. Prescribed fire can help to maintain Oak-Savanah ecosystems by regenerating the warm season grasses and killing interfering shrub

and herbaceous vegetation. It can also help regenerate oak trees by removing leaf litter, exposing mineral soil and killing the interfering shrub layer.

If prescribed fire will be used, a prescribed fire plan must be prepared and approved. The fire plan must state objectives that assist in managing the plant community and achieve the UMP goals.

Issues that should be considered in preparing a prescribed fire plan are:

- Protecting adjoining landowners' properties
- Public perception on "controlled burns" escaping prescription
- Smoke management
- Publicity from prescribed fire operations
- Visibility of the fire from surrounding towns and major highways and potential for 911 phone calls during burns
- Public forum/meetings to provide an opportunity to voice concerns and provide a setting for input and education about prescribed fire

Prescribed fire is a great management tool but requires lots of time and resources. Where and when funding and staffing allows, prescribed fire will continue at the following locations:

- Cameron SF - Stands: H-940 (13 acres), H-4 (6 acres), H-3 (27 acres), H-8 (9 acres)
- Cameron Mill SF - Stands: A-11 (11 acres), A-8 (14 acres), A-9 (13 acres), A-940 (26 acres)
- Helmer Creek WMA - Stands: A-940 (32 acres), A-950 (21 acres), A-3 (4 acres), A-4 (2 acres)
- West Cameron WMA - Stands: A-940 (3 acres), A-941 (2 acres)

Expanding the prescribed fire program

Where and when funding and staffing allows, several fields which are currently maintained through mowing will be converted to native warm season grasses and switched to being maintained using prescribed fire. In addition, adjacent stands that are currently in brush or sparse tree cover could be included in the burn area.

- Cameron SF – Stands: F-950 (2 acres), F-952 (15 acres), F-953 (3 acres), G-950 (2 acres), H-941 (2 acres)
- Rock Creek SF – Stand: A-940 (2 acres)
- Tracy Creek SF – Stands: A-940 (40 acres), A-950 (8 acres), A-7 (11 acres), A-14 (18 acres)
- West Cameron WMA – Stands: A-4 (4 acres), A-15 (1 acre)

Wetlands

Wetlands are ecologically important for a number of reasons. They provide habitat for various mammals, vertebrates and invertebrates throughout the year; they are used by

various waterfowl during the breeding and migratory seasons; they provide sport and recreational opportunity to the public.

Less than 1% of this unit is classified as wetland. Management activities to maintain and enhance these wetlands are a priority and will occur as funding allows. See the Fish and Wildlife Habitat Management (pg. 96) and the Watershed and Wetlands Protection Management (pg. 94) sections for further details.

Forest Health Threats

DON'T MOVE FIREWOOD! New York State regulations prohibit firewood from being brought into New York unless it has been heat treated to kill pests. The regulation also limits the transportation of untreated firewood to less than 50 miles from its origin. Many other states have similar restrictions on firewood transportation across state boundaries. The reason for this is other than their own feet and wings, the primary way exotic invasive pests spread is by hitching a ride on un-treated firewood or shipping containers.

Some levels of insect, disease and natural disaster are recognized as being a beneficial factor in shaping our vegetation. Various endemic and epidemic occurrences of insect, diseases, fires and storms periodically impact the vegetative communities of New York State, including properties within this Plan. The Department staff will continue to observe the effects of these factors which influence the vegetation on the unit. Native insect species such as Fall Cankerworms are cyclic in population and may be expected to impact vegetation at some time in the future as they have in the past. By closely monitoring these outbreaks management actions may be able to lessen undesirable impacts.

However, invasive exotic insects, fungi, animals, or plants can cause big problems. Some exotics, such as chestnut blight, and beech bark disease, invaded years ago, and have all but exterminated the chestnut and beech trees. The hope is to avoid this again, by closely monitoring for new arrivals, and if possible eliminating them from North America before they can spread.

Insects, fungus, wind, ice or snow storms can all cause unexpected but devastating damage to stands of trees. In the event of such widespread damage occurring, a salvage cut may be the best action. A salvage cut removes the dead and/or dying trees, and functions as a regeneration cut on an even aged management that Mother Nature initiated. This cannot be scheduled at this time, but has the potential to completely re-arrange the cutting schedule in Appendix F: Vegetation Management (pg. 147) If this happens, there is the potential to be a lot more acres regenerated.

Invasive plants are also crowding out native species. Current exotic invaders include Purple Loosestrife, Buckthorn, Honeysuckle, Garlic Mustard, Giant Hogweed, Multiflora Rose, and Knotweed. Unfortunately, there are many more that are not listed here. As money and time allow, they will be monitored, and when found, management actions taken. Depending on the species and location, actions could include prescribed burns, pesticides, or mechanical removal.

White-tailed deer

White tailed deer are a native species that generally exist now at higher population levels than were found historically. Deer love to eat young tree seedlings, and by doing so, play a major role in the success or failure of establishing young forests, particularly those composed of shade-intolerant species such as oak or cherry. The Department uses Deer Management Permits (DMPs) as the primary means of deer population control, as they allow for the taking of antlerless deer only, the primary way to manage a deer herd. The Department encourages hunters to harvest as many antlerless deer as is legally possible on this Unit.

For further information, see the Nuisance Wildlife portion of the Fish and Wildlife Habitat Management (pg. 99) section.

Integrated Pest Management

The application of control methods will be determined using Integrated Pest Management (IPM). IPM is a science-based decision-making process that guides land managers when investigating a pest situation. The IPM approach determines the most appropriate and cost-effective management solution for the specific pest situation. IPM includes identification of the pest, understanding the use and significance of a site or the importance of protecting unique resources, and education of the people involved. IPM also establishes pest tolerance levels and monitoring protocols. Then, with the help of technical experts and on a case–by-case basis, Department foresters develop an effective, site specific and low risk strategy to manage the pest. This includes altering conditions which attracted pests to the site in the first place. IPM often involves changing human behavior as well.

The following priorities will guide the application of control methods with varying degrees of environmental impacts. The most negatively impactful methods hold the lowest priority and will not be applied unless all higher priority methods are not effective. Low priority methods will be applied in concert with higher priority methods in order to increase effectiveness. As new technologies are developed, they will be incorporated into management actions following appropriate review and assessment.

1) Silvicultural Remedies - Changes in forest composition and structure may create conditions that are less favorable to some invasive species.
2) Hunting - With the exception of Eurasian Boar (pg. 99) many invasive and nuisance species can be kept in balance within the ecosystem by applying hunting as addressed within the Deer Management section of the SPSFM.
3) Mechanical Control - Digging, pulling or cutting may be effective in altering site conditions to control invasives and directly controlling some plant species.
4) Grazing - Although many invasive plants may be resistant to applied scientific grazing, this method may be appropriate for some species. Grazing on DEC administered lands would require the availability of an agricultural partner along with staff and funding resources.
5) Biological Control - Biological control is the science of reconnecting invasive organisms with the specialized natural enemies that often limit their density in their native ranges. The U.S. Department of Agriculture’s Animal and Plant Health Inspection Service (APHIS) is responsible for controlling introductions of species

brought into the United States for biological control, in accordance with the requirements of several plant quarantine laws, the National Environmental Policy Act, and the Endangered Species Act. Petitions for release of plant biological control agents are judged by a Technical Advisory Committee, which represents the interests of a diverse set of federal and other agencies. (Van Driesche, et al. 2002)

6) Herbicide Treatment - All pesticide/herbicide use will conform to guidelines identified in the Active Forest Management section of the SPSFM.

Invasive Insects

Exotic invasive species from other continents can cause serious forest health threats. At the time of this writing, infestation of introduced insect invaders posing threats to New York's forests include: Emerald Ash Borer, Sirex Wood Wasp, Hemlock Woolly Adelgid, Silver Flys, Asian Longhorned Beetle and Southern Pine Beetle.

Emerald Ash Borer

One insect currently causing concern is the Emerald Ash Borer (EAB) (*Agrilus planipennis*). A native of Asia, it was first detected as a well-established infestation in Michigan, USA and Ontario, Canada in 2002. In 2009 it was detected in New York, and in 2010 found in northern Livingston County and central Steuben County. Every year since more EAB infestations have been found, and unfortunately additional ones are expected in the future.

EAB infests all species of ash (*Fraxinus* spp.), and has devastated millions of ash trees in North America. Adult beetles leave distinctive D-shaped exit holes in the outer bark of the branches and the trunk. Adults are roughly 3/8 to 5/8-inch-long with metallic green wing covers and a coppery red or purple abdomen. They may be present from late May through early September but are most common in June and July. Signs of infection include tree canopy dieback, woodpecker damage, yellowing, and browning of leaves.

Current efforts are pointed toward delineating the infestation area and slowing the insect's spread to other parts of the state. The Departments current planning is contained in a document called the Emerald Ash Borer Management Response Plan a.k.a. The SLAM Document (SLow Ash Mortality), the goal of which is to "keep as many ash trees alive as possible, in as much of New York State as possible, for as long as possible". Additional information can be found at: www.dec.ny.gov/animals/7253.html including a PDF of the SLAM Document.

It is only a matter of time before EAB spreads across the entire state and forever changes New York forests. The most significant impact will be seen in wetland areas where ash is the dominant species. Many of the hillside stands have a much smaller percentage of ash, but very few have no ash trees at all. Some of the lowland areas have so very few other tree species that the primary tall vegetation left will be brush and standing dead ash snags.

Sirex Wood Wasp

Often, stands that are stressed by overcrowding become susceptible to forest health threats. One forest health threat in that category is the Sirex wood wasp (*Sirex Noctilio*). The Sirex wood wasp is a devastating pest of pine plantations. It is native to Europe and Asia and has destroyed millions of pines in Australia, South America and South Africa. In September of 2004, a Sirex wood wasp was discovered in a research trap in Fulton, New York. An expanded trapping effort in 2006 confirmed the presence of Sirex in most counties in western New York.

Utilizing literature from around the world, the Department has developed management direction in regard to dealing with the Sirex wood wasp. The literature suggests that dominant trees with a good crown ratio in managed/thinned stands experienced very little to no damage from Sirex. Unhealthy, suppressed and over-crowded trees in unmanaged stands, on the other hand, experienced mortality rates of up to 65% over a three-year period in one study. As the infestation in New York is still young, we do not yet know what the impacts will be. Therefore, silvicultural management options are not limited to liquidation cuts or work to convert stands to a non-pine species composition, unless this is a management objective for other valid silvicultural reasons. Periodic, judicious application of thinning operations to maintain stand densities at levels recommended in applicable stocking guides for optimum growth is currently the Department's approach to silviculture in consideration of the potential threat of Sirex.

Hemlock Woolly Adelgid

One aggressive insect pest which preys on the Eastern Hemlock tree is the Hemlock Woolly Adelgid (HWA). The HWA is native to parts of Asia and was first discovered in New York in 1985. It is in the family Adelgidae, which is related to aphids. The adelgid uses long mouthparts to extract sap and nutrients from hemlock needles, this prevents free growth, causing needles to discolor from deep green to grayish green, and to drop early. The loss of new shoots and needles seriously impairs tree health, resulting in death of the hemlock after several years.

Since HWA has no effective natural predators in the eastern United States, HWA has spread quickly and caused extensive hemlock mortality. To help control HWA, entomologists from Cornell University, the US Forest Service and the US Department of Agriculture have released predatory insects into HWA infested stands. The predators showing the most promise are Laricobius beetles (*Laricobius nigrinus* and L. *osakensis*) and Silver Flies (*Leucopius piniperra* and *L. argenticollis*). These predators only feed on adelgids and have kept HWA at tolerable levels in the Pacific Northwest. Releasing both predators should provide more effective control as they prey during all susceptible HWA life stages. New predator rearing facilities have been constructed at Cornell University to increase their availability for release. A Finger Lakes Hemlock Initiative task force has been established to prioritize potential release sites.

Although these efforts show promise, the fate of Eastern Hemlocks in still uncertain. The loss of this keystone species could have wide ranging negative effects on ecosystems containing hemlocks.

Invasive Plants

Giant Hogweed is an invasive exotic plant that can cause severe skin and eye irritation, painful blistering, permanent scarring and blindness. It can grow up to 14+ feet tall and has huge leaves and large showy clusters of white flowers. It is a native of the Caucasus Mountain region between the Black and Caspian Seas. It was introduced to Europe and the United Kingdom in the late nineteenth century and to the United States in the early twentieth century as an ornamental garden plant, and is now in the wild in Western and Central New York. State wide this plant is being tracked and eliminated where possible. If you see this plant, *don't touch it*! Additional information is available on www.dec.ny.gov/animals/39809.html. As of the writing of this plan, the primary control for large patches has been herbicide spraying. In the future physical removal may be attempted on smaller patches.

Knotweed, a.k.a. “bamboo”, was originally imported as a garden plant in the 1880s, for its green foliage and August-blooming flowers. Unfortunately, it spreads aggressively, growing quickly along forest edges, stream banks and disturbed areas. Growing to 10 feet tall, it spreads over large areas with dense growth and crowds out native plants. Once mostly found on the valley floor it is increasingly found on the hill tops. It is resistant to many herbicides, and easily re-sprouts from roots or stems when cut or mowed. Nevertheless, Department staff are attempting to minimize its impact with herbicide treatments.

Phragmites, or common reed, is found in North America as both a native subspecies and an introduced subspecies. The European version arrived in the late 18th or early 19th centuries, most likely as part of packing or ballast material, and over the centuries it has spread across the continent. It can grow to over 15 feet tall, and can quickly take over a marsh community by crowding out native plants with its extremely dense growth pattern, both above and below ground. At this time, there is no biological control available, mechanical control would require removing all of the roots, herbicide spraying is the primary method of control.

Honeysuckles are another plant that has both a native and several exotic invasive species found on the landscape. They were introduced and widely planted for ornamental, wildlife and erosion control purposes. Primarily spread by birds eating the berries, they are usually found in open disturbed locations, and they will grow in dense stands that crowd out native species. Primary control method is herbicide, although mechanical and prescribed fire will work on smaller plants.

Buckthorn (common, Carolina, glossy and alder) are all invasive tall shrub/small trees. Originally from Eurasia it was planted as a hedge or for wildlife food and cover. It is one of the earliest to leaf out in the spring, shading out many of the early spring plants, and some are allelopathic in that they produce a biochemical that inhibits the growth of other plants. The primary control method is herbicide, although mechanical removal will work on smaller plants.

Multiflora rose, or wild rose, was introduced from Japan in 1866 as rootstock for ornamental roses, in addition it has been widely planted for erosion control, living fences and wildlife food and cover. Unfortunately, it can survive in a wide range of soils and light conditions, and as a result has spread widely. The thorny, dense stands shade out native plants and discourage animal (including human) movement through the landscape. The rose

is the New York State flower, and ornamentals are still a popular garden plant. Rose rosette disease, caused by a virus, has been slowly spreading and killing both Multiflora rose and some ornamentals. Repeated mechanical mowing will eventually kill it, but herbicide is much more efficient.

Table 13: Management Objectives and Actions for Vegetation

See page 147 - Appendix F: Vegetation Management for a schedule of stands and management actions, and on page 182 - Appendix M: Maps and Table 7: Vegetative Types and Stages is on page 43.

Management Objectives		**Mgt. Act. No.**	**Management Actions**	**Frequency of Action***	**Priority Code** (Pg. 69)	**Estimated 10 yr Cost** (Pg. 69)
1	Maintain knowledge of forest stands.	1.0	Perform forest stand inventories.	Every 10 years	C	100 Work Day's
2	Maintain healthy vegetation and rare community types.	2.0	Practice Integrated Pest Management, including early detection and monitoring for new invasive species.	On-Going	C	Unable to predict future pest problems. A new invasion could greatly increase the cost.
		2.1	Manage deer population to reduce damage to the low growing vegetation (understory).	Annually	H	Accomplished by hunting license sales, producing brochures, etc.
		2.2	If widespread damage occurs, evaluate the damaged stands for salvage cut, or other management action.	After damage occurs.	C	Unable to predict costs.

Management Objectives		Mgt. Act. No.	Management Actions	Frequency of Action*	Priority Code (Pg. 69)	Estimated 10 yr Cost (Pg. 69)
		2.3	Deal with invasive exotic organisms. Specific actions will be based on species and location, but include prescribed burn, biological control, pesticide and mechanical removal.	After invasive is found.	H	Unable to predict costs.
		2.4	Mechanical or herbicide removal of Giant Hogweed.	Annually	L	
		2.5	Herbicide removal of knotweed and phragmites.	Annually	L	10+ Work Days
		2.6	Biological control or insecticide application of hemlock woolly Adelgid, and other pests.	On-Going	L	Unable to predict costs.
3	Protect water and soil quality	3.0	During Timber and Vegetation Management, follow Best Management Practices (BMP's) for water quality per the Department's "Timber Management Handbook"	On-Going	C	See 5.0, 6.0 and 6.1
		3.1	Designate stands, or portions of stands, into the protection or Special Management Zones category that have factors that require special considerations.	On-Going	C	See 1.0
		3.2	See also Watershed and Wetlands Protection Management on page 94 and Fish and Wildlife Habitat Management on page 96.	On-Going	C	--
Strive to maintain a healthy balance of vegetative types and stages:						
4	Grassland / Brushy / Ag	4.0	Create about 155 acres. (increase of 2.0% of land area)	By year 10	L	$2,000 per acre

Management Objectives		Mgt. Act. No.	Management Actions	Frequency of Action*	Priority Code (Pg. 69)	Estimated 10 yr Cost (Pg. 69)
	Openings (229 current acres, plus 155 additional acres)	4.1	Maintain current 229 acres of grassland or brushland. By mowing or burning on a minimum of a 3-year rotation or a 5-15yr rotation of hydro-axing or brush-hogging. (3.0% of land area)	Mow grassy openings prior to April 15, or after July 15. Any burns will take place March-May when favorable conditions are present.	H	$200 per acre to mow. $100 per acre to burn. $300 per acre to hydro-axe.
		4.3	Reclamation of grassy openings using standard agricultural practices, including mowing, plowing, tilling, herbicide application and seeding.	When grassland habitat converts to undesirable vegetation.	L	$500 per acre
		4.4	No action on 26 acres of brushland, allow to revert to forest. (0.3% of land area)	n/a	L	No cost.
5	All Age silviculture – about a 20-year cutting rotation	5.0	Stand entry on 14 acres located on 1 stand. (0.2% of land area)	See schedule, Appendix F: Vegetation Mgmt. (pg. 147)	L	75 to 200 Work Days
6	Even Age silviculture, Natural hardwood at about a 100-year rotation Plantation softwood at about a 75-year rotation	6.0	Regenerate 616 acres located on 25 stands over 10 years (8.0% of land area)		H	100 to 300 Work Days
		6.1	Thin 611 acres located on 22 stands over 10 years (7.9% of land area)		H	150 to 350 Work Days
		6.2	Implement the Young Forest Initiative (YFI) on WMA's by converting approximately 10% of the forested acres on WMAs back to young forests.		H	See 6.0

Management Objectives		Mgt. Act. No.	Management Actions	Frequency of Action*	Priority Code (Pg. 69)	Estimated 10 yr Cost (Pg. 69)
7	Pre-commercial work	7.0	If funding or staffing becomes available, the seedling/sapling and smaller pole size stands will be evaluated for pre-commercial thinning.	When funding and/or staffing are available.	L	1 Work Day per 100 acres evaluated
8	Roads, ponds, wetlands etc.	8.0	Maintain per Maintenance and Facilities Management, page 110, Public Recreation and Use Management, page 102, and Fish and Wildlife Habitat Management, page 96.	On-Going	H	See referenced sections

*Factors such as budget and staff constraints, and other environmental health problems may necessitate deviations from the scheduled management activities.

Watershed and Wetlands Protection Management

The Reforestation Law of 1929 mandates watershed protection as one of the most basic goals of the state forest system, and the history of this Unit has been one of active and comprehensive protection of its watershed.

Approximately 1% of the habitat on the Unit is wetland, with the majority of that being on Cameron SF. In total, the Unit has one State-protected freshwater wetland, 22 Federally-protected wetlands, about 7.5 miles of trout streams, and numerous smaller streams and tributaries.

The Departments' responsibility for administration and enforcement of the Environmental Conservation Law includes many provisions for protecting watershed and wetlands resources. The New York State Freshwater Wetlands Act (ECL Article 24) and the Water Resources Law (ECL Article 15, Title 5) are the best examples. Compliance with these regulations is required by the Department when conducting management activities or construction projects that involve protected wetlands, water bodies, or streams. In addition, New York State Forestry Best Management Practices for Water Quality will be followed for all silvicultural practices on state lands. These guidelines require specific conservation practices which protect soils and water quality. Management objectives follow these regulations and best management practices and are clearly consistent with sound conservation practices and public desires.

Regulated activities within protected wetlands, streams and water bodies include such things as clear-cutting vegetation and construction of ponds or road crossings. Normal maintenance and repair of existing structures is generally exempt from permit requirements. Well-managed water resources have multiple benefits, including quality fish and wildlife

habitats, aesthetically pleasing sites, groundwater protection, floodwater retention, and various recreational activities.

Since water resources compose such a small percentage of the Unit, there is a need to identify areas that have potential and need for additional water resources. Over time these new aquatic features will be integrated into the Unit's uplands. This will mainly be accomplished by the construction of small dug out ponds, often as a result of, or in conjunction with, the harvest of forest products.

See also Wetlands and Water Resources (pg. 56), Timber and Vegetation Management (pg. 75) Fish and Wildlife Habitat Management (pg. 96), and Public Recreation and Use Management (pg. 102).

Table 14: Management Objectives and Actions for Watershed and Wetlands Protection Management

Management Objectives		**Mgt. Act. No.**	**Management Actions**	**Frequency of Action***	**Priority Code** (Pg. 69)	**Estimated 10 yr Cost** (Pg. 69)
1	Protect water and wetland resources	1.0	Utilize Best Management Practices (BMP's) for water quality on timber sales, recreation facilities, and any other construction.	On-Going	C	Part of the planning and con-struction process.
		1.1	Control erosion through proper road and trail maintenance.	On-Going	C	
		1.2	Comply with the Protection of Waters and Freshwater Wetlands Acts.	On-Going	C	Part of other actions
		1.3	Follow Objective 3 in Timber and Vegetation Management, page 91.	On-Going	C	Part of other actions
2	Provide additional open water resources	2.0	Identify locations with potential, and need, for additional or improved wetland/water resources.	On-Going	L	Part of other actions
		2.1	Construct new water features in upland areas.	On-Going	L	Up to $10,000 per each.

*Factors such as budget and staff constraints, and other environmental health problems may necessitate deviations from the scheduled management activities.

Fish and Wildlife Habitat Management

The general fish and wildlife habitat goals for the Unit are to maintain and enhance habitat for fish and wildlife species and to provide public access for activities including hunting, fishing, trapping, hiking, bird watching, and other compatible outdoor recreational pursuits.

Habitat management for forest-dwelling wildlife will largely be driven by the size class of the specific forest stand, its physical structure, and its species composition. Most of the Unit is dominated by oak-hickory or northern hardwoods forest types, which are largely in the pole and sawtimber size classes. There has been a significant decline in seedling/sapling size class stands over the past 15 years and efforts toward achieving a balance of size classes should continue, so wildlife species diversity and abundance are maintained. This includes establishing young forests by regeneration methods such as shelterwood, seed tree, or overstory removal, as well as maintaining and encouraging older size classes via thinning. Natural conifers are an important component of the predominantly hardwood stands on the Unit and should receive consideration to ensure that they remain as a component in future stands.

Approximately 14% of forests on the Unit are conifer plantations. Though such stands are used by fewer wildlife species than more diverse forest stands, conifers do provide important habitat for many species. Vegetative management will encourage the conversion of plantations to naturally stocked stands of greater diversity. A white pine and hemlock component in natural hardwood stands greatly enhances wildlife habitat.

Wildlife species favoring grassland or young forest habitat will benefit from careful management to create and maintain these habitat types. Though all habitat types slowly change over time through the process of succession, nowhere is this more evident than with grasslands and young forests. Without conscious effort to keep these habitats in their respective successional stages through active management, they will quickly transition to older structural vegetative states; a major reason why these habitats are relatively scarce. The Young Forest Initiative (YFI) is designed to create and maintain at least 10% of forest stands on WMAs as young forest in perpetuity. (See Timber and Vegetation Management on page 75) Several small grasslands stands exist on the Unit and provide important habitat to numerous wildlife species. Grassland stands should be maintained whenever possible and establishment of additional grassland habitat could occur when opportunities arise through timber management or other permitted activities.

Many species of wildlife, from turkeys to salamanders, require sufficient water resources. Although a number of small streams, ponds, and wetlands are present on the Unit, a large percentage of the upland forests lack water and wetland habitats. Inventory of existing sources will help identify sites with the greatest need. Dug-outs and vernal pools should be created as opportunities arise, particularly in association with timber sales. Existing ponds and wetlands should be maintained to provide water sources and aquatic habitat on the Unit.

In general, a diverse assemblage of wildlife species comes from diverse habitats. Important components are a diversity of structure, shape, age, vegetation, food, water, and shelter. The beauty of creating good wildlife habitat is that it need not be a one-time endeavor. Improvements can occur gradually as resources and strategies come to light. To

maximize opportunity and efficiency, many habitat improvements on the Unit can and will occur in conjunction with other work being done. For example, timber and fuel wood sales, and Volunteer Stewardship Agreements, can be a source of manpower to accomplish habitat projects.

Threatened and Endangered Species

Threatened and endangered species exist on portions of the Canisteo River Basin Unit. Efforts to identify, improve and/or create critical habitats need to continue. See also the Threatened, Endangered or Special Concern Species section on page 54.

Timber Rattlesnake

The timber rattlesnake is greatly reduced from its historic range and population size in New York State. A previous bounty system, collection for the illegal reptile trade, general persecution, and habitat loss have led to this dramatic decline and the rattlesnake's listing as a Threatened species in New York. Remnant populations do, however, exist throughout the state and den sites are known to occur in western New York.

Rattlesnakes are known to occur on some properties of the Unit. Habitat management in suitable stands should avoid potential impacts and enhancement of rattlesnake habitat would be favorable. This can be accomplished by limiting timber harvest activities to winter months near den sites and foraging areas, and by locating skid trails and landings away from den sites. The creation of young forest should benefit rattlesnakes by increasing available basking locations and improving ambush cover for catching prey. Monitoring of rattlesnake populations on and near the Unit should continue to provide accurate abundance and distribution data for management planning.

Forest Raptors

Three species of forest raptors are known to occur on the Unit (Cooper's hawk, red-shouldered hawk, and sharp-shinned hawk) and all are listed as species of Special Concern in New York. These species nest and forage in woodlands and have benefited from the increase in forestland in New York over the past century.

Disturbance to forest raptor nesting should be avoided. If nesting is observed before or during active forest management, such as a timber harvest, management may avoid the site until after nesting and fledging are completed, and the nest site may be buffered to protect nesting habitat. Large areas of mature forest currently exist both on and adjacent to lands of the Unit and are expected to provide suitable habitat for forest raptors into the future.

Long-tailed Salamander

The long-tailed salamander, a species of Special Concern, is known to occur on Tracy Creek SF. Surveys suggest successful reproduction but a low population size. This species is generally associated with streams, with breeding and larval development in the water, and individuals spending the majority of their lives in nearby uplands under rocks, logs, or in

crevices. The primary method to protect the habitat of this species is to protect the water quality of Tracy Creek.

Bats

Several bat species have declined significantly due to the spread of white-nose syndrome, a fungal disease first found in New York in 2006. The Indiana bat (endangered) and northern long-eared bat (threatened) both hibernate in caves and abandoned mines, and use various forests as summer habitat. They typically roost under loose bark on snags or live trees and reproduce in maternity colonies at similar sites. Summer habitat is not a limiting factor for these species; however, avoiding disturbances to potential maternity colonies is important.

In an effort to avoid possible impacts to these species, surveys will occur on properties managed by Wildlife before timber harvests are allowed to occur in the spring and summer. If there is a high probability of bats in the area, properties managed by Forestry will be surveyed. If threatened or endangered bat species are found to be present, timber harvests should be restricted to only occur from October 1 through March 31 to avoid disturbing potential maternity colonies.

Survey results from the summer of 2016 showed a probable absence of both Indiana and northern long-eared bats on Helmer Creek WMA. Survey data recorded in the summer of 2017 at West Cameron WMA will be analyzed during the winter of 2017.

Species of Greatest Conservation Need

Numerous species listed as Species of Greatest Conservation Need (SGCN) in the New York State Wildlife Action Plan (SWAP) are known to occur on the Unit (see Appendix B). Vegetation management planned for the Unit is expected to improve or maintain habitat that benefits several of these species.

Efforts to regenerate stands and increase the acreage of seedling/sapling size stands will benefit several SGCN species associated with young forests, including American woodcock, brown thrasher, ruffed grouse, and northern black racer. Stands that will be thinned or have no management in the near future will benefit SGCN species associated with mature forest, such as scarlet tanager, wood thrush, little brown bat, and tricolored bat. Prescribed burning and mowing to maintain grasslands will benefit bobolink and eastern meadowlark, which may occasionally occur in the larger grasslands of the Unit.

Although the coal skink is not known to occur on the Unit, suitable habitat is present. Efforts to survey for coal skink would be beneficial to ensure future protection and/or enhancement of its habitat.

Other Rare Animals

Although not listed as endangered, threatened, or SGCN, Wehrle’s salamander is known to occur on West Cameron WMA. The range of the Wehrle's salamander in New York is limited to the southwestern part of the state. Those found at West Cameron WMA suggest an isolated population at the extreme northern limits of the species' range. These salamanders

typically breed in damp logs, moss, and rock crevices, often on hillsides near streams. No management is currently proposed in areas where this salamander has been found; however, future management in these stands should occur in winter and be selective to retain canopy shade. Additional surveys would be useful to update locations used by this species.

Nuisance Wildlife

Special attention to deer management is warranted given the ability of high white-tailed deer populations to negatively impact vegetative species diversity, as well as the major role deer play in the success or failure of establishing young forests, particularly those composed of shade-intolerant species such as oak or cherry. In accordance with established procedures and goals used by the Department to determine deer management decisions, a reduction in the number of deer on the landscape by liberal harvest via hunting is encouraged. (See the White-tailed deer section on page 90 for a more detailed discussion of deer management on land in and surrounding the Unit).

The Unit has a growing population of resident Canada geese. Canada geese are a valuable natural resource that provides recreation and enjoyment to many. However, resident Canada geese can cause problems including public health concerns for drinking water supplies, overgrazing grass areas, accumulations of dropping and feathers on lawn areas used by people, nutrient loading to water bodies, aggressive behavior by nesting and brood-rearing birds, and safety hazards near roads. Geese may also cause problems for nearby landowners when birds move off state land and onto private land.

To minimize the potential impact of geese on state and nearby private lands, efforts should be made to stabilize or reduce the resident goose population as necessary on the Unit. To accomplish this, a multi-faceted approach may be necessary, the first is to encourage goose hunting (where legal) on the Unit, posting of “No Feeding Waterfowl” signs near problem areas, and reproductive inhibition via the treatment of nests to prevent hatching.

The term feral swine, or Eurasian Boar, is often used to describe all swine species that are living unconfined in the wild. DEC's goal is to eradicate feral swine from New York's landscape. Feral swine in New York can have tremendous negative impacts on native plants, native wildlife, livestock, agriculture, and humans.

Prior to 2014, hunting feral swine in New York was allowed. As illogical as it sounds, recent experience has shown that hunting is actually counter-productive in helping the problem. Feral swine often travel in groups numbering 20 or more. Shooting individual pigs as opportunities arise is ineffective as an eradication method, often causing remaining animals to disperse permanently, and thus expand into unoccupied habitat. To eliminate this possibility, in 2014 the Department made the hunting of feral swine illegal. This regulation also prohibits possession, sale, transport or marketing of live Eurasian Boars. Also prohibited is disturbing traps set for wild boars by managing authorities

As of the writing of this plan, no reports of free-ranging feral swine have been received in recent years in the general geographic area covered by this Unit.

Goals and Objectives

Beaver, while often viewed as a valuable furbearer, can pose serious nuisance and damage issue. Their main job in life, other than reproducing, is in building dams and creating water impoundments that they use for mobility, safety from predators, and food acquisition and storage. They are one of only a handful of wildlife species that are capable of modifying their own environment, and they do it well. Their numbers in New York are secure and expanding, and they can be found in every county in good numbers. A preferred method of beaver control is removals via trapping during the normal trapping seasons. Of particular concern, and often requiring immediate action is beavers constructing dams that cause damage to roads, trails or other infrastructure. In addition to building the classic beaver dam and pond, beavers will block culverts or water control structures to raise water levels, which can lead to failure of these structures and possible risks to human safety. Often the beavers will rebuild the blockage overnight and require nearly daily maintenance. In many cases the only solution to these situations is to remove the beaver blockages and the beavers as well, through permits issued by the Bureau of Wildlife.

Table 15: Management Objectives and Actions for Fish and Wildlife Habitat Management

Management Objectives		**Mgt. Act. No.**	**Management Actions**	**Frequency of Action***	**Priority Code** (Pg. 69)	**Estimated 10 yr Cost** (Pg. 69)
1	Manage habitats for endemic wildlife species. See also: Timber and Vegetation Management (pg. 75)	1.0	Implement Habitat Management Plans for Helmer Creek WMA and West Cameron WMA.	On-Going	H	See Timber and Vegetation Management (pg. 75)
		1.1	Conduct all forms of woody vegetation management to achieve balanced forest structure.	On-Going	H	
		1.2	Implement the Young Forest Initiative (YFI) on WMAs by converting approximately 10% of the forested acres on WMAs back to young forests.	On-Going	H	
		1.3	Manage conifers in natural forests	On-Going	L	
		1.4	Maintain and enhance grassland habitats by mowing and/or burning	At least every three years.	H	
		1.5	Establish additional grassland habitat	On-Going	L	
		1.6	Convert plantations to natural communities	On-Going	H	

Management Objectives		**Mgt. Act. No.**	**Management Actions**	**Frequency of Action***	**Priority Code** (Pg. 69)	**Estimated 10 yr Cost** (Pg. 69)
		1.7	Develop and maintain small ponds and dugouts to act as amphibian activity centers.	On-Going	L	Up to $10,000 per each.
		1.8	Monitor invasive exotic plants or animals. Specific actions will be based on species and location, but include prescribed burn, biological control, pesticide and mechanical removal.	After invasive is found.	L	Unable to predict costs.
2	Encourage public use of wildlife resources	2.0	Assist local groups in utilizing and protecting wildlife resources	Annually	L	Unable to predict costs.
		2.1	Work with local and governmental groups to improve access to and information about wildlife habitat under the Volunteer Stewardship Agreements or Adopt-a-Natural-Resource Program	Annually	H	See Public Recreation and Use Manage-ment, Maintenance and Facilities Management and Access Management
		2.2	Maintain parking lots, trails, roads and other recreation facilities.	On-Going	H	
3	Manage fish populations to provide public use through angling.	3.0	Sample ponds and streams to evaluate current fishing opportunities.	As Needed	L	3 Work Days per location
4	Manage and reduce nuisance wildlife populations.	4.0	Monitor for and deal with nuisance wildlife. Specific actions will be based on species and location.	On-Going	L	Unable to predict costs.
		4.1	Monitor and remove beaver and beaver debris from culverts and water control structures	As Needed	C	10 to 100 Work Days
5	Manage and increase rare,	5.0	Identify, protect and enhance rare & threatened plant and animal communities and habitats.	Annually	C	50 to 100 Work Days

Management Objectives	Mgt. Act. No.	Management Actions	Frequency of Action*	Priority Code (Pg. 69)	Estimated 10 yr Cost (Pg. 69)
threatened, endangered or SGCN species populations	5.1	Identify, protect, and improve habitat for threatened/ endangered species.	On-Going	C	Unable to predict costs.
	5.2	Survey for, identify, protect, and improve habitat for SGCN	On-Going, or as funding is available	L	Unable to predict costs.
	5.5	Monitoring of rattlesnake den sites.	On-Going	H	10 Work Days
	5.6	Protection of rattlesnake den sites and adjacent area.	As-Needed	C	Unable to predict costs.

*Factors such as budget and staff constraints, and other environmental health problems may necessitate deviations from the scheduled management activities.

Public Recreation and Use Management

"Adventure New York" includes suitable opportunities for the public enjoyment of compatible recreational pursuits in the natural setting of a State Forest or Wildlife Management Area. Recreational use, especially fishing and hunting, is a dominant and important use of most of the State Land comprising the Unit. Dispersed recreation will continue to be encouraged over almost all of the Unit. See also the Recreation section on page 21.

Activities on the Canisteo River Basin Unit are subject to the Departments Rules and Regulations for the Use of State Lands, 6 NYCRR Part 190, and Part 51, as well as any other applicable state statutes, rules and regulations. Non-wildlife dependent uses of Wildlife Management Areas cannot be allowed to occur if they interfere with the primary purpose of providing wildlife habitat and wildlife dependent recreation.

Under Environmental Conservation Law, the Department is charged with managing for a wide range of beneficial uses that can be attained without excessive environmental degradation or undesirable consequences. The public has a role in identifying both beneficial uses and undesirable consequences. Recreational opportunities will be planned from a perspective of possibilities available throughout Region 8. For a list of facilities available on the Unit see Appendix D: Facilities (pg. 142) and Appendix M: Maps (pg. 182).

Development of new or additional facilities will only be undertaken after due consideration through the unit management planning process. Other than facilities specified in this Unit Management Plan, stewardship activities will be limited to maintenance and rehabilitation of existing facilities.

Many of the recreation facilities on this, and other state lands, started out as farm lanes, logging skid road, railroads, town roads, log landings, etc. After they were no longer used for

the original purpose many were converted to recreational use. Occasionally, forest product sales may affect recreational facilities. Depending upon the sale, there may be an opportunity to enhance the recreational facility. Potential enhancements include: relocation of a trail, conversion of a skid trail to a recreational trail, creation of parking areas, installation of vehicle control barriers and other structures. An assessment of impacts and possible enhancements will be done with each and every sale. As part of the active timber management, sections of trail, roads, parking lots, etc. may need to be temporarily closed to public use.

Protecting the Environment

DON'T MOVE FIREWOOD! New York State regulations prohibit firewood from being brought into New York unless it has been heat treated to kill pests. The regulation also limits the transportation of untreated firewood to less than 50 miles from its origin. Many other states have similar restrictions on firewood transportation across state boundaries. The reason for this is other than their own feet and wings, the primary way exotic invasive pests spread is by hitching a ride on un-treated firewood or shipping containers.

CLEAN, DRAIN, DRY! To help stop invasive species from contaminating New York's lakes and rivers please do not launch boats within five days of boating on other waters, wash down your boats after removing them from other water, check your trailer and propellers, and do not "bring" any water from other lakes or streams.

No trash facilities are provided, please don't litter – if you carry it in, carry it out. Leave the State Land as you would like to find it.

Camping

Camping is generally prohibited on Wildlife Management Areas, and this includes Helmer Creek and West Cameron WMAs.

Camping is allowed on State Forests, no permit is needed for groups less than 10 and for up to 3 nights. Longer stays and/or larger groups are allowed to camp with a permit obtained from the NYS DEC Forest Rangers, contact the Bath sub office. See the Camping section on page 25 for a list of designated campsites on the Unit.

One of the designated campsites is a lean-to located on Burt Hill SF and is maintained by the Finger Lakes Trail Conference (FLTC) under a Volunteer Stewardship Agreement (VSA). Currently the lean-to site includes a fire ring, pit privy and picnic table, these will be maintained and/or replaced as needed, but not expanded to include additional facilities.

At the time of the writing of this plan, no additional pit privy locations have been identified, however the Department will provide them in other locations if the need develops. In locations where no pit privy or other sanitary facilities are available, dispose of human waste by digging a hole 6"-8" deep away from water or campsites and then cover with leaves and soil.

Hunting, Fishing and Trapping

Hunting and trapping are allowed during open seasons, with the correct license and tags; consult the Departments Hunting and Trapping Guides for state wide regulations, seasons, hours, and bag limits. Available game varies depending on the habitat available; see the Timber and Vegetation Management (pg. 75), Watershed and Wetlands Protection Management (pg. 94) and the Fish and Wildlife Habitat Management (pg. 96) sections for information on plans for maintaining and modifying the currently available habitats.

Permanent tree stands are prohibited. However, on State Forests a temporary tree stand or blind is allowed, provided that it does not injure any trees, is properly marked or tagged with the owner's name and address or valid hunting or fishing license number, and is placed and used during big game season, migratory game bird season, or turkey season, but no more than thirty days in one location per calendar year, per 6 NYCRR §190.8. On Wildlife Management Areas per 6NYCRR part 51 leaving of personal property is prohibited, so only a temporary tree stand or blind is allowed that must be removed at the end of each day.

Most streams on this Unit are small and do not provide much of a fishing resource, but a few streams, and the ponds on Cameron SF, do have some fishing opportunities. See the Fishing section on page 28 for additional information.

Cameron Pond is used for year-round fishing and seasonally for waterfowl hunting. An accessible fishing pier and/or hunting blind may be constructed along the shoreline. In addition, the route from the parking area will be upgraded to meet outdoor recreation access route standards. If that does not work, the two ponds located off of Stone House Rd or Gulf Rd will be evaluated for constructing a fishing pier and/or hunting blind.

Trails

Public Forest Access Roads, Haul Roads, Access Trails and Recreational Trails combined with existing logging skid roads and utility lines form a network to access recreational opportunities. Parking areas, informational signs and maps help identify and promote public enjoyment and compatible uses. See also Trails (pg. 28), Access Management (pg. 71), Maintenance and Facilities Management (pg. 110), Appendix D: Facilities (pg. 142), and Appendix M: Maps (pg. 182).

Many of the trails on the Canisteo River Basin Unit can be used for hiking, snowshoeing, and skiing. As a multiple use trail, different users must follow some basic trail etiquette rules in order to minimize conflicts. Basic trail etiquette includes: respect other trail users, pass on the right, bikers yield to hikers, and stay on marked trail (please do not cause damage by heedlessly trampling trailside vegetation).

The snowmobile trail network in New York State open after big game season ends in each zone, as long as the ground is snow covered. On Wildlife Management Areas snowmobiles are limited to designated trails only. Snowmobiles are also allowed to cross the Unit on town roads that the town has opened to use by snowmobiles. Please contact the individual towns to find out which roads are open to snowmobiles.

About 0.7 mile of the Finger Lakes Trail crosses the north side of Burt Hill SF and is maintained as a hiking trail by the Finger Lakes Trail Conference (FLTC) under a VSA.

In all cases, any volunteers doing trail construction and maintenance would need to be working under a Volunteer Stewardship Agreement (VSA) and/or Temporary Revocable Permit (TRP). Any trail would need to follow trail Best Management Practices to control erosion, with the exact location approved by the Regional Forester, Regional Wildlife Manager, or his designee. The Department does not have the authority to authorize trail construction across private land; the organization planning the trail is responsible for acquiring permission prior to constructing to the boundary line.

Both Canacadea SF and Cameron SF have scenic vistas (overlooks). As the trees below grow taller they will block the view and need to be removed. In addition to removal of view blocking vegetation, shorter native brush and plants will be encouraged.

Trails for People with Disabilities

Wheelchairs are allowed anywhere pedestrians are allowed on state lands. The Federal/ADA definition of a wheelchair is:

> ***Wheelchair*** *- A manually-operated or power-driven device designed primarily for use by an individual with a mobility disability for the main purpose of indoor, or of both indoor and outdoor locomotion. This definition does not apply to Federal wilderness areas; wheelchairs in such areas are defined in section 508(c)(2) of the ADA, 42 U.S.C. 12207 (c)(2).*

Currently there are no trails that meets federal standards for wheelchair accessibility on the Unit. In the many cases that don't meet the standards it is because the ground is not firm and stable enough, and/or the slope is too steep, and/or the path is too narrow. Too steep a slope can be difficult to change, but firm and stable conditions can be created in some locations. If money becomes available for upgrading, the existing trails and roads will be evaluated for improving universal accessibility. Other trails and roads may present opportunities for people with motorized wheelchairs. Any construction of new trails will include an accessibility assessment.

While no general public ATV trails currently exist on the Canisteo River Basin Unit, on a statewide basis specific routes have been designated as a Motorized Access Program for People with Disabilities (MAPPWD) route, pursuant to NYS DEC Commissioners Policy #3 (CP-3). Prior to use, individuals with qualifying disabilities must apply and receive a permit to operate an ATV, or other vehicle, on trails designated by the Department. Not all routes are open to all types of vehicle, and some are open only seasonally for MAPPWD use. For further information, visit www.dec.ny.gov/outdoor/2574.html or contact the Department at 7291 Coon Road, Bath, NY 14810. (See the Appendix D: Facilities (pg. 142) and Appendix M: Maps (pg. 182) sections)

Currently there are MAPPWD routes located on Cameron SF and Tracy Creek SF. After the Cameron Pond trail is upgraded to universal accessibility, it will be closed to motorized use and removed from the MAPPWD list, but the other routes located on Cameron SF will remain on the list. In addition, after this plan is approved the roads on Cameron Mills SF and

West Cameron WMA will be added to the list, and the existing route on Cameron SF expanded to include the fireline around the field.

ATV/ORV Trails

Off-Road Vehicle (ORV) or All-Terrain Vehicle (ATV) trails will not be developed on this Unit. A number of factors have contributed to this decision. As stated in the Departments SPSFM, ATV riding is not a program offered on State Lands. The development of ATV access can be considered under this policy if it is necessary to provide access to programs and activities on the Unit. In addition, environmental sensitivity, soil conditions, wetlands, and steep slopes on this Unit are unsuitable for ATV use. Current illegal ATV activity has occasionally created management and maintenance challenges.

Table 16: Management Objectives and Actions for Public Recreation and Use Management

Management Objectives		**Mgt. Act. No.**	**Management Actions**	**Frequency of Action***	**Priority Code** (Pg. 69)	**Estimated 10 yr Cost** (Pg. 69)
1	Identify additional recreation needs.	1.0	Receive public input.	On-Going	C	100 Work Days
		1.1	Monitor use patterns	On-Going	L	50 Work Days
		1.2	Solicit public input.	Every 10 years	C	10 Work Days
		1.3	Evaluate user satisfaction from comments received.	On-Going	H	10 Work Days
2	Coordinate with volunteer groups, and other agencies/ municipalities using Cooperative Agreements, Volunteer Stewardship Agreements,	2.0	Identify resources and/or volunteer groups to form additional partnerships.	On-Going	L	10 Work Days
		2.1	Assist the various VSA or AANR adopting organizations and individuals in maintenance and enhancement of the trails and other recreation facilities.	On-Going	H	10-100 DEC Work Days
		2.2	Encourage rehabilitation of trail sections that are unsuitable for existing use.	On-Going	H	5 Work Days

Management Objectives		**Mgt. Act. No.**	**Management Actions**	**Frequency of Action***	**Priority Code** (Pg. 69)	**Estimated 10 yr Cost** (Pg. 69)
	or Adopt-a-Natural-Resource Agreements, to construct and/or maintain existing and/or future recreational facilities	2.3	Provide resources or utilize opportunities as needed to maintain and enhance existing trail(s)	On-Going	C	10 Work Days
		2.4	Minimize conflicts between user groups	On-Going	H	30 Work Days
		2.5	Discourage illegal use of motorized vehicles.	On-Going	H	30 Work Days
3	Determine feasibility and/or compatibility of proposed additional recreational opportunities.	3.0	In house review of proposed projects	As Needed	L	40 Work Days
		3.1	Add proposed projects to this UMP by amendment. (This includes a 30-day public comment period.)	As Needed	L	30-300 Work Days
		3.2	Negotiate and enter into VSA agreements with sponsoring volunteer groups.	As Needed	H	5 Work Days per VSA agreement
4	Provide additional recreational opportunities Including maintaining and improving access for persons with disabilities.	4.0	Construct and maintain new facilities as supported by the UMP.	By year 10	H	See specific action.
		4.1	Provide technical support for volunteer groups.	As Needed	L	Unable to predict costs.
		4.2	Construct barriers to discourage unauthorized motorized use of skid trails and abandoned roads after logging operations.	If damage is anticipated or observed on the skid trail or road.	C	$1- 4,000 per location.

Management Objectives		Mgt. Act. No.	Management Actions	Frequency of Action*	Priority Code (Pg. 69)	Estimated 10 yr Cost (Pg. 69)
		4.3	Build an accessible fishing pier and/or hunting blind along the shoreline of Cameron Pond or the two unnamed ponds near Stone House or Gulf Rds.	By year 10	L	$6,000
		4.4	Upgraded the route between Cameron Pond Parking Lot and the new fishing pier and/or hunting blind, to meet outdoor recreation access route standards.	By year 10	L	$4,000
		4.5	Evaluate and improve some trails/roads to greater universal accessibility	On-Going	C	Highly variable
		4.6	After this plan is approved the roads on Cameron Mills SF and West Cameron WMA will be added to the MAPPWD list.	Once	H	2 Work Days
5	Advocate wildlife-based recreation	5.0	Encourage bird watching, hunting, fishing, trapping etc. according to New York State regulations.	On-Going	L	Unable to predict costs.
		5.1	See also Fish and Wildlife Habitat Management	On-Going	H	--
6	Maintain existing and future recreational facilities.	6.0	See also Maintenance and Facilities Management, and Access Management	On-Going	H	--
		6.1	Mow and/or trim brush back on trails.	At least annually.	H	20-100 Work Days
		6.2	Remove blow-down from trails	As needed	H	Part of 6.1

Management Objectives		**Mgt. Act. No.**	**Management Actions**	**Frequency of Action***	**Priority Code** (Pg. 69)	**Estimated 10 yr Cost** (Pg. 69)
		6.4	Stabilize or repair recreational trail issues such as mud or erosion using Best Management Practices.	After issues are discovered and when funds or volunteers are available	H	$0-$100,000 Cost will vary depending on issue.
		6.5	Evaluate and provide sanitary facilities at designated camp sites, if appropriate.	Once each	H	Highly variable
		6.6	Maintain viewing platforms and boardwalks.	As Needed	H	Cost will vary depending on issue.
		6.7	Clear brush and trees to keep the scenic overlooks on Canacadea and Cameron SF open.	As Needed	L	3-6 Work Days
7	Increase awareness of public recreation opportunities	7.0	Provide brochures and maps for users at kiosks, the Departments offices and web page.	Check at least monthly	H	30 Work Days
		7.1	Place and maintain kiosks or signs at high use parking areas.	By year 10	H	$5,000 and 15 Work Days per each
		7.2	Update maps and brochures to reflect new facilities / trails / land acquisitions.	As Needed (At least every 5 yrs.)	H	20 Work Days
		7.3	Update kiosks	Annually or as needed	H	10 Work Days
8	Enhance visual appeal	8.0	Establish a litter-free environment by promoting carry in/carry out policy.	On-Going	H	Unable to predict costs.

Management Objectives		Mgt. Act. No.	Management Actions	Frequency of Action*	Priority Code (Pg. 69)	Estimated 10 yr Cost (Pg. 69)
		8.1	Remove litter from state land.	At least Annually	H	10 to 100 Work Days

*Factors such as budget and staff constraints, and other environmental health problems may necessitate deviations from the scheduled management activities.

Maintenance and Facilities Management

The goal is to maintain the facilities on the Unit to ensure its integrity, character, and safety. This must be done with the limited money and staff resources that are available. It is the policy of the Department to use staff and money resources in the most efficient and effective way possible, and to encourage the use of volunteers to maintain facilities when possible. See also the Access Management (pg. 71) and Public Recreation and Use Management (pg. 102) sections for additional facilities information.

Public Safety

The constructed dams, dikes and other water impoundment structures located on the Unit must be inspected and maintained both for public safety and to retain the desired animal habitat. This will be done in consultation with the Departments Division of Water, Dam Safety Unit. For further information on wetland and pond management see the Fish and Wildlife Habitat Management section (pg. 96).

All trees eventually fall down. Those located in the forest rarely harm any humans or human property, however trees adjacent to concentrated recreational use should be evaluated for the level of risk, and those with an Imminent or Probable risk level removed or trimmed. As EAB (or other tree killing pests) invade the Unit the number of hazard trees will increase. It is not possible to have trees with no risk of falling, however the odds of injury or death can be reduced by removing the trees with the highest level of risk to users. Trees in areas of higher use will be evaluated a minimum of every five years, more frequently when possible. Initial evaluation will be a Level 1: Limited Visual Assessment, with a Level 2: Basic Assessment done on those that do not pass the Level 1. All risk trees will be dealt with as needed after discovery by inspection, public notification or other method.

Towers

This part of New York State has the potential for generating electricity with wind turbines or the construction of towers for radio or cell transmission. There are currently no wind turbines, or applications for wind turbines, for power generation on any of the properties of the Unit. The Department does not have the legal authority to lease State Forests or Wildlife Management Areas for the construction of wind turbines, new power lines, or commercial towers. This plan does not cover any actions or construction on any adjacent privately-owned lands.

Table 17: Management Objectives and Actions for Maintenance and Facilities Management

Management Objectives		Mgt. Act. No.	Management Actions	Frequency of Action*	Priority Code (Pg. 69)	Estimated 10 yr Cost (Pg. 69)
1	Maintain constructed ponds / potholes (In consultation with the Division of Water, Dam Safety Unit)	1.0	Inspect for problems.	Annually	C	80 Work Days
		1.1	Repair dikes, control boxes, etc.	As Needed	C	Highly variable $1,000 to $20,000 per each
		1.2	Excavate bottom of ponds.	As Needed	L	
		1.3	Monitor for, and clear any culvert or bridge blockages caused by beaver activities	On-gong	C	See Fish and Wildlife Habitat Manage-ment
2	Solicit volunteer groups to help maintain facilities	2.0	Promote Volunteer Stewardship Agreements (VSA)	On-Going	L	See Public Recreation and Use Manage-ment
		2.1	Enter into agreements with volunteer groups.	On-Going	L	
3	Maintain existing and future facilities.	3.0	Identify needed maintenance	On-Going	C	20 Work Days
		3.1	Evaluate for and remove hazard trees adjacent to concentrated recreational use.	On-Going	C	30-100 Work Days
		3.2	Do the needed maintenance, as money allows.	On-Going	C	See Public Recreation and Use Manage-ment
		3.3	Enhance law enforcement efforts.	On-Going	C	Unable to predict costs.
4		4.0	Identify needed maintenance	On-Going	C	20 Work Days

Management Objectives	Mgt. Act. No.	Management Actions	Frequency of Action*	Priority Code (Pg. 69)	Estimated 10 yr Cost (Pg. 69)
Maintain existing and future roads.	4.1	Do the needed maintenance, as money allows.	On-Going	C	See Access Manage-ment
	4.2	Enhance law enforcement efforts.	On-Going	C	Unable to predict costs.

*Factors such as budget and staff constraints, and other environmental health problems may necessitate deviations from the scheduled management activities.

Land Acquisition Management

New York State has been a leader in recognizing the value of open, undeveloped land. The Canisteo River Basin Unit is a large block of relatively undeveloped public land in the Southern Tier Region and is an important part of the landscape.

The acquisition of land by the Department in New York State is guided by the New York State Open Space Conservation Plan. This serves as a blueprint that identifies the priority projects, policies and programs that will enhance land acquisition from willing sellers for the future. The plan, issued jointly by the Department and the Office of Parks, Recreation and Historic Preservation (OPRHP), relies on the input of Regional Advisory Committees, local governments and the public. It is required to be updated every three years, as of the writing of this plan the most recently version was published in 2016, and is available for viewing on the internet at www.dec.ny.gov/lands/317.html, as newer versions are finished they will also be available at that location.

These plans bring together: 1) an objective analysis of the State's resources; 2) the knowledge and insight of professionals inside state agencies; and most importantly, 3) the informed and valuable ideas of the public, local government and the private sector.

New York State may acquire land by donation, fee title purchase, easement, purchase of some of the rights such as development and recreation, or land swap by action of the New York State Legislature.

The Department will consider parcels if they: improve public access, consolidate public ownership by eliminating in-holdings, enhance recreational opportunity, protect significant ecological areas, are scenically important, contain threatened or endangered species, are of exceptional historical or cultural importance, improve watershed protection, or resolve other issues.

Staff has also identified access issues concerning Canacadea SF. A railroad line forms the northern border of the Canacadea SF, as a result safe access to this portion of the property is difficult. Should this railroad line be abandoned, the department should actively pursue acquisition of as much of the railway as necessary to assure access to State Route 21 from Canacadea SF.

Table 18: Management Objectives and Actions for Land Acquisition Management

The management objectives in this table are not listed in priority order; i.e. management objective 1 is not more important than management objective 9.

Management Objectives		**Mgt. Act. No.**	**Management Actions**	**Frequency of Action***	**Priority Code** (Pg. 69)	**Estimated 10 yr Cost** (Pg. 69)
1	Provide improved access to the Unit.	1.0	Identify land acquisition needs that improve access to state lands.	On-Going	L	Unable to predict costs.
		1.1	Acquire desired properties from willing sellers as funding permits.	On-Going	L	
2	Consolidate public ownership by eliminating in holdings	2.0	Identify land acquisition needs, which simplify the Department's boundaries.	On-Going	L	Unable to predict costs.
		2.1	Acquire desired properties from willing sellers as funding permits.	On-Going	L	
3	Enhance recreational opportunity.	3.0	Identify land acquisition needs that improve recreational opportunities.	On-Going	L	Unable to predict costs.
		3.1	Acquire desired properties from willing sellers as funding permits.	On-Going	L	
4	Protect significant ecological areas.	4.0	Identify land acquisition with potential to protect areas with significant ecological value.	On-Going	C	Unable to predict costs.
		4.1	Acquire by fee simple or easements on desired properties from willing sellers as funding permits.	On-Going	C	
5	Protect scenically important areas.	5.0	Identify land acquisitions that are scenically important.	On-Going	L	Unable to predict costs.
		5.1	Acquire desired properties from willing sellers as funding permits.	On-Going	L	
6	Contain rare, threatened or	6.0	Identify land acquisition with rare, threatened or endangered species.	On-Going	C	Unable to predict costs.

Management Objectives		Mgt. Act. No.	Management Actions	Frequency of Action*	Priority Code (Pg. 69)	Estimated 10 yr Cost (Pg. 69)
	endangered species.	6.1	Acquire by fee simple or easement desired properties from willing sellers as funding permits.	On-Going	C	
7	Are of exceptional historical or cultural importance	7.0	Identify land acquisition with exceptional historical or cultural importance.	On-Going	L	Unable to predict costs.
		7.1	Acquire desired properties from willing sellers as funding permits.	On-Going	L	
8	Improve watershed protection	8.0	Identify land acquisition which improves watershed protection.	On-Going	L	Unable to predict costs.
		8.1	Acquire by fee simple or easement desired properties from willing sellers as funding permits.	On-Going	L	
9	Resolve other issues (split mineral estate, title problems, etc.).	9.0	Identify issues (See Appendix K: Known Encroachments and/or Trespass, pg. 178, for partial list)	On-Going	C	Unable to predict costs.
		9.1	Attempt to resolve such issues	On-Going	C	

*Factors such as budget and staff constraints, and other environmental health problems may necessitate deviations from the scheduled management activities.

Mineral Resource Management

On all Department owned State Lands, gas well drilling, pipelines, and related road development must be in compliance with Tract Assessments, the SPSFM, the GEIS, and the applicable UMP and/or HMP. No exploration or extraction of the Marcellus Shale using high volume hydraulic fracturing will be considered for permitting on State Lands per the May 2015 FSGEIS and June 2015 Findings Statement that recommended that high-volume hydraulic fracturing should not move forward in New York State. See Appendix I: Procedures for Oil & Gas Procurement (pg. 175) for a description of the process to lease oil and/or gas rights from Department lands. For history and information on oil, gas and mining in the area, see the Mineral Resources (pg. 36) and Appendix M: Maps (pg. 182) for maps of the mineral resource development on the adjacent landscape.

Management of Mineral Resources

Any activity involving the procurement of oil and gas resources and/or storage of gas and liquids in the subsurface on State Lands is administered by the Departments Division of

Mineral Resources. The procurement of minerals and rocks (inorganic substances), including the solution mining of minerals (such as salt) on these same state lands are administered by the Office of General Services. All activity associated with mining minerals and rocks, solution mining of minerals and oil and gas drilling, including production, are regulated by the Division of Mineral Resources, including the issuance of mining permits and drilling permits.

The surface estate of these State Lands is managed through the Departments Division of Lands and Forests or Division of Fish and Wildlife. In the event the surface estate is to be used in the evaluation and/or extraction of mineral resources from state lands, a Temporary Revocable Permit (TRP) must be obtained prior to conducting any operations. It should be noted that if the mineral estate is under a lease agreement, only the lessee, or entities authorized by the Lessee, will be issued a TRP for these purposes.

Pipeline Development

The Department may permit the construction of oil and gas pipelines under the terms and conditions of an oil and gas lease, and only if a portion of the mineral resources to be transported was extracted from State Lands. Pipeline and road development under an existing oil and gas lease must be in compliance with Tract Assessments, the SPSFM, the GEIS, and any applicable Habitat Management Plan for the Wildlife Management Areas.

Procedures for Mineral and Rock Procurement

Under Article 7 of the New York Consolidated Laws / Public Lands, if a party wishes to explore and/or procure minerals and/or rock (including salt) from state lands they must be issued a permit, consent, or lease from the General Services Office. Prior to operations, a mining permit or drilling permit in the case of solution mining, must be obtained from the Division of Mineral Resources and a Temporary Revocable Permit (for access and use of land) must be obtained from the Division of Lands and Forests or the Division of Fish and Wildlife. Mining operations are regulated by the Division of Mineral Resources.

There are no mining contracts, permits, or operations on this Unit. Under Article 7 of the New York State Consolidated Laws, any citizen of the United States may apply for permission to explore and/or extract any mineral on State lands. However, current department policy is to decline any commercial mining permit application(s) pertaining to any lands in this Unit.

Surface Use for Evaluation of Mineral Resources

In the event a party desires to use the surface estate to conduct geophysical (such as a seismic survey), geochemical and/or surface sampling procedures on State Lands after leasing they must first obtain a Temporary Revocable Permit (TRP) for the access and use of state lands. Only the lessee, or parties authorized by the lessee, can be issued a TRP for these purposes. A TRP can be applied for through the Division of Lands and Forests or Division of Fish and Wildlife.

For further information contact the NYS DEC Division of Mineral Resource staff, Region 8, 6274 East Avon-Lima Road, Avon, New York 14414-9591. Additional contacts include; New

York State Department of Environmental Conservation-Division of Mineral Resources-Bureau of Oil and Gas Regulation, 3rd Floor, 625 Broadway, Albany, New York 12233.

For further discussion of Mineral Resources, see Chapter 5 of the SPSFM.

Table 19: Management Objectives and Actions for Mineral Resources Management

Management Objectives		Mgt. Act. No.	Management Actions	Frequency of Action*	Priority Code (Pg. 69)	Estimated 10 yr Cost (Pg. 69)
1	Decide to approve or not approve extraction of mineral resources.	1.0	Per Appendix I: Procedures for Oil & Gas Procurement, pg. 175.	After nominations are received	C	Unable to predict costs, which will vary greatly
2	Administer mineral estate	2.0	DMN monitors lease, production and royalty payments for oil and gas. OGS does same for other minerals.	Every Time	C	
3	Pipeline access and construction	3.0	Granted and directed by terms of lease agreement administered by DMN.	Every Time	C	
		3.1	L&F and/or Wildlife reviews proposed operations and if approved, issues a TRP.	Every Time	C	
		3.2	L&F and/or Wildlife enforce TRP provisions.	Every Time	C	
4	Decide to approve or not approve storage of mineral resources	4.0	Per Appendix I: Procedures for Oil & Gas Procurement, pg. 175.	After nominations are received	C	

*Factors such as budget and staff constraints, and other environmental health problems may necessitate deviations from the scheduled management activities.

Archaeological and Historic Resources Management

Archaeological and historical sites are, any location where materials or modifications to the landscape reveal evidence of past human activity. This includes everything from precontact Native American camps and villages to Euromerican homesteads, cemeteries and

graves as well as mills and other industrial sites. Such sites can be entirely subsurface or can contain above ground remains such as foundation walls or earthwork features.

Historic and Archaeological Site Protection

The historic and archaeological sites located within the Unit as well as additional unrecorded sites that may exist on the property are protected by the provisions of the New York State Historic Preservation Act (SHPA - Article 14 PRHPL), Article 9 of Environmental Conservation Law, 6NYCRR Section 190.8 (g) and Section 233 of Education Law. No actions that would impact known resources are proposed in this UMP. Should any such actions be proposed in the future they will be reviewed in accordance with the requirements of SHPA. Unauthorized excavation and removal of materials from any of these sites is prohibited by Article 9 of ECL and Section 233 of Education Law. In some cases, additional protection may be afforded these resources by the federal Archaeological Resources Protection Act (ARPA).

Archaeological Research

The archaeological sites located on this Unit as well as additional unrecorded sites that may exist on any of the properties may be made available for appropriate research. Any future archaeological research to be conducted on the property will be accomplished under the auspices of all appropriate permits. Research permits will be issued only after consultation with the New York State Museum and the Office of Parks, Recreation and Historic Preservation. Extensive excavations are not contemplated as part of any research program in order to assure that the sites are available to future researchers who are likely to have more advanced tools and techniques as well as more fully developed research questions.

Table 20: Management Objectives and Actions for Archaeological and Historic Resources

Management Objectives		**Mgt. Act. No.**	**Management Actions**	**Frequency of Action***	**Priority Code** (Pg. 69)	**Estimated 10 yr Cost** (Pg. 69)
1	Preservation of historical and archaeo-logical resources	1.0	Comply with state historic preservation act.	On-Going	C	Unable to predict costs.
		1.1	Avoid any activity which may disturb any historical and/or archaeological resources	As Needed	C	

*Factors such as budget and staff constraints, and other environmental health problems may necessitate deviations from the scheduled management activities.

PUBLIC INVOLVEMENT

Initial Mailing

Canisteo River Basin Unit Management Plan's citizen participation activities commenced with an initial mailing in **December 2016,** outlining management plan objectives.

The initial mailing's targeted audience consisted of previously identified:

- Adjacent Property owners
- Local Town & County Officials
- Local Media
- Recreational Groups
- Interested Industry Groups
- First Nations
- Wildlife Groups
- Other General Environmental Groups

Based on those returned and other public comments received, the mailing list was amended to add other interested parties and/or correct outdated names and addresses.

Public comments received from the initial mailing are listed in Appendix A: Public Comment (pg. 119) with a summary in the Summary of Identified Issues section starting on page 63.

Second Mailing

Upon completion of the draft Canisteo River Basin Unit Management Plan, a second mailing will be sent to those on the updated mailing list, including the media, summarizing objectives of the draft plan, listing local document repositories and announcing a public meeting. Repositories will include local libraries, the Bath and Avon Department offices, and NYS DEC's web page. A notice will also be posted in the Environmental Notices Bulletin (ENB) two weeks prior to the meeting.

Public Meeting

One public meeting will be held near the Canisteo River Basin Unit Management Plan area to present the draft plan and receive comments on it. Following the end of a 30-day public comment period, any modifications based on public comment will be made and a responsiveness summary will be Appendix A: Public Comment (pg. 121) of the final plan.

Final Notice

Those who commented, and any on the updated mailing list will receive a notice of availability of the final plan. Document repositories will again be identified and any significant modifications based on public comment will be noted.

APPENDICES

Appendix A: Public Comment

Initial Mailing Responses

The steps of the public participation portion of this Unit Management Plan are located in the Public Involvement chapter (pg. 118).

For the Canisteo River Basin Unit Management Plan public comments were received as a result of a scoping letter mailed December 2016. A letter asking for comments was mailed to a previously identified audience including adjacent property owners, local government officials, recreational groups, forest industry groups, wildlife groups and other general environmental groups and the local media. A total 1 written comment was received.

A Summary of Identified Issues from all of the comments received from the scoping mailing is located on page 63 of this Unit Management Plan.

Comments Received on the scoping mailing:

To DEC folk:

I recently received a letter requesting input, as part of your process for revising the Canisteo River UMP. We own 52 acres that are mostly surrounded by the Cameron Mills State Forest, and so my comments will address that particular area. You'll probably notice that my concerns will center on the birds using the area.

Woods

There is currently logging going on in the Cameron Mills State Forest, with many oak trees being removed for commercial use. I feel that opening up the forest through selective cutting is good for wildlife and so also good for the public use of this forest, which appears to be primarily deer hunting. My impression, based on what I've seen so far, is that enough of the mature trees are being left so that the woods will maintain a mature character. Two of the bird species that are around all summer, and which I assume are breeding there, are Wood Thrush and Scarlet Tanager - both of which desire mature woods. One of the interesting aspects of this area is that in addition to state-owned property, much of the private-owned property is also woods resulting in a rather large contiguous forest extending from Cameron to the village of Canisteo; the presence of bear and bobcat on our property is indicative of this fact.

The northern portion of this State Forest is the most accessible to the public. The road that was built toward the west, including the bridge crossing the creek, makes it easier to access - and the new logging trails even more so. The 2003 plan included a possible extension of that road to the south that would re-connect with Pump Station Rd. I always felt that such an extension would be very expensive and hard to justify, due to a considerable drop-off on the west side of that road and the rugged nature of the creek in that area.

Grasslands

There is an area on the east side of Pump Station Road, in the southern portion of the forest, that was planted with native grasses in 2005. I always thought that was an interesting exchange of habitat. That area was formerly very densely overgrown with hawthorn and apple trees, and provided an abundance of fruit for migrating birds in the fall (with one Loggerhead Shrike sighting by me). I'm not sure of its current benefit, being too small in area to provide nesting habitat for birds like Bobolinks. There has been a Broad-winged Hawk nesting in the area for the past 5-6 years; perhaps that is related to this habitat exchange.

I do feel that it is important to maintain large grasslands where possible, not only for birds that nest in grasslands but also for wintering raptors. Every winter there are Rough-legged Hawks in the area. During past 5-10 years, many of the private fields which had been fallow for a long time have been planted in corn. Corn stubble-fields are of limited use to wintering raptors (based on my personal observations). If you have the option of working with private landowners to keep some of these fields in grass, then that would be a huge benefit to birds. This year's late haying most certainly helped the Bobolinks nearby.

Summary

I'm glad to see the DEC doing things to manage the forests. Any changes will be involve a trade-off among the species that use the area, but doing nothing has the same effect. Good stewardship requires that intelligent choices be made.

Sincerely,

David Mathiason

Draft Public Meeting Responses

Written and verbal comments on the draft plan were received during the _____ public meeting held at the _____, NY. Electronic written comments were included until a timestamp of midnight _____, or with a US Post Office date stamp of _____, or earlier.

Comments Received on the Draft Canisteo River Basin Unit Management Plan:

(Blank spaces will be filled in after the meeting.)

Appendix B: Animals of the Canisteo River Basin Unit Management Plan Area

These are not intended to be all-inclusive lists, some animals will be missed, and some may no longer be found on these areas.

Species of Greatest Conservation Need (SGCN)

The State Wildlife Grants program provides funds for conservation efforts aimed at preventing fish and wildlife populations from declining, reducing the potential for these species to be listed as endangered. In order to access these grant funds, New York State was required to develop a State Wildlife Action Plan (SWAP) that focuses on the "species of greatest conservation need." This includes those species that are deemed rare, imperiled and those for which status has not been established. Department staff produced a list of 366 Species of Greatest Conservation Need (SGCN), of which 166 are High Priority SGCN. The list of species is certainly not exhaustive, but includes those species for which systematic assessments had been made by staff of the NYS DEC Division of Fish and Wildlife and the New York Natural Heritage Program. For further information on how the list was compiled, visit the web site www.dec.ny.gov/animals/7179.html which also has the entire list of species.

Birds

Based on information included in the 2000-2005 NYS Breeding Bird Atlas (BBA), fifteen atlas blocks overlap with the Canisteo River Basin Unit (2668B, 2766A, 2766B, 2767C, 2767D, 2768A, 2769C, 2867C, 2868A, 2967A, 2967B, 2967D, 2968D, 3066A, 3067C). Within these blocks a total of 124 different species were observed. Of the observed birds, there was confirmed breeding of 71 species, probable breeding of 39 species, and possible breeding of 14 species. Of these species, 1 is NYS Endangered, 2 are NYS Threatened, 7 are NYS Special Concern species, 101 are protected, 10 are Game Species, and 3 are unprotected. (See Table 1B: Birds) In addition, 22 of these species are also listed as NYS Species of Greatest Conservation Need (see Table 2B: Bird Species of Greatest Conservation Need). For information about the BBA and to view data, visit the web site www.dec.ny.gov/animals/7312.html.

It should be noted that because the BBA blocks do not follow exactly the outline of the parcels that make up the Canisteo River Basin Unit, some of the birds identified during this effort would have been found adjacent to, but not within, the state land.

Map of Breeding Bird Atlas Blocks

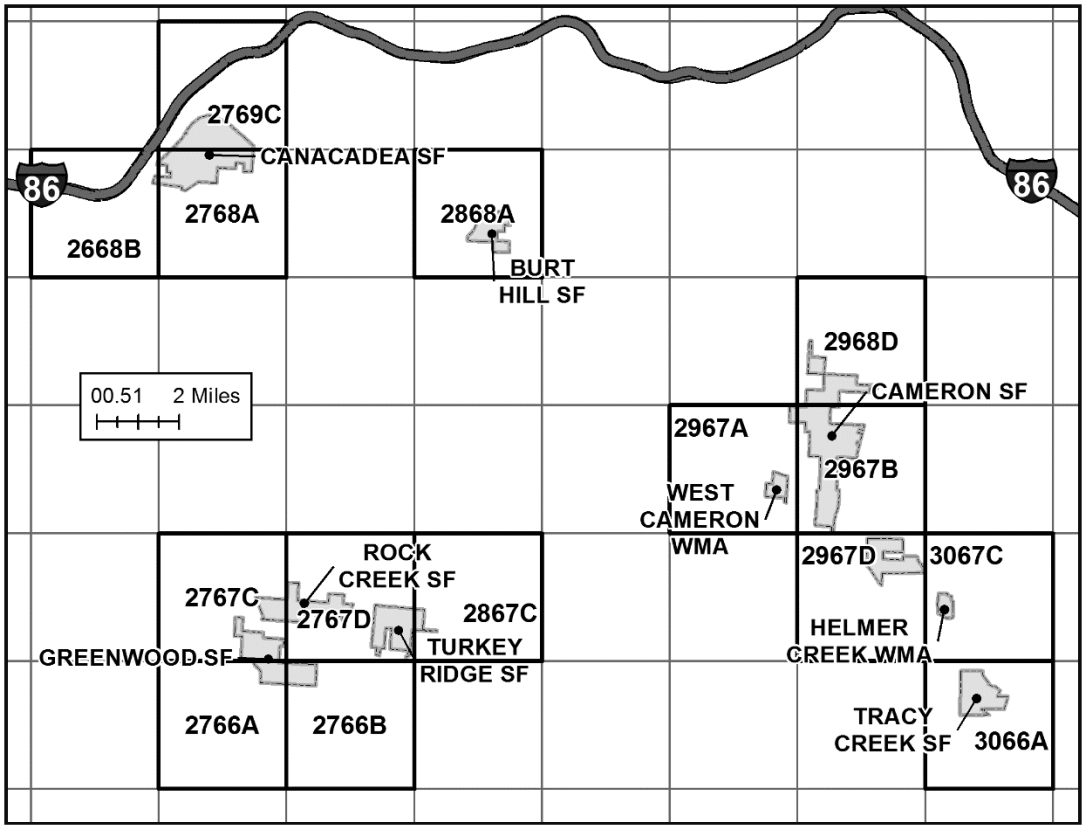


Table 1B: Birds

This is from the 2000-2005 NYS Breeding Bird Atlas blocks that overlap the parcels that make up the Canisteo River Basin Unit.

Common Name	Scientific Name	NY Status	SGCN Status	Block Numbers
Alder Flycatcher	*Empidonax alnorum*	Protected		2967A 3066A 2768A 2967B 2968D 2867C
American Crow	*Corvus brachyrhynchos*	Game Species		2668B, 2766A, 2766B, 2767C, 2767D, 2768A, 2769C, 2867C, 2868A, 2967A, 2967B, 2967D, 2968D, 3066A, 3067C
American Goldfinch	*Spinus tristis*	Protected		2668B, 2766A, 2766B, 2767C, 2767D, 2768A, 2769C, 2867C, 2868A, 2967A, 2967B, 2967D, 2968D, 3066A, 3067C
American Kestrel	*Falco sparverius*	Protected	SGCN	2668B, 2766A, 2767C, 2768A, 2769C, 2867C, 2967B, 2967D

American Redstart	*Setophaga ruticilla*	Protected		2668B, 2766A, 2766B, 2767C, 2768A, 2769C, 2867C, 2868A, 2967A, 2967B, 2967D, 3066A, 3067C
American Robin	*Turdus migratorius*	Protected		2668B, 2766A, 2766B, 2767C, 2767D, 2768A, 2769C, 2867C, 2868A, 2967A, 2967B, 2967D, 2968D, 3066A, 3067C
American Woodcock	*Scolopax minor*	Game Species	SGCN	2668B, 2768A, 2967A
Bald Eagle	*Haliaeetus leucocephalus*	Threatened	SGCN	2769C, 2967A, 3066A, 3067C
Baltimore Oriole	*Icterus galbula*	Protected		2668B, 2766B, 2767D, 2768A, 2769C, 2867C, 2868A, 2967B, 2967D, 2968D, 3066A, 3067C
Bank Swallow	*Riparia riparia*	Protected		2668B, 2767D, 3066A, 3067C
Barn Swallow	*Hirundo rustica*	Protected		2668B, 2766A, 2766B, 2767C, 2767D, 2768A, 2769C, 2867C, 2868A, 2967A, 2967B, 2967D, 2968D, 3066A, 3067C
Barred Owl	*Strix varia*	Protected		2768A, 2867C, 2967A
Belted Kingfisher	*Megaceryle alcyon*	Protected		2668B, 2766A, 2766B, 2767D, 2769C, 2867C, 2967A, 2967B, 2967D, 3066A, 3067C
Black-and-white Warbler	*Mniotilta varia*	Protected		2867C, 2967A, 2967B, 2967D, 2968D, 3066A
Black-billed Cuckoo	*Coccyzus erythropthalmus*	Protected	SGCN	2766A, 2768A, 2867C, 2868A, 2968D
Blackburnian Warbler	*Dendroica fusca*	Protected		2668B, 2766A, 2767D, 2768A, 2967A, 2967B, 2967D, 3066A
Black-capped Chickadee	*Poecile atricapillus*	Protected		2668B, 2766A, 2766B, 2767C, 2767D, 2768A, 2769C, 2867C, 2868A, 2967A, 2967B, 2967D, 2968D, 3066A, 3067C
Black-throated Blue Warbler	*Dendroica caerulescens*	Protected	SGCN	2867C, 2967B, 2968D
Black-throated Green Warbler	*Dendroica virens*	Protected		2668B, 2766A, 2766B, 2767C, 2767D, 2768A, 2867C, 2868A, 2967A, 2967B, 2967D, 2968D, 3066A, 3067C

Blue Jay	*Cyanocitta cristata*	Protected		2668B, 2766A, 2766B, 2767C, 2767D, 2768A, 2769C, 2867C, 2868A, 2967A, 2967B, 2967D, 2968D, 3066A, 3067C
Blue-gray Gnatcatcher	*Polioptila caerulea*	Protected		2967A, 2967B, 3066A, 3067C
Blue-headed Vireo	*Vireo solitarius*	Protected		2668B, 2766A, 2767C, 2767D, 2768A, 2867C, 2868A, 2967A, 2967B, 2967D, 2968D, 3066A
Blue-winged Warbler	*Vermivora pinus*	Protected	SGCN	2668B, 2766A, 2766B, 2767D, 2768A, 2867C, 2967A, 2967B, 2967D, 2968D, 3066A, 3067C
Bobolink	*Dolichonyx oryzivorus*	Protected	High Priority SGCN	2668B, 2766A, 2766B, 2767C, 2768A, 2867C, 2868A, 2967A, 2967B, 2968D, 3066A
Broad-winged Hawk	*Buteo platypterus*	Protected		2668B, 2768A, 2967A, 2968D, 3066A
Brown Creeper	*Certhia americana*	Protected		2768A, 2769C, 2967A, 2967B, 2968D, 3066A
Brown Thrasher	*Toxostoma rufum*	Protected	High Priority SGCN	2668B, 2766A, 2768A, 2867C, 2967A, 2968D, 3066A, 3067C
Brown-headed Cowbird	*Molothrus ater*	Protected		2668B, 2766A, 2766B, 2767C, 2767D, 2768A, 2867C, 2868A, 2967A, 2967B, 2967D, 2968D, 3066A, 3067C
Canada Goose	*Branta canadensis*	Game Species		2668B, 2767C, 2769C, 2867C, 2967A, 2967B, 2967D, 2968D
Canada Warbler	*Wilsonia canadensis*	Protected	High Priority SGCN	2668B, 2766A, 3066A
Carolina Wren	*Thryothorus ludovicianus*	Protected		3066A, 3067C
Cedar Waxwing	*Bombycilla cedrorum*	Protected		2668B, 2766A, 2766B, 2767C, 2767D, 2768A, 2769C, 2867C, 2868A, 2967A, 2967B, 2967D, 2968D, 3066A, 3067C
Cerulean Warbler	*Dendroica cerulea*	Special Concern	SGCN	2867C
Chestnut-sided Warbler	*Dendroica pensylvanica*	Protected		2668B, 2766A, 2767C, 2767D, 2768A, 2769C, 2867C, 2868A, 2967A, 2967B, 2967D, 2968D, 3066A

Chimney Swift	*Chaetura pelagica*	Protected		2769C, 2967D, 2968D
Chipping Sparrow	*Spizella passerina*	Protected		2668B, 2766A, 2766B, 2767C, 2767D, 2768A, 2769C, 2867C, 2868A, 2967A, 2967B, 2967D, 2968D, 3066A, 3067C
Cliff Swallow	*Petrochelidon pyrrhonota*	Protected		2668B, 2767D, 2967B, 3066A, 3067C
Common Grackle	*Quiscalus quiscula*	Protected		2668B, 2766A, 2766B, 2767C, 2767D, 2768A, 2769C, 2867C, 2868A, 2967A, 2967B, 2967D, 2968D, 3066A, 3067C
Common Merganser	*Mergus merganser*	Game Species		2668B, 2766B, 2967A, 3066A, 3067C
Common Raven	*Corvus corax*	Protected		2668B, 2766A, 2766B, 2769C, 2867C, 2967B, 2968D, 3066A
Common Yellowthroat	*Geothlypis trichas*	Protected		2668B, 2766A, 2766B, 2767C, 2767D, 2768A, 2769C, 2867C, 2868A, 2967A, 2967B, 2967D, 2968D, 3066A, 3067C
Cooper's Hawk	*Accipiter cooperii*	Special Concern		2668B, 2766A, 2767D, 2768A, 2967A, 3066A
Dark-eyed Junco	*Junco hyemalis*	Protected		2668B, 2766A, 2766B, 2767C, 2767D, 2769C, 2867C, 2868A, 2967A, 2967B, 2967D, 2968D, 3066A, 3067C
Downy Woodpecker	*Picoides pubescens*	Protected		2668B, 2766A, 2766B, 2767C, 2767D, 2768A, 2867C, 2868A, 2967A, 2967B, 2967D, 2968D, 3066A, 3067C
Eastern Bluebird	*Sialia sialis*	Protected		2668B, 2766A, 2767C, 2767D, 2768A, 2867C, 2868A, 2967A, 2967B, 2968D, 3066A, 3067C
Eastern Kingbird	*Tyrannus*	Protected		2668B, 2766A, 2766B, 2767C, 2767D, 2768A, 2769C, 2867C, 2868A, 2967A, 2967B, 2967D, 2968D, 3066A, 3067C
Eastern Meadowlark	*Sturnella magna*	Protected	High Priority SGCN	2668B, 2766A, 2766B, 2767C, 2768A, 2867C, 2868A, 2967A, 2967B, 2968D, 3066A, 3067C
Eastern Phoebe	*Sayornis phoebe*	Protected		2668B, 2766A, 2766B, 2767C, 2767D, 2769C, 2867C, 2868A, 2967A, 2967B, 2967D, 2968D, 3066A, 3067C

Eastern Towhee	*Pipilo erythrophthalmus*	Protected		2668B, 2766A, 2767C, 2767D, 2768A, 2769C, 2867C, 2868A, 2967A, 2967B, 2967D, 2968D, 3066A, 3067C
Eastern Wood-Pewee	*Contopus virens*	Protected		2668B, 2766A, 2766B, 2767C, 2767D, 2768A, 2769C, 2867C, 2868A, 2967A, 2967B, 2967D, 2968D, 3066A, 3067C
European Starling	*Sturnus vulgaris*	Unprotected		2668B, 2766A, 2766B, 2767C, 2767D, 2768A, 2769C, 2867C, 2868A, 2967A, 2967B, 2967D, 2968D, 3066A, 3067C
Field Sparrow	*Spizella pusilla*	Protected		2668B, 2766A, 2766B, 2767C, 2767D, 2768A, 2769C, 2867C, 2868A, 2967A, 2967B, 2967D, 2968D, 3066A, 3067C
Golden Eagle	*Aquila chrysaetos*	Endangered	SGCN	2668B
Golden-crowned Kinglet	*Regulus satrapa*	Protected		2668B, 2767C, 2767D, 2768A, 2967B, 2968D
Grasshopper Sparrow	*Ammodramus savannarum*	Special Concern	High Priority SGCN	2766B, 2768A, 2867C, 2868A, 2967A, 2967B, 2967D, 2968D, 3066A
Gray Catbird	*Dumetella carolinensis*	Protected		2668B, 2766A, 2766B, 2767C, 2767D, 2768A, 2769C, 2867C, 2868A, 2967A, 2967B, 2967D, 2968D, 3066A, 3067C
Great Blue Heron	*Ardea herodias*	Protected		2668B, 2767C, 2769C, 2867C, 2967A, 2967B, 2967D, 2968D, 3066A, 3067C
Great Crested Flycatcher	*Myiarchus crinitus*	Protected		2668B, 2766A, 2768A, 2769C, 2967A, 2967B, 2967D, 2968D, 3066A, 3067C
Great Horned Owl	*Bubo virginianus*	Protected		2768A
Green Heron	*Butorides virescens*	Protected		2668B, 2767C, 2769C, 2967B, 2968D, 3067C
Hairy Woodpecker	*Picoides villosus*	Protected		2668B, 2766A, 2766B, 2767C, 2767D, 2768A, 2867C, 2868A, 2967A, 2967B, 2967D, 2968D, 3066A, 3067C
Hermit Thrush	*Catharus guttatus*	Protected		2668B, 2766A, 2766B, 2767C, 2767D, 2769C, 2867C, 2967A, 2967B, 2967D, 2968D, 3066A, 3067C

Hooded Merganser	*Lophodytes cucullatus*	Game Species		2767C
Hooded Warbler	*Wilsonia citrina*	Protected		2767D, 2867C
Horned Lark	*Eremophila alpestris*	Special Concern	High Priority SGCN	2867C
House Finch	*Carpodacus mexicanus*	Protected		2668B, 2766A, 2768A, 2769C, 2868A, 2967B, 2967D, 3066A
House Sparrow	*Passer domesticus*	Unprotected		2668B, 2766A, 2766B, 2767C, 2767D, 2768A, 2769C, 2867C, 2868A, 2967A, 2967B, 2967D, 2968D, 3066A, 3067C
House Wren	*Troglodytes aedon*	Protected		2668B, 2766A, 2766B, 2767C, 2767D, 2768A, 2769C, 2867C, 2868A, 2967A, 2967B, 2967D, 2968D, 3066A, 3067C
Indigo Bunting	*Passerina cyanea*	Protected		2668B, 2766A, 2766B, 2767C, 2767D, 2768A, 2867C, 2868A, 2967A, 2967B, 2967D, 2968D, 3066A, 3067C
Killdeer	*Charadrius vociferus*	Protected		2668B, 2766B, 2767C, 2767D, 2769C, 2867C, 2868A, 2967A, 2967B, 2967D, 2968D, 3066A
Lawrence's Warbler	*Vermivora chrysoptera x V. pinus*	Protected		2967A
Least Flycatcher	*Empidonax minimus*	Protected		2668B, 2766B, 2767D, 2769C, 2867C, 2868A, 2967A, 2967B, 2968D, 3066A, 3067C
Louisiana Waterthrush	*Seiurus motacilla*	Protected	SGCN	2766B
Magnolia Warbler	*Dendroica magnolia*	Protected		2668B, 2766A, 2766B, 2767C, 2767D, 2768A, 2769C, 2868A, 2967A, 2967B, 2967D, 2968D, 3066A
Mallard	*Anas platyrhynchos*	Game Species		2668B, 2767C, 2769C, 2867C, 2967A, 2967B, 2968D, 3066A
Mourning Dove	*Zenaida macroura*	Protected		2668B, 2766A, 2766B, 2767C, 2767D, 2768A, 2769C, 2867C, 2868A, 2967A, 2967B, 2967D, 2968D, 3066A, 3067C

Mourning Warbler	*Oporornis philadelphia*	Protected		2766A, 2769C, 2867C
Nashville Warbler	*Vermivora ruficapilla*	Protected		2768A, 2967A
Northern Cardinal	*Cardinalis cardinalis*	Protected		2668B, 2766B, 2767D, 2768A, 2769C, 2867C, 2868A, 2967A, 2967B, 2967D, 2968D, 3066A, 3067C
Northern Flicker	*Colaptes auratus*	Protected		2668B, 2766A, 2766B, 2767C, 2767D, 2768A, 2769C, 2867C, 2868A, 2967A, 2967B, 2967D, 2968D, 3066A, 3067C
Northern Harrier	*Circus cyaneus*	Threatened	SGCN	2668B, 2867C, 2868A, 2967D
Northern Mockingbird	*Mimus polyglottos*	Protected		2768A, 2769C, 3066A
Northern Rough-winged Swallow	*Stelgidopteryx serripennis*	Protected		2668B, 2767D, 2867C, 2967B, 3066A, 3067C
Ovenbird	*Seiurus aurocapilla*	Protected		2668B, 2766A, 2766B, 2767C, 2767D, 2768A, 2769C, 2867C, 2868A, 2967A, 2967B, 2967D, 2968D, 3066A, 3067C
Pileated Woodpecker	*Dryocopus pileatus*	Protected		2767D, 2768A, 2867C, 2868A, 2967A, 2967B, 2967D, 2968D, 3066A
Pine Siskin	*Spinus pinus*	Protected		2768A
Pine Warbler	*Dendroica pinus*	Protected		2967B, 2967D
Prairie Warbler	*Dendroica discolor*	Protected	SGCN	2766A, 2868A, 2967A, 2967B, 2967D, 2968D, 3066A
Purple Finch	*Carpodacus purpureus*	Protected		2668B, 2766B, 2767C, 2768A, 2769C, 2867C, 2967A, 2967B, 2967D, 2968D, 3066A
Red-bellied Woodpecker	*Melanerpes carolinus*	Protected		2769C, 2967B, 3066A
Red-breasted Nuthatch	*Sitta canadensis*	Protected		2668B, 2767C, 2768A, 2769C, 2868A, 2967A, 2967B, 2968D, 3066A
Red-eyed Vireo	*Vireo olivaceus*	Protected		2668B, 2766A, 2766B, 2767C, 2767D, 2768A, 2769C, 2867C, 2868A, 2967A, 2967B, 2967D, 2968D, 3066A, 3067C

Red-shouldered Hawk	*Buteo lineatus*	Special Concern	SGCN	2668B, 2767D, 2968D
Red-tailed Hawk	*Buteo jamaicensis*	Protected		2668B, 2766A, 2766B, 2767D, 2768A, 2769C, 2867C, 2868A, 2967A, 2967B, 2967D, 2968D, 3066A, 3067C
Red-winged Blackbird	*Agelaius phoeniceus*	Protected		2668B, 2766A, 2766B, 2767C, 2767D, 2768A, 2769C, 2867C, 2868A, 2967A, 2967B, 2967D, 2968D, 3066A, 3067C
Ring-necked Pheasant	*Phasianus colchicus*	Game Species		2768A, 2867C, 2868A, 2968D
Rock Pigeon	*Columba livia*	Unprotected		2668B, 2766B, 2767C, 2767D, 2769C, 2867C, 2967A, 2967B, 2968D, 3066A, 3067C
Rose-breasted Grosbeak	*Pheucticus ludovicianus*	Protected		2668B, 2766A, 2766B, 2767D, 2768A, 2769C, 2867C, 2868A, 2967A, 2967B, 2967D, 2968D, 3066A, 3067C
Ruby-throated Hummingbird	*Archilochus colubris*	Protected		2668B, 2766A, 2766B, 2767C, 2767D, 2768A, 2769C, 2867C, 2967A, 2967B, 2967D, 2968D, 3066A
Ruffed Grouse	*Bonasa umbellus*	Game Species	SGCN	2668B, 2766A, 2967A, 3066A
Savannah Sparrow	*Passerculus sandwichensis*	Protected		2668B, 2766A, 2766B, 2767C, 2767D, 2768A, 2867C, 2868A, 2967A, 2967B, 2967D, 2968D, 3066A
Scarlet Tanager	*Piranga olivacea*	Protected	SGCN	2668B, 2766A, 2766B, 2767C, 2767D, 2768A, 2769C, 2867C, 2868A, 2967A, 2967B, 2967D, 2968D, 3066A, 3067C
Sharp-shinned Hawk	*Accipiter striatus*	Special Concern		2668B, 2766B, 2767C, 2767D, 2967A, 2967B, 2968D, 3066A
Song Sparrow	*Melospiza melodia*	Protected		2668B, 2766A, 2766B, 2767C, 2767D, 2768A, 2769C, 2867C, 2868A, 2967A, 2967B, 2967D, 2968D, 3066A, 3067C
Spotted Sandpiper	*Actitis macularius*	Protected		2767D, 2769C, 2967B, 3066A, 3067C
Swamp Sparrow	*Melospiza georgiana*	Protected		2668B, 2767C, 2967B, 2967D, 2968D

Tree Swallow	*Tachycineta bicolor*	Protected		2668B, 2766A, 2767C, 2767D, 2768A, 2867C, 2868A, 2967A, 2967B, 2967D, 2968D, 3066A, 3067C
Tufted Titmouse	*Baeolophus bicolor*	Protected		2668B, 2766B, 2769C, 2867C, 2868A, 2967A, 2967B, 2968D, 3066A
Turkey Vulture	*Cathartes aura*	Protected		2668B, 2766A, 2766B, 2767D, 2768A, 2769C, 2867C, 2868A, 2967A, 2967B, 2967D, 2968D, 3066A, 3067C
Veery	*Catharus fuscescens*	Protected		2668B, 2766A, 2767D, 2768A, 2769C, 2867C, 2868A, 2967A, 2967B, 2967D, 2968D, 3066A
Vesper Sparrow	*Pooecetes gramineus*	Special Concern	High Priority SGCN	2867C, 2967A
Warbling Vireo	*Vireo gilvus*	Protected		2668B, 2867C, 2967A, 2967B, 2968D, 3066A
White-breasted Nuthatch	*Sitta carolinensis*	Protected		2668B, 2766A, 2767C, 2767D, 2768A, 2769C, 2867C, 2868A, 2967A, 2968D, 3066A, 3067C
White-throated Sparrow	*Zonotrichia albicollis*	Protected		3066A
Wild Turkey	*Meleagris gallopavo*	Game Species		2668B, 2766A, 2767C, 2767D, 2769C, 2867C, 2868A, 2967A, 2968D, 3066A
Willow Flycatcher	*Empidonax traillii*	Protected		2668B, 2768A, 2769C, 2867C, 2968D, 3067C
Winter Wren	*Troglodytes*	Protected		2769C, 2967D
Wood Duck	*Aix sponsa*	Game Species		2668B, 2767C, 2769C, 2967A, 2967B, 2968D, 3066A
Wood Thrush	*Hylocichla mustelina*	Protected	SGCN	2668B, 2766A, 2766B, 2767D, 2768A, 2769C, 2867C, 2868A, 2967A, 2967B, 2967D, 2968D, 3066A, 3067C
Yellow Warbler	*Dendroica petechia*	Protected		2668B, 2766A, 2766B, 2767C, 2767D, 2769C, 2867C, 2868A, 2967A, 2967B, 2967D, 2968D, 3066A, 3067C

Yellow-bellied Sapsucker	*Sphyrapicus varius*	Protected		2668B, 2766A, 2766B, 2767D, 2768A, 2769C, 2867C, 2868A, 2967A, 2967B, 2967D, 2968D, 3066A
Yellow-billed Cuckoo	*Coccyzus americanus*	Protected		2867C, 2967A, 2968D
Yellow-rumped Warbler	*Dendroica coronata*	Protected		2668B, 2766A, 2767C, 2767D, 2867C, 2868A, 2967A, 2967B, 2967D, 2968D, 3066A
Yellow-throated Vireo	*Vireo flavifrons*	Protected		2766A, 2769C, 2967B, 2967D, 3066A

Thanks to the New York State Breeding Bird Atlas for supplying Atlas data, and to the volunteer participants who gathered data for the project.

Reptiles and Amphibians

Based on information presented in the 1990-2007 NYS Amphibian and Reptile Atlas Project (Herp Atlas Project, www.dec.ny.gov/animals/7140.html), 29 different species were found on or near the Canisteo River Basin Unit (Table 3B: Reptiles and Amphibians). Of these reptile and amphibian species, five are Species of Greatest Conservation Need (Table 4B: Reptile and Amphibian Species of Greatest Conservation Need).

It should be noted that because the Herp Atlas blocks do not follow the exact outline of the parcels in the Canisteo River Basin Unit, some of the reptiles and amphibians identified during this effort will have been found adjacent to, but not within, the state land.

Map of Herp Atlas Project blocks

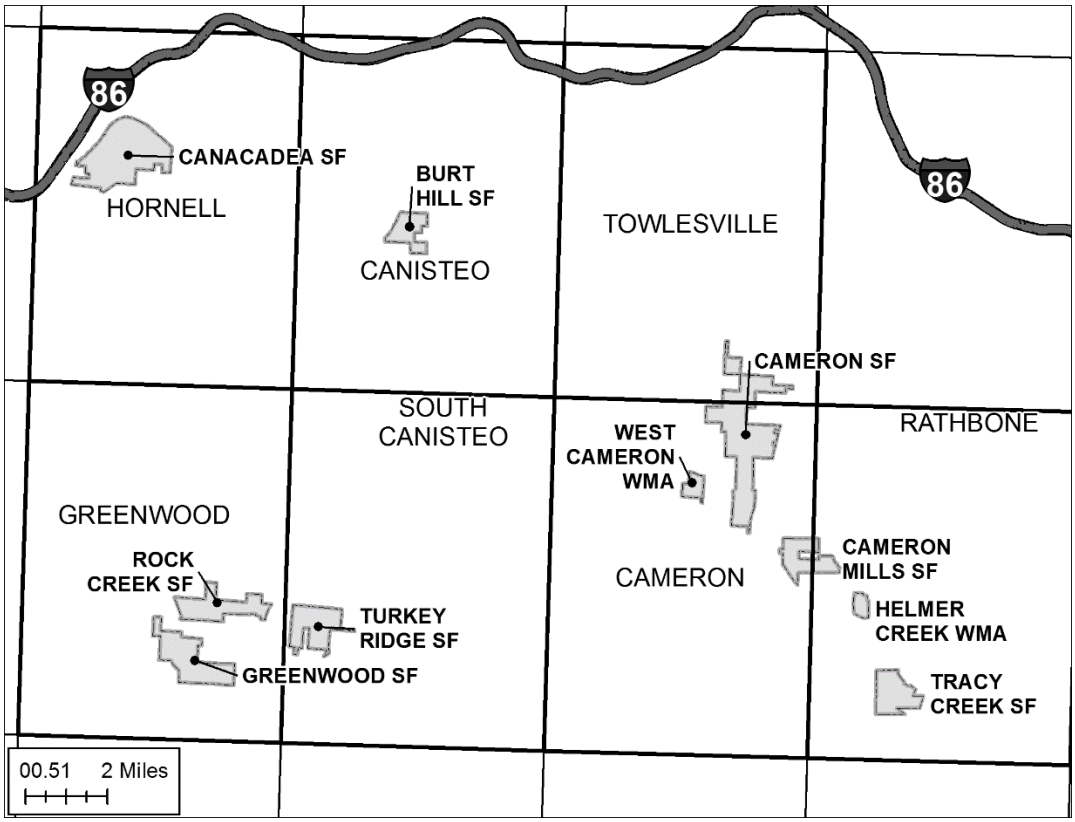


Table 2B: Reptiles and Amphibians

This list is summarized from the NYS Amphibian and Reptile Atlas, 1990-2007.

Common Name	Scientific Name	NY Status	SGCN Status	USGS Quad Names
Allegheny dusky salamander	*Desmognathus ochrophaeus*			Cameron, Canisteo, Greenwood, Hornell, Rathbone, South Canisteo, Towlesville
Bullfrog	*Rana catesbiana*			Cameron, Greenwood, Rathbone, Towlesville
Common gartersnake	*Thamnophis sirtalis*			Cameron, Canisteo, Greenwood, Hornell, Rathbone, South Canisteo, Towlesville
Eastern American toad	*Bufo americanus*			Cameron, Greenwood, Hornell, Rathbone, South Canisteo, Towlesville
Eastern long-tailed salamander	*Eurycea longicauda*	Special Concern	High Priority SGCN	Canisteo, Rathbone

Eastern milksnake	*Lampropeltis triagulum*			Cameron, Hornell, Rathbone, Towlesville
Gray treefrog	*Hyla versicolor*			Cameron, Hornell, Rathbone, Towlesville
Green frog	*Rana clamitans*			Cameron, Canisteo, Greenwood, Hornell, Rathbone, South Canisteo, Towlesville
Northern black racer	*Coluber constrictor*		SGCN	Rathbone
Northern brownsnake	*Storeria dekayi*			Canisteo, Towlesville
Northern dusky salamander	*Desmognathus fuscus*			Cameron, Canisteo, Greenwood, Hornell, South Canisteo, Towlesville
Northern leopard frog	*Rana pipiens*			Rathbone, Towlesville
Northern redback salamander	*Plethodon cinereus*			Cameron, Canisteo, Greenwood, Hornell, Rathbone, South Canisteo, Towlesville
Northern red-bellied snake	*Storeria occiptomaculata*			Cameron, Greenwood, Hornell, Rathbone, South Canisteo, Towlesville
Northern slimy salamander	*Plethodon glutinosus*			Cameron, Greenwood, Hornell, Rathbone, South Canisteo, Towlesville
Northern spring salamander	*Gyrinophilus porphyriticus*			Cameron, Canisteo, Greenwood, Hornell, Rathbone, South Canisteo, Towlesville
Northern two-lined salamander	*Eurycea bislineata*			Canisteo, Greenwood, Hornell, Rathbone, South Canisteo, Towlesville
Northern watersnake	*Nerodia sipedon*			Greenwood, Rathbone
Painted turtle	*Chrysemys picta*			Cameron, Greenwood, Hornell, Towlesville
Pickerel frog	*Rana palustris*			Cameron, Canisteo, Hornell, Rathbone, South Canisteo, Towlesville
Red-spotted newt	*Notophthalmus viridescens*			Cameron, Greenwood, Hornell, Rathbone, South Canisteo, Towlesville

Ring-necked snake	*Diadophis punctatus*			Cameron, Hornell, Rathbone, South Canisteo, Towlesville
Smooth greensnake	*Opheodrys vernalis*		SGCN	Cameron, Rathbone, Towlesville
Snapping turtle	*Chelydra serpentia*		SGCN	Canisteo, Hornell, Towlesville
Spotted salamander	*Ambystoma maculatum*			Cameron, Canisteo, Greenwood, Hornell, Rathbone, Towlesville
Spring peeper	*Pseudacris crucifer*			Cameron, Greenwood, Hornell, Rathbone, South Canisteo, Towlesville
Timber rattlesnake	*Crotalus horridus*	Threatened	High Priority SGCN	Cameron, Rathbone, Towlesville
Wehrle's salamander	*Plethodon wehrlei*			Cameron, Canisteo, Hornell, South Canisteo, Towlesville
Wood frog	*Rana sylvatica*			Cameron, Greenwood, South Canisteo

Invertebrates

Based on information obtained from DEC freshwater mollusk surveys conducted in 2014 and 2015, nine species of mussels were documented in the Canisteo River near the Unit. Of these species, one is listed as State Threatened and is a high priority Species of Greatest Conservation Need, and two are Species of Greatest Conservation Need.

It should be noted that due to the vast diversity of invertebrate species and the difficulty of effective comprehensive survey, this list only depicts a small portion of the invertebrate community on and near the Unit.

Table 3B: Invertebrates

Common Name	Scientific Name	NY Status	SGCN Status	Type
Creeper	Strophitus undulatus			Mussel
Cylindrical papershell	Anodontoides ferussacianus			Mussel
Eastern elliptio	Elliptio complanata			Mussel
Eastern floater	Pyganodon cataracta			Mussel
Elktoe	Alasmidonta marginata		SGCN	Mussel
Giant floater	Pyganodon grandis			Mussel
Green floater	Lasmigona subviridis	Threatened	High Priority SGCN	Mussel
Triangle floater	Alasmidonta undulata			Mussel
Yellow lampmussel	Lampsilis cariosa		SGCN	Mussel

Appendix C: Taxes paid on Department Lands

Additional information is included in the Taxes section (pg. 16) and History of the Canisteo River Basin Unit section (pg. 11).

Real Property Tax Law 532 establishes that certain State-owned land categories pay all appropriate taxes assessed to those lands as if they were privately owned without improvements. For additional information refer to www.state.ny.us, click on 'state laws' in the bottom right corner of the web page, scroll down and click on Real Property Tax and navigate to Article 5, Title 2 for more information on RPTL 532. See also Taxes section on page 16 for further information.

Burt Hill State Forest

Acquisition for this state forest began in in May of 1948. It consists of a single proposal (A). Proposal A was purchased under the authority of the Park and Recreation Bond Act. This property is located in the Town of Howard and the Canisteo – Greenwood Central School District.

Table 1C: Taxable status of each proposal to Burt Hill State Forest

Tax Map Number	Proposal	Roll Section / Status
168-1-20	A	8 Wholly Exempt

Cameron State Forest

Acquisition for this state forest began in April of 1934 with the first deeds being recorded in October of 1934. It consists of ten proposals (A, B, C, E, F, H, J, K, L). Proposals A, B, C, E, F, and H were purchased under the authority of the Reforestation Act / Hewitt Amendment. Proposals J, K, L were purchased under the authority of the Parks and Recreation Land Acquisition Bond Act. The property is within the Town of Cameron, but split between the Bath and Addison School Districts.

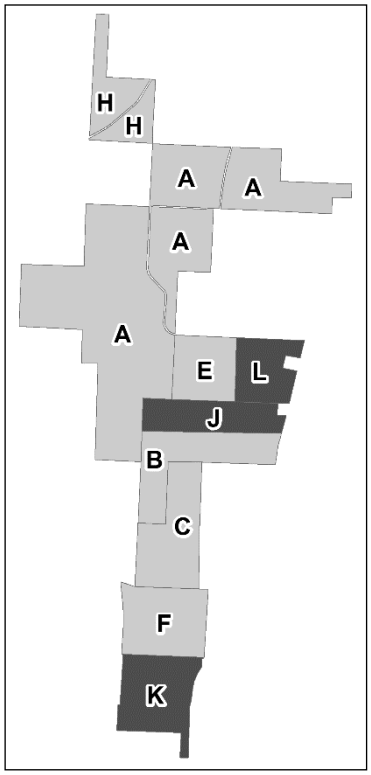


Table 2C: Taxable status of each proposal to Cameron State Forest

Tax Map Number	Proposal	Roll Section / Status
220-1-1	A	3 Taxable State Lands
238-1-1	B	3 Taxable State Lands
238-1-18	C	3 Taxable State Lands
220-1-14	E	3 Taxable State Lands
238-1-16	F	3 Taxable State Lands
201-1-8	H	3 Taxable State Lands

Tax Map Number	Proposal	Roll Section / Status
220-1-13	J	8 Wholly Exempt Lands
256-1-2	K	8 Wholly Exempt Lands
220-1-27	L	8 Wholly Exempt Lands

Cameron Mills State Forest

Acquisition for this state forest began in in May of 1948. It consists of Proposals A, B, C. Proposals A, B, C were purchased under the authority of the Park and Recreation Bond Act. All lands of this state forest are located in the Town of Cameron, and in the Addison School District.

Table 3C: Taxable status of each proposal to Cameron Mills State Forest

Tax Map Number	Proposal	Roll Section / Status
256-1-15	A	8 Wholly Exempt
256-1-14	B	8 Wholly Exempt
256-1-36	C	8 Wholly Exempt

Canacadea State Forest

Acquisition for this state forest began in April of 1940 with the first deeds being recorded in February of 1942. It consists of ten proposals (A, B, C, D, E, F, G, H, I, J). Proposals A, B, C, D were purchased under the authority of the Reforestation Act / Hewitt Amendment. Proposals F, G, H, and I were purchased under the authority of the Parks and Recreation Land Acquisition Bond Act. Proposals E and J were acquired under authority of the Environmental Quality Bond Act of 1972. All lands are within the Town of Hornellsville and the Alfred – Almond School District.

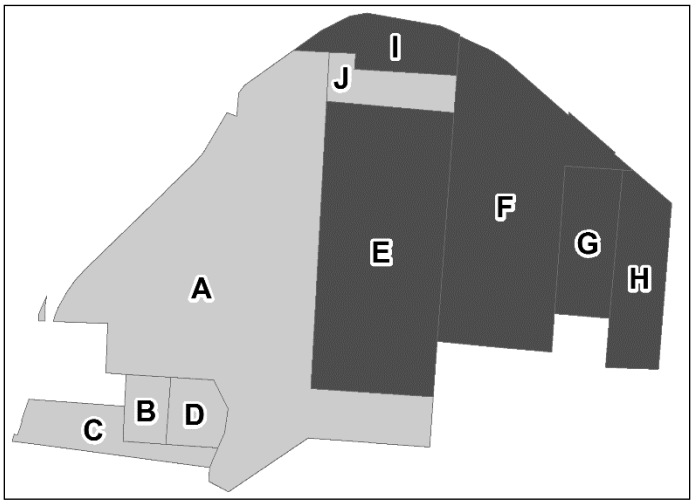


Table 4C: Taxable status of each proposal to Canacadea State Forest

Tax Map Number	Proposal	Roll Section / Status
149-1-5	A	3 Taxable State Lands
149-1-7	B	3 Taxable State Lands
149-1-8	C	3 Taxable State Lands

Tax Map Number	Proposal	Roll Section / Status
149-1-6	D	3 Taxable State Lands
150-1-22	E	8 Wholly Exempt Lands
150-1-20	F	8 Wholly Exempt Lands
150-1-19	G	8 Wholly Exempt Lands
150-1-18	H	8 Wholly Exempt Lands
150-1-15	I	8 Wholly Exempt Lands
150-1-23	J	3 Taxable State Lands

Greenwood State Forest

Acquisition for this state forest (the first forest purchased in Steuben County) began in April of 1930, with the first deeds to New York State being recorded in February of 1931. It consists of eight proposals (A, B, C, D, F, G, H, I). Proposals A – F were acquired under the authority of the Reforestation Act / Hewitt Amendment. Proposals H was acquired under authority of the authority of the Parks and Recreation Land Acquisition Bond Act. Proposal I was acquired under the authority of the Reforestation Act as an “addition to state forest”. All lands are within the Town of Greenwood, and within the Canisteo – Greenwood School District.

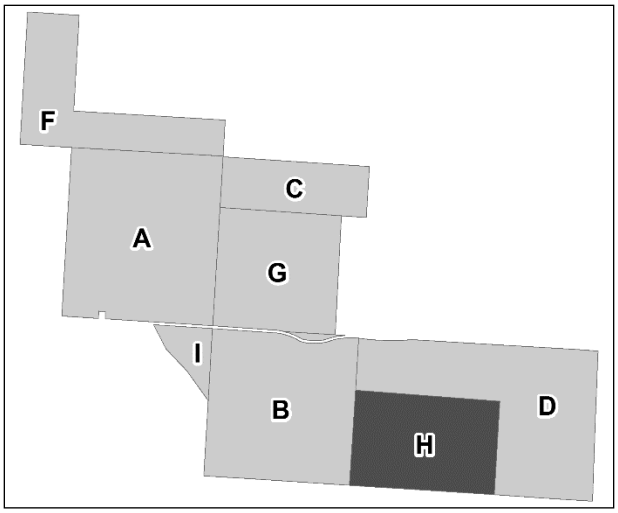


Table 5C: taxable status of each proposal to Greenwood State Forest

Tax Map Number	Proposal	Roll Section / Status
285-1-9	A	3 Taxable State Lands
286-1-25	B	3 Taxable State Lands
286-1-27	C	3 Taxable State Lands
286-1-23	D	3 Taxable State Lands
285-1-7	F	3 Taxable State Lands
286-1-26	G	3 Taxable State Lands
286-1-24	H	8 Wholly Exempt Lands
285-1-10.2	I	3 Taxable State Lands

Helmer Creek Wildlife Management Area

Acquisitions for this wildlife management area began with an interagency transfer from the USDA – Farmer's Home Administration in April of 1993. Note that the western boundary of this unit was established by a boundary line agreement. Also note that there is a small inholding (0.003 acres) for a burial plot, and an easement excepted for a water source in favor of an adjoining landowner along the north boundary. This area consists of a single parcel, and is located in the Town of Rathbone, and the Addison School District.

Table 6C: Taxable status of Helmer Creek WMA

Tax Map Number	Proposal	Roll Section / Status
275-1-1.12	N/A	8 Wholly Exempt

Rock Creek State Forest

Acquisition for this state forest began in April of 1934 with the first deeds being recorded in October of 1934.

It consists of five proposals (A, B, C, D, E). Which were all purchased under the authority of the Reforestation Act / Hewitt Amendment. The property is within the Town of Greenwood, and within the Canisteo – Greenwood School District.

Table 7C: Taxable status of each proposal to Rock Creek State Forest

Tax Map Number	Proposal	Roll Section / Status
268-1-20	A	3 Taxable State Lands
268-1-19	B	3 Taxable State Lands
268-1-18	C	3 Taxable State Lands
268-1-22	D	3 Taxable State Lands
268-1-12	E	3 Taxable State Lands

Tracy Creek State Forest

Acquisition for this state forest began in April of 1940 with the only deed being recorded in March of 1950. It consists of a single proposal (A). Proposal A was purchased under the authority of the Reforestation Act / Hewitt Amendment. It is within the Town of Rathbone, and the Addison School District.

Table 8C: Taxable status of each proposal to Tracy Creek State Forest

Tax Map Number	Proposal	Roll Section / Status
293-1-8	A	3 Taxable State Lands

Turkey Ridge State Forest

Acquisition for this state forest began in in May of 1948. It consists of Proposals A, B, C, E, and F. Proposals A, B, C were purchased under the authority of the Reforestation Act / Hewitt Amendment. Proposal E was purchased under authority of the Parks and Recreation Land Acquisition Bond Act and Proposal F was purchased under the authority of Environmental Quality Bond Act of 1972. This property is in the Towns of Greenwood and Jasper, and in the Canisteo – Greenwood School District.

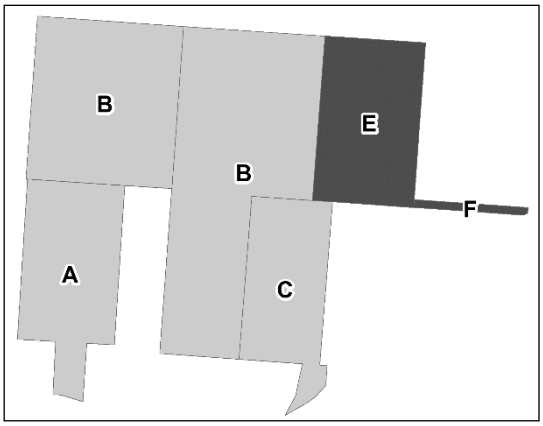


Table 9C: Taxable status of each proposal to Turkey Ridge State Forest

Tax Map Number	Proposal	Roll Section / Status
287-1-3	A	3 Taxable State Lands
269-1-5	B	3 Taxable State Lands
269-3-11	B	3 Taxable State Lands
287-3-2	C	3 Taxable State Lands
269-3-10	E	8 Wholly Exempt
269-3-22	F	8 Wholly Exempt

West Cameron WMA

Acquisition for this wildlife management area began with an interagency transfer from the Office of General Services to the Department in May of 1980. A smaller parcel was acquired at a later date to provide access to Angel Road. All lands which are associated with this wildlife management area are located in the Town of Cameron, and the Addison School District.

Table 10C: Taxable status of each proposal to West Cameron WMA

Tax Map Number	Proposal	Roll Section / Status
237-1-18	N/A	8 Wholly Exempt
255-1-5.2	N/A	8 Wholly Exempt

Appendix D: Facilities

Table 1D: Facilities on Burt Hill SF, Cameron SF, Cameron Mills SF, Canacadea SF and Greenwood SF

	Burt Hill State Forest	Cameron State Forest	Cameron Mills State Forest	Canacadea State Forest	Greenwood State Forest
Public Forest Access Rd		0.3 miles		2.2 miles	1.0 miles
Haul Road		1.5 miles	0.3 miles		1.0 miles
Access Trails		2.2 miles	1.7 miles	0.2 mile	
Right-of-Way		0.1 mile		0.5 mile	
Fire Control Line		1.3 miles	1.1 miles		
Gates		4	1	1	1
Unpaved Parking lots		7		2	2
Facility ID Signs	1	5	1	1	1
Finger Lakes Trail Hiking Trail	0.7 mile				
Multiple Use Rec Trails					
Designated Snowmobile Trail					
MAPPWD Routes (pg. 30 & 105)		2.2 miles 1.3 miles proposed	0.3 miles proposed		
Boundary Line	4.3 miles	16.3 miles	5.9 miles	8.4 miles	7.2 miles
Constructed Pond		3			
Water Control Structure		2			
Other	1 lean-to and pit privy	2 Scenic Vistas		1 Scenic Vista	
Bird Houses / Bat Boxes					

	Burt Hill State Forest	Cameron State Forest	Cameron Mills State Forest	Canacadea State Forest	Greenwood State Forest
Bridge			1		1

Table 2D: Facilities on Helmer Creek WMA, Rock Creek SF, Tracy Creek SF, Turkey Ridge SF and W. Cameron WMA

	Helmer Creek Wildlife Management Area	Rock Creek State Forest	Tracy Creek State Forest	Turkey Ridge State Forest	West Cameron Wildlife Management Area
Public Forest Access Rd	0.2 miles	1.9 miles		0.7 miles	0.1 miles
Haul Road	0.2 miles		1.2 miles	0.5 miles	0.4 miles
Access Trails	0.7 miles	0.2 miles			1.0 mile
Right-of-Way					
Fire Control Line					
Gates	1		1		1
Unpaved Parking lots	1	2	3	2	1
Facility ID Signs		1	1	1	1
Finger Lakes Trail Hiking Trail					
Multiple Use Rec Trails					
Designated Snowmobile Trail		0.2 miles			
MAPPWD Routes (pg. 30 & 105)			1.2 miles		0.4 miles proposed
Boundary Line	1.8 miles	7.0 miles	4.6 miles	6.9 miles	2.4 miles
Constructed Pond	3		6		2
Water Control Structure	1				

	Helmer Creek Wildlife Management Area	Rock Creek State Forest	Tracy Creek State Forest	Turkey Ridge State Forest	West Cameron Wildlife Management Area
Other	1 Cemetery (not owned by DEC) 1 small spring house 1 small abandoned farm gravel pit.				
Bird Houses / Bat Boxes	6 bird houses				
Bridge					

Table 2D: Summary of All Facilities on the Canisteo River Basin Unit

	Unit total
Public Forest Access Rd	6.4 miles
Haul Road	5.1 miles
Access Trails	6.0 miles
Right-of-Way	0.6 miles
Fire Control Line	2.4 miles
Gates	10
Unpaved Parking lots	20
Facility ID Signs	13
Finger Lakes Trail Hiking Trail	0.7 miles
Multiple Use Rec Trails	0
Designated Snowmobile Trail	0.2 miles
MAPPWD Routes (pg. 30 & 105)	3.4 miles 2.1 miles proposed
Boundary Line	64.8 miles
Constructed Pond	14
Water Control Structure	3
Other	See above
Bird Houses / Bat Boxes	6
Bridge	2

Appendix E: Water Resources

Table 1E: Streams

WIN - Watershed Index Number: Numbering system used by NYSDEC to identify individual streams/ponds/lakes. (PA- water flows to Pennsylvania, Ont – water flows to Lake Ontario)

Water Classifications:

1) Class AA- A source of water supply for drinking, culinary or food processing purposes; primary and secondary contact recreation; and fishing
2) Class AA(T)-Same as Class AA plus it is designated as trout waters
3) Class C - Fishing and any other usages except for bathing or as a source of water supply for drinking, culinary, or food processing purposes.
4) Class C(T) - Same as Class C plus it is designated as trout waters
5) Class C(TS) - Same as Class C plus waters are suitable for trout spawning

Name	**WIN**	**Class**	**Name**
Burt Hill SF	PA-3-57-5-37-1	C	Unnamed
Cameron Mills SF	PA-3-57-5-21	C	Unnamed
	PA-3-57-5-21B	C	Unnamed
	PA-3-57-5-20-1	C	Unnamed
Cameron SF	PA-3-57-5-22	C(T)	Cameron Creek
	PA-3-57-5-24	C	Unnamed
	PA-3-57-5-27-1	C	Unnamed
	PA-3-58-19-11	C	Unnamed
	PA-3-58-27-5	C	Unnamed
	PA-3-58-27-5-4	C	Unnamed
Canacadea SF	PA-3-57-5-47-1	C	Unnamed
	PA-3-57-5-47-3A	C	Unnamed
	PA-3-57-47-3A-1	C	Unnamed
Greenwood SF	PA-3-57-5-40-11	C(TS)	Rock Creek
	PA-3-57-5-40-11-1	C	Unnamed
	PA-3-57-5-40-11-3	C	Unnamed
Helmer Creek WMA	PA-3-57-5-20-1	C	Unnamed
Rock Creek SF	PA-3-57-40-8	C	Erskin Hollow Brook

Name	WIN	Class	Name
	PA-3-57-5-40-8-1	C	Unnamed
	PA-3-57-5-40-9	C	Unnamed
Tracy Creek SF	PA-3-57-5-18	C	Tracy Creek
	PA-3-57-5-18-1	C	Unnamed
Turkey Ridge SF	PA-3-57-5-40-10	C	Norton Hollow Brook
	PA-3-57-5-40-10-1	C	Unnamed
West Cameron WMA	PA-3-57-5-24A	C	Unnamed

Table 2E: National Wetlands Inventory by Department Property

Further information on the classification code for each wetland type can be found at http://107.20.228.18/decoders/wetlands.aspx.

Property	Wetland Type	Classification Code	Acres on property
Burt Hill SF	None	None	0
Cameron Mills SF	None	None	0
Cameron SF	Palustrine, forested/shrub	PFO1/SS1E	9.2
		PFO1E	3.2
		PFO4E	8.1
		PFO5F	0.8
		PSS1E	0.1
	Palustrine, emergent	PEM1Cx	7.7
	Palustrine, freshwater pond	PUBHh	6.9
		PUBHx	10.7
Canacadea SF	Riverine	R4USA	0.4
Greenwood SF	None	None	0
Helmer Creek WMA	Palustrine, freshwater pond	PUBHh	0.1
Rock Creek SF	None	None	0
Tracy Creek SF	Riverine	R4USA	0.2
Turkey Ridge SF	Palustrine, forested/shrub	PFO1A	1.4
West Cameron WMA	None	None	0

Appendix F: Vegetation Management

A stand is a group of plants with similar characteristics that are analyzed and treated as a single unit. Each property is divided into one or more compartments, and each compartment divided into stands. Compartments are given a letter designation, and stands a number. This letter-number combination is used for tracking, mapping and planning the actions and activities that happen in and on Department owned land.

The following tables list the anticipated period of time for bidding out the start of the treatment of these stands. Many factors can influence the actual start date for these events, including, but not limited to; staff time and other resources, invasive insect or plant issues, weather, local/regional/worldwide markets, and deer or other animal populations. Most, but not all, of these will be sold in sales of more than one stand, and most will take more than one year to plan, sell, and cut.

These lists only include commercial sales of timber; they do not include any non-commercial treatments for any stands. Non-commercial means that the trees are not valuable enough to sell. As a result, the work must be done by trained staff, trained volunteers, or through a procurement contract paid for by the Department. When people and/or money to contract the work becomes available, stands will be evaluated, starting with the ones in the seedling-sapling and pole timber sizes.

See also maps on Appendix M: Maps, page 182 and Timber and Vegetation and Timber and Vegetation Management starting on pages 40 and 75. The Habitat Management Plans for Helmer Creek WMA and West Cameron WMA will have additional details on habitat management for those properties.

Key to Tables in Appendix F

Abbreviation	Definition
SS	Seedling/sapling size - A stand with an average D.B.H. of 0 to 5 inches.
PT	Poletimber size - A stand with an average D.B.H. of 6 to 11 inches.
ST	Sawtimber size - A stand with an average D.B.H. of 12 inches or larger.
AA	All-aged cut - To continue, or encourage, a forest stand to contain trees of two or more age classes. Both regenerating and thinning at the same time.
Regen	Regeneration -To reestablish a forest stand with tree seedlings. Cut styles that do this include; clearcut or overstory removal cut (one cut removes all the overstory trees); or a Shelterwood or Seed Tree Cut (one or more cuts to get sunlight on the ground before the final cut). Later cuts will be timed based on the growth response of the vegetation. **S1** – first cut of a shelterwood **S2** – second cut of a shelterwood Depending on type of cut and the size of the area treated additional SEQR may be required.
Thin	Thinning - An intermediate cut to encourage faster growth.
Protection	An area which requires special management considerations. (Special cutting regimen, no treatment, short rotation, or long rotation.) See Page 80.
No Access	Inadequate access to treat, if access improves treatment may (or may not) be scheduled.
No Action	This area will not be actively managed to retain as grassland/brushy habitat, allow to revert to forest.
Mow	By mowing on a minimum of a 3-year rotation of grass or a 5-15yr rotation of hydro-axing or brush-hogging of brush.
Burn	By burning on a minimum of a 3-year rotation.
Mow or burn	By mowing or burning on a minimum of a 3-year rotation or a 5-15yr rotation of hydro-axing or brush-hogging.
Woods Burn	Area adjacent to grass burns and included in the burn

Tables 1F: Burt Hill SF

Com-part-ment	Stand No.	Acres	Stand type	Stand Size	Management Action	
					Years 1-5	Years 6-10
A	1	6	Plantation	PT		
A	2	11	Plantation	PT		
A	3	30	Hardwood	ST		
A	4	9	Hardwood	ST		
A	5	5	Plantation	ST		
A	6	6	Plantation	ST		
A	7	17	Conifer Natural	PT		
A	8	34	Hardwood	PT		
A	9	7	Plantation	PT		
A	10	32	Plantation	ST		
A	11	58	Conifer Natural	PT		
A	13	43	Conifer Natural	PT		Thinning
A	14	15	Conifer Natural	ST		
A	15	21	Plantation	PT		Regen
A	16	27	Hardwood	ST		
A	17	8	Plantation	PT		
A	18	19	Plantation	PT		Regen
A	19	14	Hardwood	ST		Thinning
A	711	2	Other			
A	721	1	Other			
A	722	12	Other			
A	750	2	Other			
A	950	19	Grassland/Brushy		No Action	

Burt Hill SF	Acres by Ave. Tree Diameter Size Class				Total (Acres)	% of Total
Vegetative Type	0-5 in	6-11 in	12+ in	Other		
Natural Forest Hardwood		34	80		114	28.6%
Natural Forest Conifer / Conifer Hardwood		118	15		133	33.4%
Plantation		72	43		115	28.9%
Wetland (Forest)					0	0.0%
Wetland (Open/Emergent and/or Shrub)					0	0.0%
Ponds					0	0.0%
Open/Brush				19	19	4.8%
Other (Road, ROW, Parking, etc.)				17	17	4.3%
Total (Acres)	0	224	138	36	398	
% of Total	0.0%	56.3%	34.7%	9.0%		100%

Tables 2F: Cameron SF

Com-part-ment	Stand No.	Acres	Stand type	Stand Size	Management Action	
					Years 1-5	Years 6-10
A	1	5	Hardwood	PT		
A	2	13	Hardwood	PT		
A	3	61	Hardwood	PT		
A	5	6	Plantation	PT		
A	6	10	Conifer Natural	PT	Protection	
A	7	6	Hardwood	PT		
A	9	7	Hardwood	SS		
A	711	3	Other			
A	722	2	Other			
A	723	3	Other			
A	910	1	Pond			
A	950	1	Grassland/Brushy		No Action	
B	1	70	Hardwood	PT	Thin	
B	2	29	Hardwood	ST	Thin	
B	3	28	Conifer Natural	ST		
B	4	6	Forested Wetlands	PT	Protection	
B	5	51	Hardwood	ST		
B	6	22	Hardwood	ST	Thin	
B	9	12	Plantation	PT		
B	10	6	Hardwood	PT		
B	11	5	Hardwood	PT		
B	711	6	Other			
B	910	16	Pond			
B	911	4	Pond			
B	912	2	Pond			
B	913	1	Pond			
C	1	9	Plantation	PT		
C	2	9	Hardwood	SS		
C	4	9	Conifer Natural	ST		
C	5	5	Hardwood	PT		
C	6	8	Plantation	PT		Regen
C	7	17	Hardwood	ST	S1 Regen	
C	8	7	Plantation	PT		
C	9	20	Conifer Natural	ST	S1 Regen	
C	10	12	Hardwood	ST		
C	11	17	Hardwood	PT		
C	711	4	Other			
C	750	5	Other		Protection	
C	910	1	Pond			
D	1	3	Hardwood	SS		
D	2	6	Plantation	PT		

Com-partment	Stand No.	Acres	Stand type	Stand Size	Management Action	
					Years 1-5	Years 6-10
D	3.1	69	Hardwood	SS		
D	3.2	11	Hardwood	PT	S2 Regen	
D	4	4	Plantation	SS		
D	5	21	Hardwood	ST	Thin	S1 Regen
D	6	18	Plantation	PT		
D	7	8	Conifer Natural	PT		
D	8	9	Hardwood	PT		
D	10	12	Conifer Natural	ST		
D	11	18	Hardwood	ST		
D	12	31	Conifer Natural	PT	Protection	
D	13	35	Conifer Natural	ST	Protection	
D	14	49	Conifer Natural	PT		
D	15	30	Conifer Natural	ST	No Access	
D	723	5	Other			
D	910	1	Pond			
D	911	1	Pond			
D	940	2	Grassland/Brushy		Mow	
E	1	17	Conifer Natural	PT		
E	2	19	Conifer Natural	ST		
E	3	41	Hardwood	ST		
E	4	14	Hardwood	ST		
E	5	9	Hardwood	ST		
E	6	5	Conifer Natural	PT		
E	7	57	Hardwood	ST		
E	8	4	Plantation	PT		
E	723	4	Other			
E	950	2	Grassland/Brushy		Mow	
F	1	8	Plantation	ST		Regen
F	2	31	Hardwood	ST		
F	3	33	Conifer Natural	ST		
F	4	15	Conifer Natural	PT		
F	5	13	Plantation	PT		
F	6	12	Plantation	PT		Regen
F	7	4	Plantation	ST		Regen
F	8	54	Hardwood	ST		
F	9	7	Plantation	PT		Regen
F	10	5	Plantation	ST		
F	11	13	Hardwood	PT		
F	12	29	Conifer Natural	ST		
F	13	4	Hardwood	PT		
F	14	11	Plantation	PT		
F	15	8	Plantation	ST		
F	16	10	Hardwood	ST		

Com-partment	Stand No.	Acres	Stand type	Stand Size	Management Action	
					Years 1-5	Years 6-10
F	17	24	Hardwood	PT		
F	18	6	Plantation	PT		
F	19	16	Conifer Natural	ST		
F	20	2	Hardwood	PT		
F	21	22	Plantation	PT		
F	711	5	Other			
F	910	34	Pond			
F	930	3	Wetland		Wetland	
F	950	2	Grassland/Brushy		Mow or burn	
F	951	9	Grassland/Brushy		Mow	
F	952	15	Grassland/Brushy		Mow or burn	
F	953	3	Grassland/Brushy		Mow or burn	
G	1	8	Hardwood	PT		
G	2	69	Hardwood	ST		
G	3	19	Hardwood	ST		
G	4	10	Conifer Natural	PT		
G	5	31	Hardwood	PT		
G	6	14	Conifer Natural	PT		All-Aged
G	7	24	Hardwood	PT		
G	8	41	Hardwood	ST		
G	9	61	Conifer Natural	PT		
G	10	8	Hardwood	PT		
G	711	1	Other			
G	723	5	Other			
G	950	2	Grassland/Brushy		Mow or burn	
H	1	51	Hardwood	PT		
H	2	32	Hardwood	PT		
H	3	27	Plantation	PT	(Potential) Woods Burn	
H	4	6	Hardwood	PT	(Potential) Woods Burn	
H	5	16	Hardwood	ST		
H	6	33	Conifer Natural	PT	Protection	
H	7	103	Hardwood	PT	Protection	
H	8	9	Hardwood	ST	(Potential) Woods Burn	
H	711	2	Other			
H	723	6	Other			
H	910	1	Pond			
H	940	13	Grassland/Brushy		Burn	
H	941	2	Grassland/Brushy		Mow or burn	

Cameron SF	Acres by Ave. Tree Diameter Size Class				Total (Acres)	% of Total
Vegetative Type	**0-5 in**	**6-11 in**	**12+ in**	**Other**		
Natural Forest Hardwood	88	514	540		1,142	57.2%
Natural Forest Conifer / Conifer Hardwood		253	231		484	24.2%
Plantation	4	168	25		197	9.9%
Wetland (Forest)		6			6	0.3%
Wetland (Open/Emergent and/or Shrub)				3	3	0.1%
Ponds				62	62	3.1%
Open/Brush				51	51	2.6%
Other (Road, ROW, Parking, etc.)				51	51	2.6%
Total (Acres)	92	941	796	167	1,996	
% of Total	4.6%	47.1%	39.9%	8.4%		100%

Tables 3F: Cameron Mills SF

Com-part-ment	Stand No.	Acres	Stand type	Stand Size	Management Action	
					Years 1-5	**Years 6-10**
A	1.1	56	Hardwood	ST		
A	1.2	117	Hardwood	PT		
A	2	9	Plantation	PT		
A	3	22	Con Natural	PT		
A	4	45	Con Natural	PT		
A	5	16	Hardwood	ST	S1 Regen	
A	6	18	Hardwood	ST	S1 Regen	
A	7	13	Con Natural	ST		
A	8	14	Plantation	PT	Woods Burn	
A	9	13	Hardwood	PT	Woods Burn	
A	10	5	Plantation	ST		
A	11	11	Hardwood	PT	Woods Burn	
A	12	49	Hardwood	ST	Thin	S1 Regen
A	13	62	Con Natural	PT	Thin (1/3 of)	S1 Regen (1/3 of)
A	14	30	Con Natural	PT		
A	15	8	Hardwood	PT	Thin	S1 Regen
A	16	26	Hardwood	PT		
A	711	4	Other			
A	940	26	Grassland/Brushy		Burn	
A	1.1	56	Hardwood	ST		
A	1.2	117	Hardwood	PT		

Cameron Mills SF	Acres by Ave. Tree Diameter Size Class				Total (Acres)	% of Total
Vegetative Type	**0-5 in**	**6-11 in**	**12+ in**	**Other**		
Natural Forest Hardwood		175	139		314	57.7%
Natural Forest Conifer / Conifer Hardwood		159	13		172	31.6%
Plantation		23	5		28	5.2%
Wetland (Forest)					0	0%
Wetland (Open/Emergent and/or Shrub)						0%
Ponds						0%
Open/Brush				26	26	4.8%
Other (Road, ROW, Parking, etc.)				4	4	0.7%
Total (Acres)	0	357	157	30	544	
% of Total	0%	65.6%	28.9%	5.5%		100%

Tables 4F: Canacadea SF

Com-part-ment	Stand No.	Acres	Stand type	Stand Size	Management Action	
					Years 1-5	**Years 6-10**
A	1	37	Conifer Natural	PT		
A	2.11	68	Plantation	PT		
A	2.12	10	Hardwood	SS		
A	2.13	3	Plantation	PT		
A	2.14	6	Hardwood	SS		
A	3.1	92	Hardwood	ST		
A	3.2	26	Hardwood	ST		
A	4	41	Plantation	SS		
A	5	23	Plantation	PT		
A	6	98	Hardwood	PT		
A	7	14	Hardwood	PT		
A	8	15	Hardwood	PT		
A	9	19	Conifer Natural	PT		
A	10	16	Hardwood	ST		
A	11	24	Hardwood	ST		
A	12	82	Hardwood	PT		
A	13	26	Hardwood	SS		
A	14	16	Hardwood	PT		
A	15	14	Hardwood	PT		
A	16	42	Plantation	ST		
A	17	8	Hardwood	PT		
A	18	8	Hardwood	SS		
A	19	8	Hardwood	ST		
A	20	24	Hardwood	ST		

Com-part-ment	Stand No.	Acres	Stand type	Stand Size	Management Action	
					Years 1-5	Years 6-10
A	21	42	Hardwood	ST		
A	22	3	Hardwood	SS		
A	23	1	Hardwood	PT	Protection	
A	24	170	Plantation	PT	Regen	
A	25	7	Hardwood	PT		
A	26	90	Hardwood	PT		
A	27	15	Plantation	ST		
A	28	26	Hardwood	PT		
A	29	14	Hardwood	ST		
A	30	25	Hardwood	PT		
A	31	51	Hardwood	PT		
A	32	11	Hardwood	PT		
A	33	55	Hardwood	PT		
A	34	44	Hardwood	ST		Thinning
A	35	31	Hardwood	PT		
A	36	11	Hardwood	PT		
A	37	36	Hardwood	PT		
A	38	31	Hardwood	ST		S1 Regen
A	39	5	Plantation	ST		
A	40	77	Hardwood	ST		Thinning
A	41	18	Hardwood	ST		Thinning
A	42	42	Conifer Natural	SS		
A	43	64	Hardwood	PT		
A	44	6	Hardwood	PT		
A	711	11	Other			
A	930	2	Wetland			
A	950	4	Grassland/Brushy		No Action	
A	951	10	Grassland/Brushy		Mow	
A	952	2	Grassland/Brushy		Mow	
A	953	6	Grassland/Brushy		Mow	
A	954	2	Grassland/Brushy		No Action	

Canacadea SF	Acres by Ave. Tree Diameter Size Class				Total (Acres)	% of Total
Vegetative Type	0-5 in	6-11 in	12+ in	Other		
Natural Forest Hardwood	53	661	416		1,130	69.2%
Natural Forest Conifer / Conifer Hardwood	42	56	0		98	6.0%
Plantation	41	264	62		367	22.5%
Wetland (Forest)	0	0	0		0	0.0%

Wetland (Open/Emergent and/or Shrub)				2	2	0.1%
Ponds				0	0	0.0%
Open/Brush				24	24	1.5%
Other (Road, ROW, Parking, etc.)				11	11	0.7%
Total (Acres)	136	981	478	37	1,632	
% of Total	8.3%	60.1%	29.3%	2.3%		

Tables 5F: Greenwood SF

Com-partment	Stand No.	Acres	Stand type	Stand Size	Management Action	
					Years 1-5	Years 6-10
A	1	14	Hardwood	SS		
A	2	16	Hardwood	PT		
A	3	14	Hardwood	PT		
A	4	7	Hardwood	PT		
A	5	14	Hardwood	PT	Regen	
A	6	36	Hardwood	ST	Regen	
A	7	28	Hardwood	PT		
A	8	27	Hardwood	ST	Regen	
A	9	6	Hardwood	ST	Thin	
A	10	8	Hardwood	PT		
A	11	12	Plantation	ST		
A	12	6	Hardwood	ST		
A	13	10	Hardwood	ST		
A	14	16	Hardwood	PT	Protection	
A	15	10	Plantation	PT		
A	16	13	Plantation	ST		
A	17	18	Hardwood	PT		
A	18	16	Plantation	ST		
A	19	5	Hardwood	PT		
A	20	4	Plantation	PT		
A	21	12	Plantation	PT		
A	22	13	Hardwood	ST		
A	23	37	Hardwood	ST		
A	24	8	Plantation	ST		
A	25.1	15	Hardwood	SS		
A	25.2	19	Plantation	ST		
A	26	17	Plantation	PT		
A	27	16	Hardwood	SS		
A	28	10	Plantation	PT		
A	29	11	Plantation	ST		
A	30	2	Plantation	PT		
A	31	3	Plantation	ST		

Com-part-ment	Stand No.	Acres	Stand type	Stand Size	Management Action	
					Years 1-5	Years 6-10
A	32	12	Hardwood	PT		Thin
A	34	35	Hardwood	PT		
A	35	8	Hardwood	PT		
A	36	41	Hardwood	ST		Thin
A	37	13	Hardwood	PT		
A	38	55	Conifer Natural	PT		
A	39	36	Hardwood	ST		
A	40	47	Hardwood	SS		
A	41	32	Hardwood	PT	Protection	
A	42	7	Hardwood	PT		
A	43	13	Hardwood	PT		
A	44	11	Hardwood	PT		
A	45	5	Hardwood	SS		
A	46	5	Hardwood	PT		
A	47	9	Hardwood	ST		
A	48	13	Hardwood	SS		
A	49	50	Hardwood	PT		
A	50	5	Plantation	ST		
A	51	47	Hardwood	ST		
A	711	9	Other			
A	810	13	Other			
A	940	2	Grassland/Brushy		Mow	

Greenwood SF	Acres by Ave. Tree Diameter Size Class				Total (Acres)	% of Total
Vegetative Type	0-5 in	6-11 in	12+ in	Other		
Natural Forest Hardwood	110	312	268		690	75.8%
Natural Forest Conifer / Conifer Hardwood		55			55	6.0%
Plantation		55	87		142	15.6%
Wetland (Forest)					0	0.0%
Wetland (Open/Emergent and/or Shrub)					0	0.0%
Ponds					0	0.0%
Open/Brush				2	2	0.2%
Other (Road, ROW, Parking, etc.)				22	22	2.4%
Total (Acres)	110	422	355	24	911	
% of Total	12.1%	46.3%	39.0%	2.6%		100%

Tables 6F: Helmer Creek WMA

Com-partment	Stand No.	Acres	Stand type	Stand Size	Management Action	
					Years 1-5	Years 6-10
A	2	3	Plantation	PT		
A	3	45	Hardwood	ST	Regen (1/5 of) & Woods Burn (partial)	
A	4	21	Conifer Natural	ST	Protection & Woods Burn (partial)	
A	740	4	Other			
A	940	32	Grassland/Brushy		Mow or Burn	
A	950	21	Grassland/Brushy		Burn	

Helmer Creek WMA	Acres by Ave. Tree Diameter Size Class				Total (Acres)	% of Total
Vegetative Type	0-5 in	6-11 in	12+ in	Other		
Natural Forest Hardwood			45		45	35.7%
Natural Forest Conifer / Conifer Hardwood			21		21	16.7%
Plantation		3			3	2.4%
Wetland (Forest)					0	0%
Wetland (Open/Emergent and/or Shrub)					0	0%
Ponds					0	0%
Open/Brush				53	53	42.0%
Other (Road, ROW, Parking, etc.)				4	4	3.2%
Total (Acres)	0	3	66	57	126	
% of Total	0%	2.4%	52.4%	45.2%		100%

Tables 7F: Rock Creek SF

Com-partment	Stand No.	Acres	Stand type	Stand Size	Management Action	
					Years 1-5	Years 6-10
A	1	78	Hardwood	PT		
A	2.1	81	Hardwood	PT		
A	2.2	5	Plantation	PT		
A	3	5	Plantation	PT		
A	4	13	Plantation	ST		
A	5	18	Hardwood	ST		
A	6	25	Hardwood	PT		Thin
A	7	9	Hardwood	ST		
A	8	35	Hardwood	ST		

Com-part-ment	Stand No.	Acres	Stand type	Stand Size	Management Action	
					Years 1-5	Years 6-10
A	10	34	Plantation	PT		
A	11	93	Hardwood	PT		Regen
A	11	9	Conifer Natural	ST		
A	12	17	Conifer Natural	PT		
A	13	11	Hardwood	PT		
A	14.1	8	Conifer Natural	PT		
A	14.2	31	Hardwood	PT		
A	15	59	Plantation	PT		
A	16	25	Hardwood	ST		
A	17	5	Plantation	PT		
A	18	29	Hardwood	PT	Protection	
A	19	17	Hardwood	PT		
A	20	29	Hardwood	PT		
A	21	19	Hardwood	ST	Thin	
A	22	22	Plantation	PT	Thin	
A	23	6	Plantation	ST	Thin	
A	24	2	Plantation	PT		
A	711	9	Other			
A	723	7	Other			
A	910	1	Pond			
A	940	2	Grassland/Brushy		Mow or burn	

Rock Creek SF	Acres by Ave. Tree Diameter Size Class				Total (Acres)	% of Total
Vegetative Type	0-5 in	6-11 in	12+ in	Other		
Natural Forest Hardwood		394	106		500	71.0%
Natural Forest Conifer / Conifer Hardwood		25	9		34	4.8%
Plantation		132	19		151	21.5%
Wetland (Forest)					0	0%
Wetland (Open/Emergent and/or Shrub)					0	0%
Ponds				1	1	0.2%
Open/Brush				2	2	0.3%
Other (Road, ROW, Parking, etc.)				16	16	2.3%
Total (Acres)	0	551	134	19	704	
% of Total	0%	78.3%	19.0%	2.7%		100%

Tables 8F: Tracy Creek SF

Com-partment	Stand No.	Acres	Stand type	Stand Size	Management Action	
					Years 1-5	Years 6-10
A	1	30	Conifer Natural	ST		
A	2	66	Conifer Natural	ST		
A	3	17	Conifer Natural	PT		
A	4	23	Conifer Natural	PT		
A	5	21	Hardwood	PT		
A	7	11	Hardwood	SS	(Potential) Woods Burn	
A	9	7	Conifer Natural	ST	Protection	
A	11	60	Conifer Natural	PT	Regen (1/3 of)	
A	14	18	Conifer Natural	PT	(Potential) Woods Burn	
A	15	9	Hardwood	PT	Protection	
A	16	6	Conifer Natural	PT		
A	17	18	Hardwood	ST		
A	19	10	Hardwood	ST		
A	20	27	Conifer Natural	PT		
A	21	15	Plantation	PT		
A	22	24	Hardwood	ST		
A	23	9	Hardwood	ST	Protection	
A	24	19	Conifer Natural	ST	Protection	
A	26	71	Conifer Natural	PT	Protection / No Access	
A	29	19	Hardwood	ST	Protection	
A	32	13	Plantation	ST	Protection / No Access	
A	711	11	Other			
A	910	14	Pond			
A	911	2	Pond			
A	940	40	Grassland/Brushy		Mow or burn	
A	950	8	Grassland/Brushy		Mow or burn	

Tracy Creek SF	Acres by Ave. Tree Diameter Size Class				Total (Acres)	% of Total
Vegetative Type	0-5 in	6-11 in	12+ in	Other		
Natural Forest Hardwood	11	30	80		121	21.3%
Natural Forest Conifer / Conifer Hardwood		222	122		344	60.6%
Plantation		15	13		28	4.9%
Wetland (Forest)					0	0%
Wetland (Open/Emergent and/or Shrub)					0	0%
Ponds				16	16	2.8%
Open/Brush				48	48	8.5%
Other (Road, ROW, etc.)				11	11	1.9%

Total (Acres)	11	267	215	75	568	
% of Total	1.9%	47.0%	37.9%	13.2%		100%

Tables 9F: Turkey Ridge SF

Com-part-ment	Stand No.	Acres	Stand type	Stand Size	Management Action	
					Years 1-5	Years 6-10
A	1	45	Hardwood	PT		
A	2.1	31	Hardwood	SS		
A	2.2	72	Hardwood	ST		
A	3	39	Hardwood	ST		Thinning
A	4	11	Hardwood	PT		
A	5	16	Hardwood	ST		Thinning
A	6	64	Hardwood	ST		
A	7	9	Hardwood	ST		
A	8.1	45	Hardwood	SS		
A	8.2	10	Hardwood	ST		Thinning
A	9	22	Hardwood	ST		
A	10	34	Hardwood	ST		
A	11	13	Hardwood	ST		
A	12	39	Hardwood	ST		
A	13	56	Hardwood	ST		
A	14	6	Hardwood	ST		
A	15	20	Hardwood	ST		
A	16	15	Plantation	PT		
A	17	31	Hardwood	PT		
A	18	10	Plantation	ST		
A	19	17	Hardwood	PT		
A	20	6	Hardwood	ST		
A	21	4	Hardwood	PT		
A	22	10	Hardwood	SS		
A	23	17	Plantation	ST		
A	24	7	Hardwood	SS		
A	25	21	Hardwood	SS		
A	711	10	Other			
A	723	1	Other			
A	910	1	Pond			
A	911	1	Pond			

Turkey Ridge SF	Acres by Ave. Tree Diameter Size Class				Total (Acres)	% of Total
Vegetative Type	**0-5 in**	**6-11 in**	**12+ in**	**Other**		
Natural Forest Hardwood	114	108	406		628	91.9%
Natural Forest Conifer / Conifer Hardwood	0	0	0		0	0%
Plantation	0	15	27		42	6.2%
Wetland (Forest)	0	0	0		0	0%
Wetland (Open/Emergent and/or Shrub)				0	0	0%
Ponds				2	2	0.3%
Open/Brush				0	0	0%
Other (Road, ROW, Parking, etc.)				11	11	1.6%
Total (Acres)	114	123	433	13	683	
% of Total	16.7%	18.0%	63.4%	1.9%		

Tables 10F: West Cameron WMA

Com-partment	Stand No.	Acres	Stand type	Stand Size	Management Action	
					Years 1-5	**Years 6-10**
A	1	10	Hardwood	ST		
A	2	11	Hardwood	ST		
A	3	8	Hardwood	ST		
A	4	35	Plantation	ST	Regen & create open (about 4 ac)	
A	5	11	Hardwood	PT		
A	6	15	Conifer Natural	ST	Protection	
A	7	16	Hardwood	ST		
A	8	2	Plantation	ST		
A	10	36	Hardwood	ST		
A	11	6	Conifer Natural	ST		
A	14	3	Hardwood	PT		
A	15	6	Conifer Natural	SS	Create open (about 1 ac)	
A	910	1	Pond			
A	940	3	Grassland/Brushy		Mow or Burn	
A	941	2	Grassland/Brushy		Mow or Burn	

West Cameron WMA	Acres by Ave. Tree Diameter Size Class				Total (Acres)	% of Total
Vegetative Type	**0-5 in**	**6-11 in**	**12+ in**	**Other**		
Natural Forest Hardwood		14	82		96	58.2%
Natural Forest Conifer / Conifer Hardwood	6		21		27	16.4%
Plantation			37		37	22.4%
Wetland (Forest)					0	0%
Wetland (Open/Emergent and/or Shrub)				0	0	0%
Ponds				1	1	0.6%
Open/Brush				4	4	2.4%
Other (Road, ROW, Parking, etc.)				0	0	0.0%
Total (Acres)	6	14	140	5	165	
% of Total	3.6%	8.5%	84.9%	3.0%		100%

Table 6F: Summary of Timber and Vegetation Management for this Planning Period

See also maps on Appendix M: Maps, page 219 and Timber and Vegetation, and Timber and Vegetation Management, starting on pages 40 and 75.

Management Action		Total Number of Stands	Total Acres	Percent of Land Area
Even Aged Silviculture	Regen	25	616	8.0%
	Thin	22	611	7.9%
All Aged Silviculture	Stand Entry	1	14	0.2%
Grassland/Brushy Openings	Mow or Burn	13	116	1.5%
	Mow	7	33	0.4%
	Burn	13	175	2.3%
	No Action	4	26	0.3%
	Create		155	2.0%
	Total	85+	1,631	21.1%

Appendix G: Glossary

Access Trails - May be permanent, unpaved and do not provide all-weather access within the Unit. These trails are originally designed for removal of forest products and may be used to meet other management objectives such as recreational trails. These trails are constructed according to Best Management Practices.

Acronym - A word formed by combining the initial letters of a multipart name, such as NATO from North Atlantic Treaty Organization or by combining the initial letters or parts of a series of words, such as radar from radio detecting and ranging.

All-Aged - A forest containing trees of two or more age classes.

Allegheny Hardwoods - Composed primarily of black cherry, white ash, and tulip poplar. May contain lesser amounts of sugar maple, beech, red maple, red oak and basswood.

Allowable cut - The amount of wood fiber that may be harvested annually or periodically for a specified area over a stated period in accordance with the objectives of management.

Alluvium - Clay, silt, sand, gravel or similar material deposited by running water.

Anticlinal - Rock layers that are folded so that the layers are inclined away from each other (like the legs of a capital A).

Basal Area - The cross-sectional area of a tree at breast height, measured in square feet. (Forestry Handbook, 2nd Edition, 1984, p.287) For a stand: the total basal area per unit of area, usually expressed as square feet per acre. (Silvicultural Systems for the Major Forest Types of the United States@, USDA Ag. Hndbk. #445, 1973, p.103)

Bedrock - Hard lithified or consolidated rock units that underlie the unconsolidated or partially-consolidated surface (geology) sediments and soils deposited during recent sedimentation and glacial sedimentation.

Best Management Practices (BMP's) - Practices and techniques that control erosion of soil or other contaminants from the site.

Board Foot - A piece of lumber 1 inch thick, 12 inches wide and 1 foot long, or its equivalent.

Buffer Strips - A strip of vegetation used to protect sensitive areas from soil erosion and siltation.

Canadian Shield - the stable portion or nucleus of the North American continent, primarily igneous and metamorphic rocks, located primarily in northeastern Canada, Michigan, Wisconsin and Minnesota.

Clast - A fragment of rock

Classified Water Bodies - A system whereby water bodies are protected under Environmental Conservation Law.

Clearcut - The removal of a forest overstory. This practice is done in preparation of the reestablishment of a new forest through regeneration. One form of even aged management.

Climax Forest – A plant community that is dominated by trees representing the last stage of succession for that specific locality and environment. It is a relatively stable and undisturbed plant community that has evolved through major stages and adapted to its environment. See also Old Growth Forest, but with potential for more evidence of human disturbance

Conifer - Needle bearing trees.

Conifer Stand - A forest stand containing 50% or more conifer species.

D.B.H. - (diameter at breast height) - The diameter of a tree at roughly breast height or 4.5 feet from the ground.

Defoliated - Complete, or almost complete removal of leaves from a living tree.

Dip - The angle that strata (rock layers) or planar features deviate from horizontal.

Dug-Out - A 500 square foot by 3 feet deep pot hole constructed of earth and containing water.

Early Successional Forest - Trees and brush that grow after disturbance such as plowing, fire or clearcut. Common species include grass, raspberries/black berries, white pine, aspen, red maple, black cherry, birch etc.

Early Successional Wildlife Species - Animal species which require early vegetative stages such as grass, brush, aspen.

Ecological Diversity - The number of species living in an ecosystem.

Ecological Subzone - A geographic area containing fauna and flora which are adapted to that particular area.

Ecoregion – (Ecological Region) - the Department is using The Nature Conservancy definition of an area of ecological homogeneity, which are defined by similarities in soil, physiography, climate, hydrology, geology and vegetation.

Ecosystem - A complex of living organisms and their environment.

Element Rank - Communities and rare species are the mapping units or "elements" of the Heritage inventory. Each community and species element is assigned and "element rank" consisting of a combined global and state rank. The global rank reflects the rarity of the element throughout the world and the state rank reflects the rarity within New York State (The Nature Conservancy 1982). Global ranks for communities are not currently standardized by

The Nature Conservancy, so the ranks listed in the community descriptions are estimated global ranks. (Ecological Communities of New York State. Carol Reschke, 1990).

Emergent – a class of wetlands that are characterized by erect, rooted, herbaceous hydrophytes, excluding mosses and lichens. This vegetation is present for most of the growing season in most years. These wetlands are usually dominated by perennial plants. All water regimes are included except subtidal and irregularly exposed. These areas are often further described by subclasses, such as “persistent”, “nonpersistent”, etc.

Endangered - Native plants (and animals) in danger of extinction throughout all or a significant portion of their ranges within the state and requiring remedial action to prevent such extinction (NYCRR Title 9 Part 193.3)

Erosion - To wear away by the action: water, wind, or ice.

Even Aged - A forest in which all of the trees are essentially the same age.

Faulting - a fracture or crack that has had movement parallel to the fracture's surface

Fluvial - pertaining to sediments deposited by stream or river actions

Fragipan - An impervious subsurface soil layer (sometimes known as “hardpan”) which restricts rooting and internal soil drainage.

Glacier / Glacial - a large mass of ice and snow that is moving on the land's surface

Hardwood Forest - A forest stand in which each of the two predominant species by percent is a hardwood.

Hardwoods – Broad leafed trees.

Haul roads - Are permanent, unpaved roads but are not designed for all-weather travel. They are constructed primarily for the removal of forest products and provide only limited access within the Unit. Public motor vehicle use is not allowed, but pedestrian travel is encouraged. All administrative roads are gated and warning signs are posted. The standards for these roads are those of Class C roads as provided for in the Forest Road Handbook.

Herbaceous Opening - A non-forest vegetative type consisting of grasses and forbs.

Homocline - geologic structure that is dipping or inclined in one direction and at the same angle of inclination

Initialism - An abbreviation consisting of the first letter or letters of words in a phrase (for example, IRS for Internal Revenue Service), syllables or components of a word (TNT for trinitrotoluene), or a combination of words and syllables (ESP for extrasensory perception) and pronounced by spelling out the letters one by one rather than as a solid word.

Intermediate cut – Thinning cut that extracts salable trees from an area and that are aimed primarily at controlling the growth of stands through adjustments in stand density.

Kame - a short ridge, hill, or mound of stratified glacial deposits

Lacustrine - sediments deposited in association with the processes within a lake

Lacustrine Wetland – (Federal wetland designation) includes wetlands and deep-water habitats with all of the following characteristics: (1) situated in a topographic depression or a dammed river channel; (2) lacking trees, shrubs, persistent emergents, emergent mosses or lichens with greater than 30% aerial coverage; and (3) total area exceeds 8 ha (20 acres). Similar wetland and deep-water habitats totaling less than 8 ha are also included in the Lacustrine System if an active wave-formed or bedrock shoreline feature makes up all or part of the boundary, or if the water depth in the deepest part of the basin exceeds 2 m (6.6 feet) at low water. Lacustrine waters may be tidal or nontidal, but ocean derived salinity is always less than 0.5 %.

Large Coarse Woody Debris - The accumulation of dead woody material, both standing and fallen, which occurs in a forest stand.

Lean-To - A small, open fronted, log shelter used for overnight camping.

Legacy Plantation - The CCC, and later work crews, established a legacy of sound stewardship on state forest land through the planting of millions of trees. Where possible, the Department will designate some plantations to help carry on this legacy. Although no living creature lives forever, these plantations would be grown beyond economic maturity and maintained for as long as possible. Every effort will be made to not deliberately regenerate these stands, although thinning to improve the health of the trees will occasionally occur.

Linements - linear trends of weakness or fractures in the earth's crust

Log Landing - An area to which logs are skidded and then loaded for removal.

MCFGPD - thousand cubic feet of gas per day

Moraine - sediment that is accumulated due to the actions of a glacier

Multiple Use - A management philosophy by which many uses are derived for a specific land area.

Natural Regeneration - The regrowth of a forest stands by natural means.

Natural Forest - A forest established by natural regeneration.

Natural Forest Conifer/Conifer Hardwood Forest - A forest stand in which total percent of all conifer species is 33%, or more, of the total for the stand.

No Entry / No Surface Occupancy Lease - A lease to explore and develop underground mineral resources without any surface disturbance. Above ground facilities and equipment to remove mineral resources must be located off the subject property.

Northern Hardwoods - Largely composed of sugar maple, American beech, yellow birch, and hemlock. These species are generally long-lived and may adapt to all-aged management.

Oak Opening - A globally rare plant community, also known as an oak savannah. The community is composed of native prairie grasses and associated plants usually surrounded by oak/hickory forests. Oak Openings are maintained by periodic burning. Historically, fires were set by Native Americans or caused by lightning strikes. Oak Openings can be variable in size, from just an acre to several thousand acre complexes.

Off - Site - The species are growing (or at least have been planted) where these species would not ordinarily be found, due to unfavorable site conditions.

Old-Growth Forest - The definition of "Old-Growth Forest" involves a convergence of many different, yet interrelated criteria. Each of these criteria can occur individually in an area that is not old growth, however, it is the presence of all of these factors that combine to differentiate "Old-Growth Forest" from other forested ecosystems. These factors include: An abundance of late successional tree species, at least 180 - 200 years of age in a contiguous forested landscape that has evolved and reproduced itself naturally, with the capacity for self-perpetuation, arranged in a stratified forest structure consisting of multiple growth layers throughout the canopy and forest floor, featuring (1) canopy gaps formed by natural disturbances creating an uneven canopy, and (2) a conspicuous absence of multiple stemmed trees and coppices. Old growth forest sites typically (1) are characterized by an irregular forest floor containing an abundance of coarse woody materials which are often covered by mosses and lichens; (2) show limited signs of human disturbance since European settlement; and (3) have distinct soil horizons that include definite organic, mineral, illuvial accumulation, and unconsolidated layers. The understory displays well developed and diverse surface herbaceous layers.

Overstory - The upper portion of a community of plants, the canopy of the trees in a forest.

Palustrine Wetland – (Federal wetland designation) includes all nontidal wetlands dominated by trees, shrubs, persistent emergents, emergent mosses or lichens, and all such wetlands that occur in tidal areas where salinity due to ocean-derived salts is below 0.5 %. It also includes wetlands lacking such vegetation, but with all of the following four characteristics: (1) area less than 8 ha (20 acres); (2) active wave-formed or bedrock shoreline features lacking; (3) water depth in the deepest part of basin less than 2 m at low water; and (4) salinity due to ocean-derived salts less than 0.5 %

Pioneer Hardwood - Early Successional trees that are hardwood, such as black cherry, white birch, red maple and aspen.

Plantation - A forest established by planting.

Pole Sized - A young tree with a D.B.H. of 6 to 11 inches.

Pre-Commercial - To do a stand treatment when the trees are too small to sell for profit, requiring the payment of someone to do the work.

Prescribed Fire - The intentional setting of forest or grass land on fire under carefully controlled conditions to achieve a vegetative or wildlife management goal adhering to a written and approved prescribed fire burn plan.

Protection Management/Forest - An area which requires special management considerations. (Special cutting regimen, short rotation, long rotation, or no treatment.)

Public Forest Access Roads - Are constructed and maintained to accommodate motor vehicle traffic, they are permanent, unpaved roads. They may be designed for all-weather use depending on their location and surfacing. These roads provide primary access within a Unit. The standards for these roads are those of the Class A and Class B access roads as provided for in the Forest Road Handbook.

Rare Plants - Native plants that have from 20 to 35 extant sites or 3,000 to 5,000 individuals statewide. (NYCRR Title 9 Part 193.3)

Regeneration - To reestablish a forest stand with tree seedlings. The act of replacing old trees, either naturally or artificially. Also refers to the new growth that develops.

Riverine Wetland – (Federal wetland designation) includes all wetlands and deep-water habitats contained within a channel, with two exceptions: (1) wetlands dominated by trees, shrubs, persistent emergents, emergent mosses, or lichens, and (2) habitats with water containing ocean-derived salts in excess of 0.5 ‰. A channel is “an open conduit either naturally or artificially created which periodically or continuously contains moving water, or which forms a connecting link between two bodies of standing water”.

Rotation - The length of time between the establishment and the harvest of a forest stand.

Salvage cut – The harvest of dead, dying, damaged or deteriorating trees primarily to put the wood to use before it becomes worthless.

Sawtimber Sized - A tree with a D.B.H. of 12 inches or greater.

Seedling/Sapling Sized - A young tree with a D.B.H. of less than 6 inches.

Selective Harvesting - Removal of the mature timber, usually the oldest or largest trees.

Shade Intolerant - Tree species that require full sunlight to survive past the seedling stage.

Shade Tolerant - Tree species that can survive in the shade cast by older trees.

Sidetrack Well - An inclined well that is drilled from a predetermined depth within an existing well

Site - A group of features (such as slope, aspect, soil type, etc.) which characterize a given area of land.

Silviculture - The establishment, development, care, and reproduction of forest stands.

Softwoods - Needle bearing trees, conifers

Species Diversity - The occurrence of a variety of plants and animals.

Stand - A group of plants with similar characteristics that are treated as a single unit in a management plan.

Stand Analysis - A systematic method of evaluating stands to determine the need for treatment.

Stand Treatment - Work done in a stand which is directed towards the management of the stand.

State Forest - Lands owned by the state of New York and administered by the Department of Environmental Conservation which are managed for the establishment and maintenance of forests for watershed protection, the production of timber, and for recreation and kindred purposes.

Stratigraphic - The layering and sequence of mapable rock units.

Succession - The gradual supplanting of one community of plants and animals by another.

Surficial - Of, or relating to, the surface.

Sustained Yield - The maintenance of a continuous flow of a particular product.

Synclinal - Rock layers that are folded so that the layers are inclined towards each other (like the letter V)

Thinning cut – Intermediate cut that extracts salable trees from an area and that are aimed primarily at controlling the growth of stands through adjustments in stand density.

Till - Unstratified glacial deposits consisting of clay, sand, gravel, and boulders

Temporary Revocable Permit (TRP) - Authority for the issuance of temporary use permits is provided by 3-0301 of the ECL. Permits may be granted for the temporary use of State Land by the public within stated guidelines and legal constraints so as to protect the State lands and their resources.

Top Lopping - The cutting of limbs from the tops of felled trees to reduce fire danger and improve visibility. On State Forests, top lopping of conifers is required by law.

Trail Head - The intersection of a trail with a trail head.

Understory - The layer of plants that grow in the shade of the forest.

Uneven Aged - A forest containing trees of two or more age classes.

Unique Area - A parcel of land owned by the state acquired due to its special natural beauty, wilderness character, geological, ecological or historical significance for the state nature and historic preserve, and may include lands within a forest preserve county outside the Adirondack and Catskill Parks.

Vegetative Stage - A description of a plant community based on the age of the component plants.

Vegetative Type - A description of a plant community based on species composition.

Vernal Pool - A small body of water that is present in the spring, but dries up by mid-summer.

Vertical Well - a well that is straight into the ground or is 90 degrees from horizontal.

Water Hole - A laid up stone cistern often built by C.C.C. volunteers and originally used for water for fire protection purposes.

Watershed - The land area from which a stream receives its water.

Wetland - Land or area saturated and sometimes partially or intermittently covered with water.

Class I, II, III or IV - The designation placed upon a mapped wetland by the Department as required by 6NYCRR. The four classes rank wetlands according to their ability to perform wetland functions and provide wetland benefits. Class I is the most critical.

Wheelchair - Means a manually-operated or power-driven device designed primarily for use by an individual with a mobility disability for the main purpose of indoor, or of both indoor and outdoor locomotion. This definition does not apply to Federal wilderness areas; wheelchairs in such areas are defined in section 508(c)(2) of the ADA, 42 U.S.C. 12207 (c)(2).

Wildlife Management Unit (WMU) - The geographical units the Department uses to set hunting and trapping seasons in New York State. Wherever possible, the boundaries between units were placed on County or State Highways or large streams or rivers making them clearly identifiable on the ground. In the few cases where this was not possible, or for legal reasons, political boundaries (e.g., county boundaries) had to be used.

Yield - The production of a commodity such as; forest products, water, or wildlife.

Young Forest - a forest regenerating from a past disturbance, characterized by a dense understory where tree seedlings, saplings, woody vines, shrubs, grasses and flowering plants grow together. Young forests are temporary and typically last 10 to 20 years. See also Seedling/Sapling Sized.

Appendix H: Acronym & Initialism Glossary

Definitions are found in Appendix G: Glossary on page 164, or in the body of this plan.

In strict usage, the term *acronym* refers to a word made from the initial letters or parts of other words, such as *sonar* from *so(und) na(vigation and) r(anging).* The distinguishing feature of an acronym is that it is pronounced as if it were a single word, in the manner of *NATO* and *NASA.* Acronyms are often distinguished from initialisms like *FBI* and *NIH,* whose individual letters are pronounced as separate syllables. While observing this distinction has some virtue in precision, it may be lost on many people, for whom the term *acronym* refers to both kinds of abbreviations. (American Heritage® Dictionary of the English Language, Fifth Edition. (2011))

ABA = Architectural Barriers Act of 1968

ADA = Americans with Disabilities Act

ADAAG = Americans with Disabilities Act Accessibility Guidelines

APHIS = (U.S. Department of Agriculture's) Animal and Plant Health Inspection Service

ARPA = Archaeological Resources Protection Act

ATV = All-Terrain Vehicle

BBA = Breeding Bird Atlas

BMP = Best Management Practice

BTO = Buck Take Objective

CCC = Civilian Conservation Corps

CTFs = Citizen Task Forces

CWD = Coarse Woody Debris

DBH = Diameter at Breast Height

DMP = Deer Management Permits

EAB = Emerald Ash Borer

ECL = Environmental Conservation Law

ESA = Endangered Species Act

FAS = Fishing Access Sites

FLTC = Finger Lakes Trail Conference

FSC® = Forest Stewardship Council®

FSGEIS = Final Supplemental Generic Environmental Impact Statement

FWM = Fine Woody Material

GEIS = Generic Environmental Impact Statement

GL = (New York) Great Lakes Plain EcoRegion

HAP = (New York) High Allegheny Plateau EcoRegion

HCVF = High Conservation Value Forest

HMP = Habitat Management Plan

HWA = Hemlock Wooly Adelgid

L&F = (Division of) Lands and Forests

LCP = Least Cost Path

LEAF = Long Environmental Assessment Form

MAPPWD = Motorized Access Program for People with Disabilities

MBTA = Migratory Bird Treaty Act

MOU = Memorandum of Understanding

MYA = million years ago

NHP = (New York) Natural Heritage Program

NRCS - Natural Resource Conservation Service

NYCRR = New York Code Rules and Regulations

NYS DEC = New York State Department of Environmental Conservation

NYS DOT = New York State Department of Transportation

OGS = (New York State) Office of General Services

OPRHP = (New York State) Office of Parks, Recreation and Historic Preservation

ORV = Off-Road Vehicle

PFR = Public Fishing Rights

ROS = Recreation Opportunity Spectrum

ROW = Rights-Of-Way

SEQRA = State Environmental Quality Review Act

SF = State Forest

SFI® = Sustainable Forestry Initiative®

SGCN = Species of Greatest Conservation Need

SHPA = (New York) State Historic Preservation Act

SMZ = Special Management Zones

SWAP = State Wildlife Acton Plan

TRP = Temporary Revocable Permit

UA = Unique Area

USDA = United States Department of Agriculture

USGS = United States Geological Survey

VSA = Volunteer Stewardship Agreement

WMA = Wildlife Management Area

WMU = Wildlife Management Unit

YFI = Young Forest Initiative

Appendix I: Procedures for Oil & Gas Procurement

Additional information can be found in the Mineral Resource (pg. 36) and Mineral Resource Management (Pg. 114) sections.

In the event a party has an interest in exploring and developing oil and gas reserves under lands administered by the Department, the NYS DEC Division of Mineral Resources will receive requests to nominate specific lands for leasing of the mineral rights. Prior to leasing lands where the mineral estate is owned by New York State a Tract Assessment is conducted in which a thorough review of the lands nominated for leasing is done to determine:

- Which areas will not, or cannot, be leased,
- Which areas can be leased with full rights granted (100% surface entry and no special conditions required)
- Which areas may require special environmental and safety conditions, and
- Which areas may be leased with no surface-disturbance/entry conditions (non-drilling clause)

This review is conducted by the area's land manager (Division of Lands and Forests or Division of Fish and Wildlife). A Tract Assessment identifies sensitive resources of the unit. These resources include certain management strategies, wetlands, lakes/ponds/streams and other riparian zones, steep slopes, recreational trails and other recreation areas, unique ecological communities, habitats of threatened, endangered or special concern species, High Conservation Value Forests, archeological and cultural sites and scenic vistas and view sheds.

A public meeting on the proposed gas lease will be held to provide information about natural gas development specific to the nominated land, and receive comments during a 30-day public comment period following the meeting. The Department will consider all comments prior to making a decision on what areas, if any, will be leased.

If the Department decides to pursue leasing, the site-specific conditions for limiting impacts on natural resources will be drafted by the Division of Mineral Resources in coordination with the Division of Lands & Forests and/or Division of Fish and Wildlife and incorporated into contract documents. These conditions will include but not be limited to criteria for site selection, mitigation of impacts and land reclamation upon completion of drilling. A number of factors are considered: riparian areas, steep slopes, significant recreation areas, presence of rare, threatened or endangered species or unique ecological communities, are all areas which may be excluded from surface disturbance. Certain land management strategies, such as reserves, where timber harvesting is precluded, which may be incompatible with oil and gas well development, may result in exclusion from surface disturbance. This determination is made as part of the tract assessment process on a case by case basis. Any parcel designated as a non-surface entry lease will no longer be subject to the process detailed above due to the prohibition of surface disturbance(s). Exceptions to

these tract assessments are possible if additional analysis, protective measures, new technology, or other issues warrant a change in the compatibility status of an area.

If it is determined that oil and gas exploration and development can proceed on these State minerals, a lease sale is conducted. The DEC Division of Mineral Resources is the oil and gas leasing agent for these state lands. Lease sales are then conducted through a competitive bid process administered by the Division of Mineral Resources and in accordance with Article 23, Title 11 of the Environmental Conservation Law and State Finance Law.

Revenues from State Reforestation Areas and Multiple Use Areas (State Forests) are deposited into the General Fund while revenues from Wildlife Management Areas are deposited into the Conservation Fund.

In the event leases are granted and the drilling of a well is desired by the lessee on the leased property, an Application for Permit to Drill, Deepen, Plug Back or Convert a Well Subject to the Oil, Gas and Solution Mining Law (form 85-12-5) must be submitted to the Division of Mineral Resources. Site-specific impacts will then be identified by Department staff during review process and inspection of the proposed well site. The Strategic Plan for State Forest Management, and the Generic Environmental Impact Statement on the Oil, Gas and Solution Mining Regulatory Program and Supplemental Generic Environmental Impact Statement on the Oil, Gas and Solution Mining Regulatory Program is used to guide the Department in determining whether the proposal will have a significant impact on the environment. Conditions are then attached to the drilling permit as well as the Temporary Revocable Permit (TRP) which covers the mitigation and/or control of surface disturbances.

Once the proposal is approved, a drilling permit with site specific conditions is issued by the Division of Mineral Resources along with a Temporary Revocable Permit issued by either the Division of Lands and Forests or Fish and Wildlife. These permits are administered by their respective programs and are designed to prevent and/or mitigate environmental impacts. Site inspections are conducted by the Division of Mineral Resources to ensure compliance with Article 23 of the Environmental Conservation Law and 6NYCRR Part 550 - 559. The Division of Lands and Forests or Fish and Wildlife will also inspect the site to ensure compliance with the TRP.

Appendix J: Local Human Population and Other Data

The table below contains area and population by town for thirty year periods from 1870 to 2010.

Table 1J: US Population Census Data

Municipality	Area[2]	1870	1900	1930	1960	1990	2010
Cameron	46.8	1,334	1,353	704	587	916	948
Greenwood	41.3	1,394	1,120	968	839	898	801
Hornellsville[1]	43.7	5,837	1,833	2,505	3413	4149	4151
City of Hornell[1]	2.7	n/a	11,918	16,250	13,907	9,877	8,563
Village of North Hornell[1]	0.6	n/a	n/a	452	917	822	778
Howard	60.7	2,122	1,704	1,032	929	1331	1467
Jasper	52.7	1,683	1,430	986	1,008	1,232	1,424
Rathbone	36.1	1,357	1,059	695	726	829	1,126
Totals	284.6	15,597	22,317	23,592	22,326	20,054	19,258
Ave. Number of People per square mile		55	78	83	78	70	68

1) Town of Hornellsville – City of Hornell was removed from the Town of Hornellsville between the 1870 and 1900 census, and North Hornell between 1900 and 1930.
2) Area is total area in square miles and includes water.

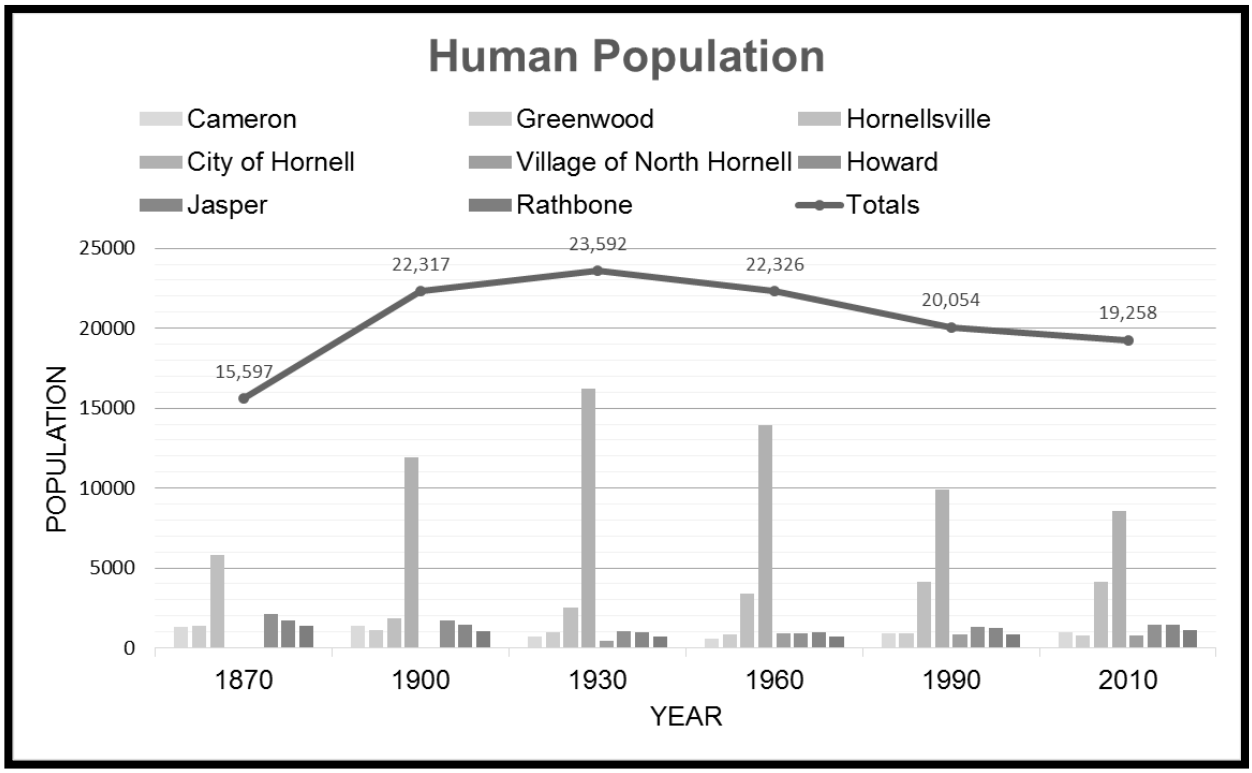


Table 2J: Fire Districts

Property	Fire District
Burt Hill State Forest	Howard
Cameron Mills State Forest	Cameron
Cameron State Forest	Cameron
Canacadea State Forest	North Hornell
Greenwood State Forest	Greenwood
Helmer Creek Wildlife Management Area	Cameron
Rathbone State Forest	Cameron and Addison
Rock Creek State Forest	Greenwood
Turkey Ridge State Forest	Greenwood and Jasper
West Cameron Wildlife Management Area	Cameron

Table 3J: Emergency Services Districts

Property	Ambulance
Burt Hill State Forest	Canisteo
Cameron Mills State Forest	Cameron
Cameron State Forest	Cameron
Canacadea State Forest	Hornell
Greenwood State Forest	Greenwood
Helmer Creek Wildlife Management Area	Cameron
Rathbone State Forest	Cameron and Addison
Rock Creek State Forest	Greenwood
Turkey Ridge State Forest	Greenwood and Jasper
West Cameron Wildlife Management Area	Cameron

Appendix K: Known Encroachments and/or Trespass

For information on known, legal, access to and across the parcels of the Unit see the Roads (pg. 18), and Concurrent Use & Occupancy, Deeded Exceptions, Easements, Rights of Way, and Other Rights Outstanding in Third Parties (pg. 21) sections.

Burt Hill State Forest

As of the writing of this plan, no known encroachments and/or trespass exist.

Cameron State Forest

In 2000 a section of boundary line was surveyed, resulting in part of a neighboring field now in the SF. This field continues to be harvested by the neighbor.

Cameron Mills State Forest

As of the writing of this plan, no known encroachments and/or trespass exist.

Canacadea State Forest

As of the writing of this plan, no known encroachments and/or trespass exist.

Greenwood State Forest

As of the writing of this plan, no known encroachments and/or trespass exist.

Helmer Creek WMA

As of the writing of this plan, no known encroachments and/or trespass exist.

Rock Creek State Forest

There is a question of title regarding the east line of Proposal D. Questions were submitted to the Albany office Bureau of Real Property in 2002.

Tracy Creek State Forest

There are title questions on the northeasterly line of this property. These questions were forwarded to Albany office Bureau of Real Property / legal staff in 2000.

Turkey Ridge State Forest

As of the writing of this plan, no known encroachments and/or trespass exist.

West Cameron WMA

As of the writing of this plan, no known encroachments and/or trespass exist.

Appendix L: SEQR

This Plan and the activities it recommends will be in compliance with State Environmental Quality Review (SEQR), 6NYCRR Part 617. The State Environmental Quality Review Act (SEQRA) requires the consideration of environmental factors early in the planning stages of any proposed action(s) that are undertaken, funded or approved by a local, regional or state agency.

The properties of the Canisteo River Basin Unit are managed by two different Department Divisions, therefore separate environmental impact statements are used to ensure that management activities comply with the State Environmental Quality Review Act (SEQR).

Properties managed by the Division of Lands and Forests (State Forests)

The Strategic Plan for State Forest Management (SPSFM) serves as the Generic Environmental Impact Statement (GEIS), regarding management activity on State Forests. To address potential impacts, the SPSFM establishes SEQR analysis thresholds for each category of management activity.

Management actions in this Plan are within the thresholds established in the SPSFM, therefore these actions do not require additional SEQR. Any future action that does not comply with established thresholds will require additional SEQR prior to conducting the activity.

This Unit Management Plan (UMP) does not propose pesticide applications of more than 40 acres, any clearcuts of 40 acres or larger, or prescribed burns in excess of 100 acres. Therefore, the actions in the plan do not exceed the thresholds set forth in the Strategic Plan/Generic Environmental Impact Statement for State Forest Management**.**

This Unit Management Plan also does not include any of the following:

- Forest management activities occurring on acreage occupied by protected species ranked S1, S2, G1, G2 or G3
- Pesticide applications adjacent to plants ranked S1, S2, G1, G2 or G3
- Aerial pesticide spraying by airplane or helicopter
- Any development of facilities with potable water supplies, septic system supported restrooms, camping areas with more than 10 sites or development in excess of other limits established in this plan.
- Well drilling plans
- Well pad densities of greater than one well pad in 320 acres or which does not comply with the limitations identified through a tract assessment
- Carbon injection and storage or waste water disposal

Therefore, the actions proposed in this UMP will be carried out in conformance with the conditions and thresholds established for such actions in the State Forest Strategic

Plan/Generic Environmental Impact Statement, and do not require any separate site specific environmental review (see 6 NYCRR 617.10[d]).

Actions not covered by the Strategic Plan/Generic Environmental Impact Statement

Any action taken by the Department on this unit that is not addressed in this Unit Management Plan and is not addressed in the Strategic Plan/Generic Environmental Impact Statement may need a separate site specific environmental review.

Properties managed by the Division of Fish and Wildlife (Wildlife Management Areas)

Management activities performed on WMAs were evaluated by a series of Programmatic Environmental Impact Statements (PEISs) prepared in 1979 and 1980. These documents describe established and accepted activities for fish and game management, habitat management, and public use, and evaluate their potential beneficial and adverse impacts. These activities may have significant site-specific impacts and criteria for site specific assessments were included in these PEISs.

As of the writing of this plan, a supplement to the PEIS for habitat management is being drafted that will provide additional review for habitat management activities that occur on WMAs. All management activities on WMAs proposed in this UMP will adhere to the criteria established in these PEISs, and the future supplement, for additional site specific environmental review.

Actions not covered by the GEIS or a PEIS

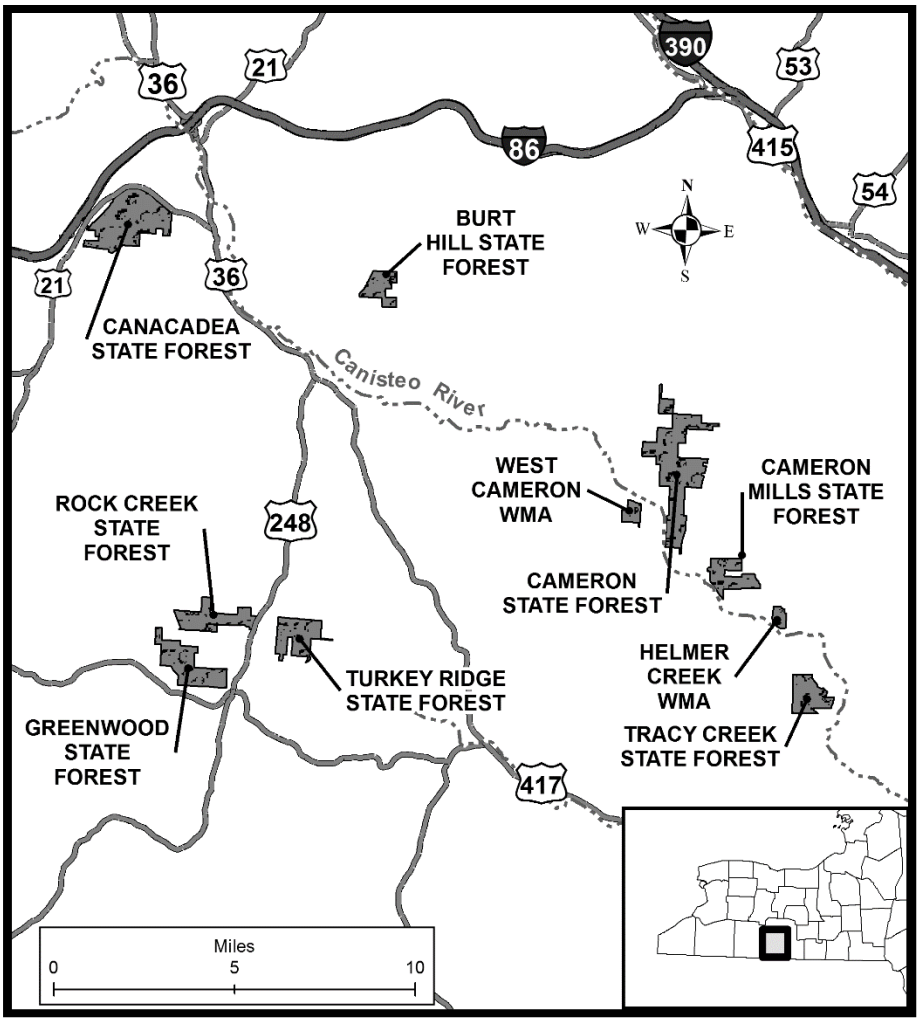
Any action taken by the Department on this unit that is not addressed in this Unit Management Plan, and is not addressed in the Strategic Plan for State Forest Management or the Division of Fish and Wildlife's Programmatic Environmental Impact Statements, may need a separate site specific environmental review.

Appendix M: Maps

ALL of the following maps are made with the best available data, but are not intended to be survey quality. Additional information on the topics covered can be found in the rest of this document.

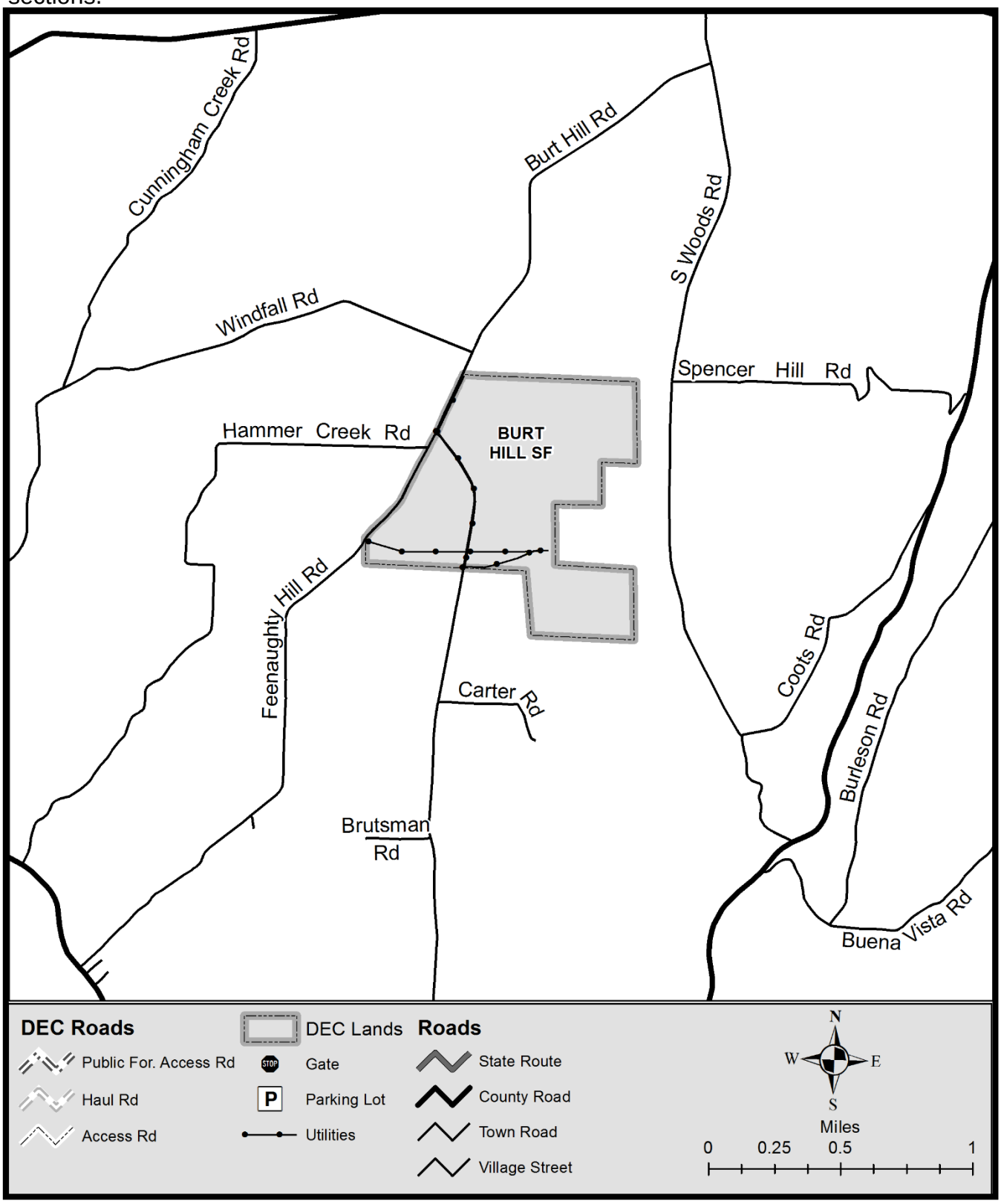
Map Index:

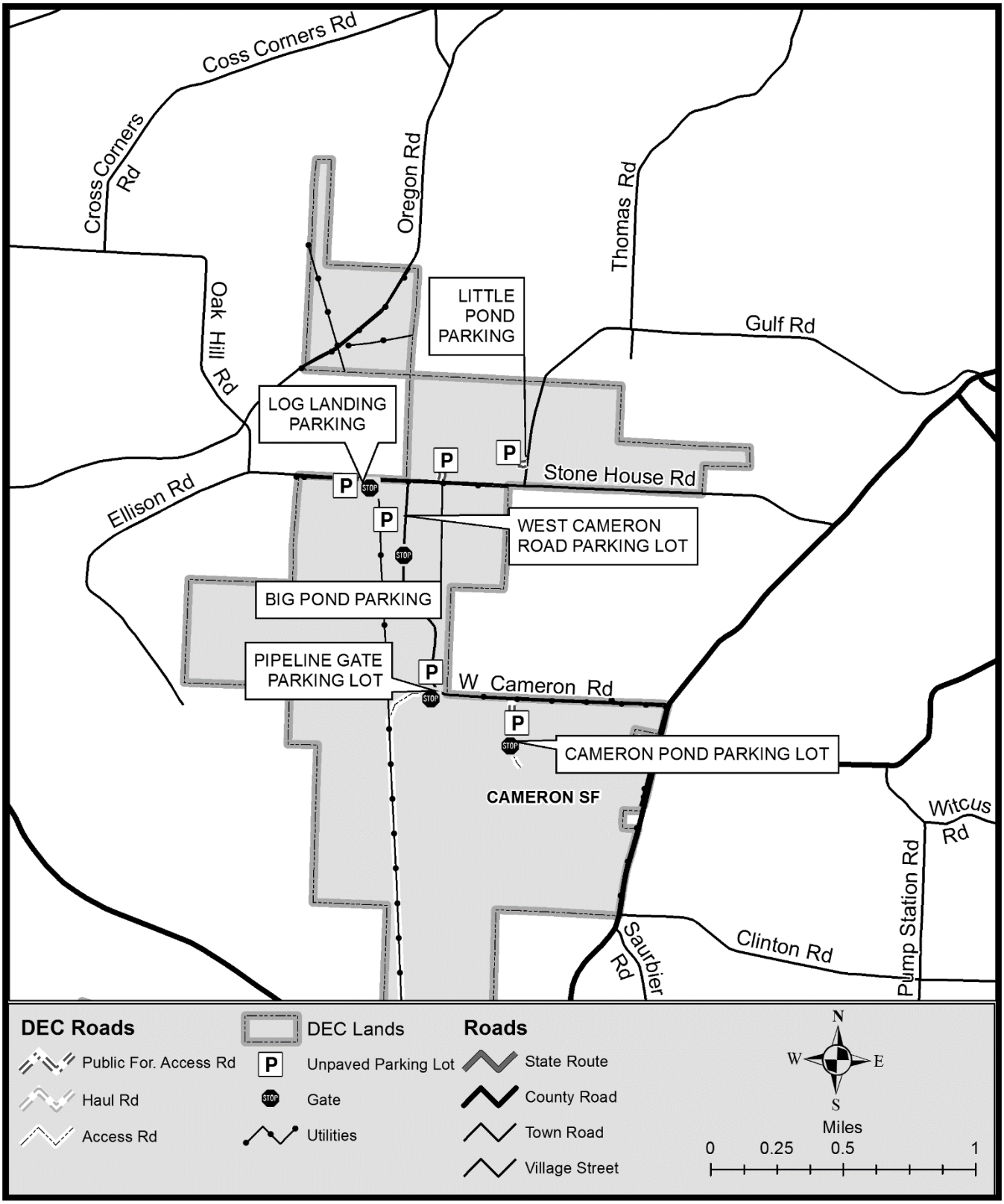
Maps are also located in the following sections:



Roads, Utilities and Parking Lots

Additional information can be found in the Roads (pg. 18), Access Management (pg. 71), Maintenance and Facilities Management (pg. 110) and Appendix D: Facilities (pg. 142) sections.

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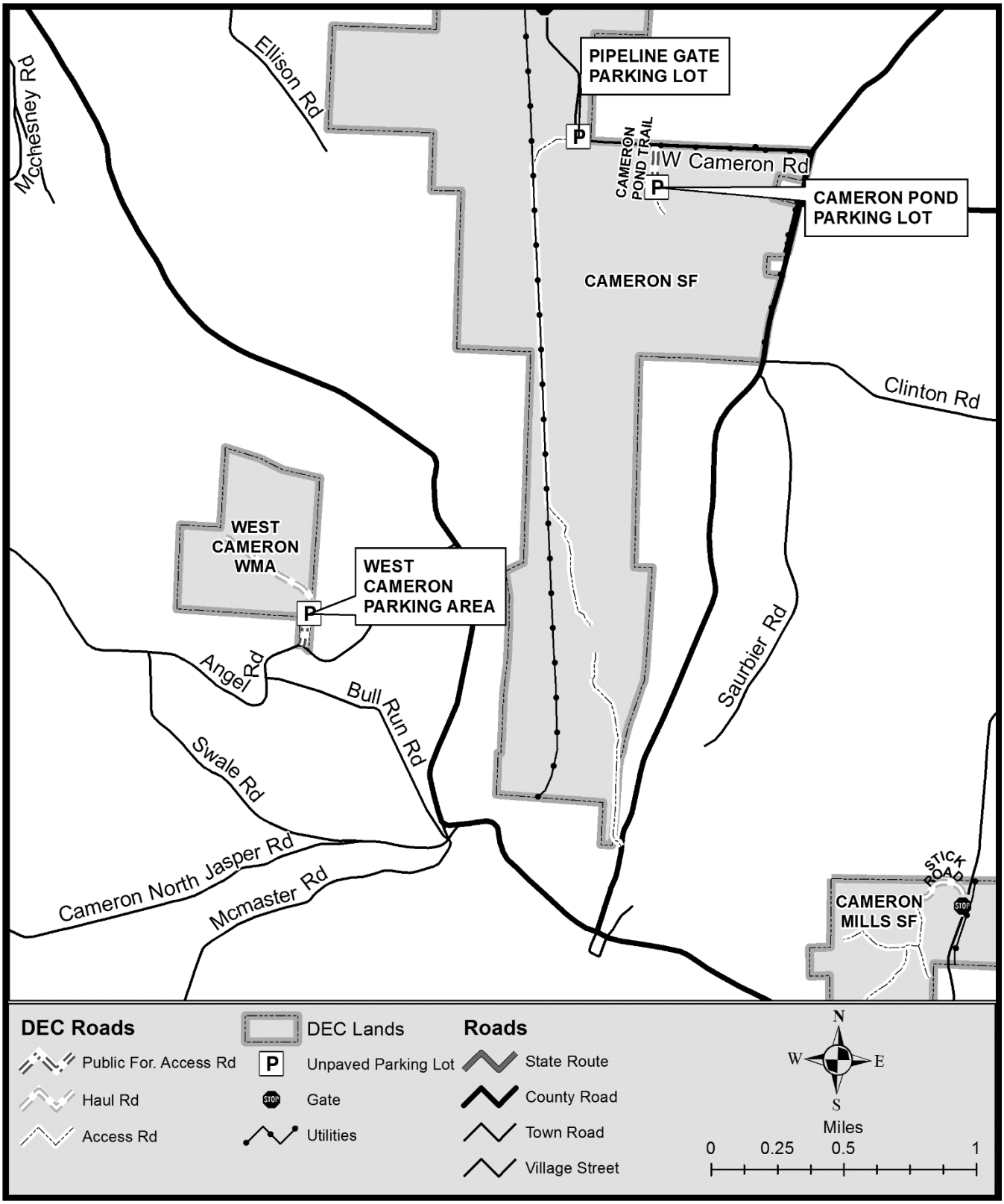
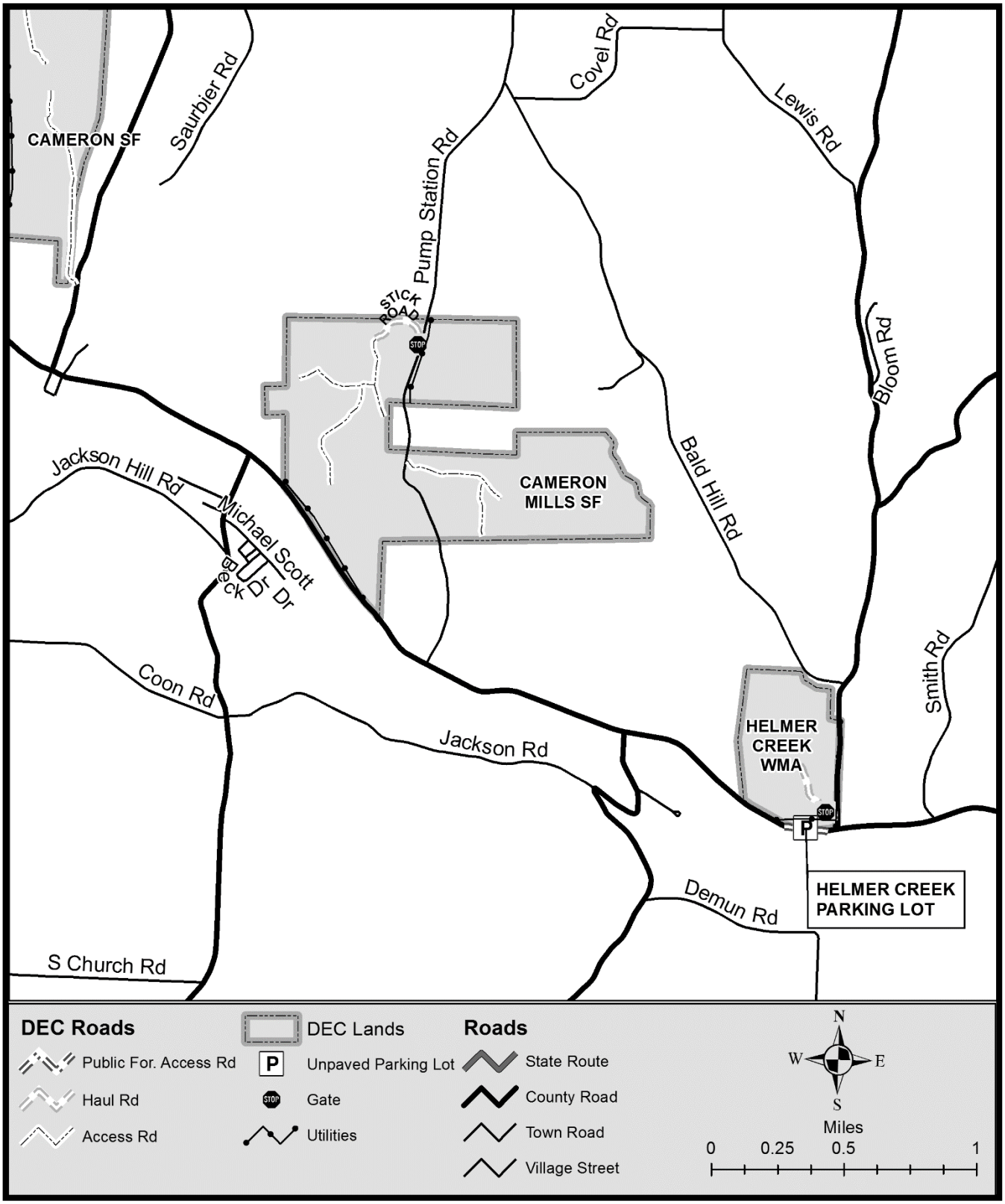
Cross Corners Rd
Oregon Rd
Thomas Rd
Oak Hill Rd
LITTLE POND PARKING
Gulf Rd
LOG LANDING PARKING
Stone House Rd
Ellison Rd
WEST CAMERON ROAD PARKING LOT
BIG POND PARKING
PIPELINE GATE PARKING LOT
W Cameron Rd
CAMERON POND PARKING LOT
CAMERON SF
Witcus Rd
Pump Station Rd
Saurbier Rd
Clinton Rd
DEC Roads
Public For. Access Rd
Haul Rd
Access Rd
DEC Lands
Unpaved Parking Lot
Gate
Utilities
Roads
State Route
County Road
Town Road
Village Street
N
W
E
S
Miles
0
0.25
0.5
1


PIPELINE GATE PARKING LOT
Ellison Rd
Mcchesney Rd
CAMERON POND TRAIL
IIW Cameron Rd
CAMERON POND PARKING LOT
CAMERON SF
Clinton Rd
WEST CAMERON WMA
WEST CAMERON PARKING AREA
Angel Rd
Bull Run Rd
Saurbier Rd
Swale Rd
Cameron North Jasper Rd
Mcmaster Rd
STICK ROAD
CAMERON MILLS SF
DEC Roads
Public For. Access Rd
Haul Rd
Access Rd
DEC Lands
Unpaved Parking Lot
Gate
Utilities
Roads
State Route
County Road
Town Road
Village Street
N
W
E
S
Miles
0
0.25
0.5
1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Saurbier Rd
Covel Rd
Lewis Rd
Pump Station Rd
STICK ROAD
STOP
Bloom Rd
CAMERON MILLS SF
Bald Hill Rd
Jackson Hill Rd
Michael Scott Dr
Coon Rd
Jackson Rd
HELMER CREEK WMA
STOP
P
Smith Rd
HELMER CREEK PARKING LOT
Demun Rd
S Church Rd
DEC Roads
Public For. Access Rd
Haul Rd
Access Rd
DEC Lands
P
Unpaved Parking Lot
STOP
Gate
Utilities
Roads
State Route
County Road
Town Road
Village Street
N
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Miles
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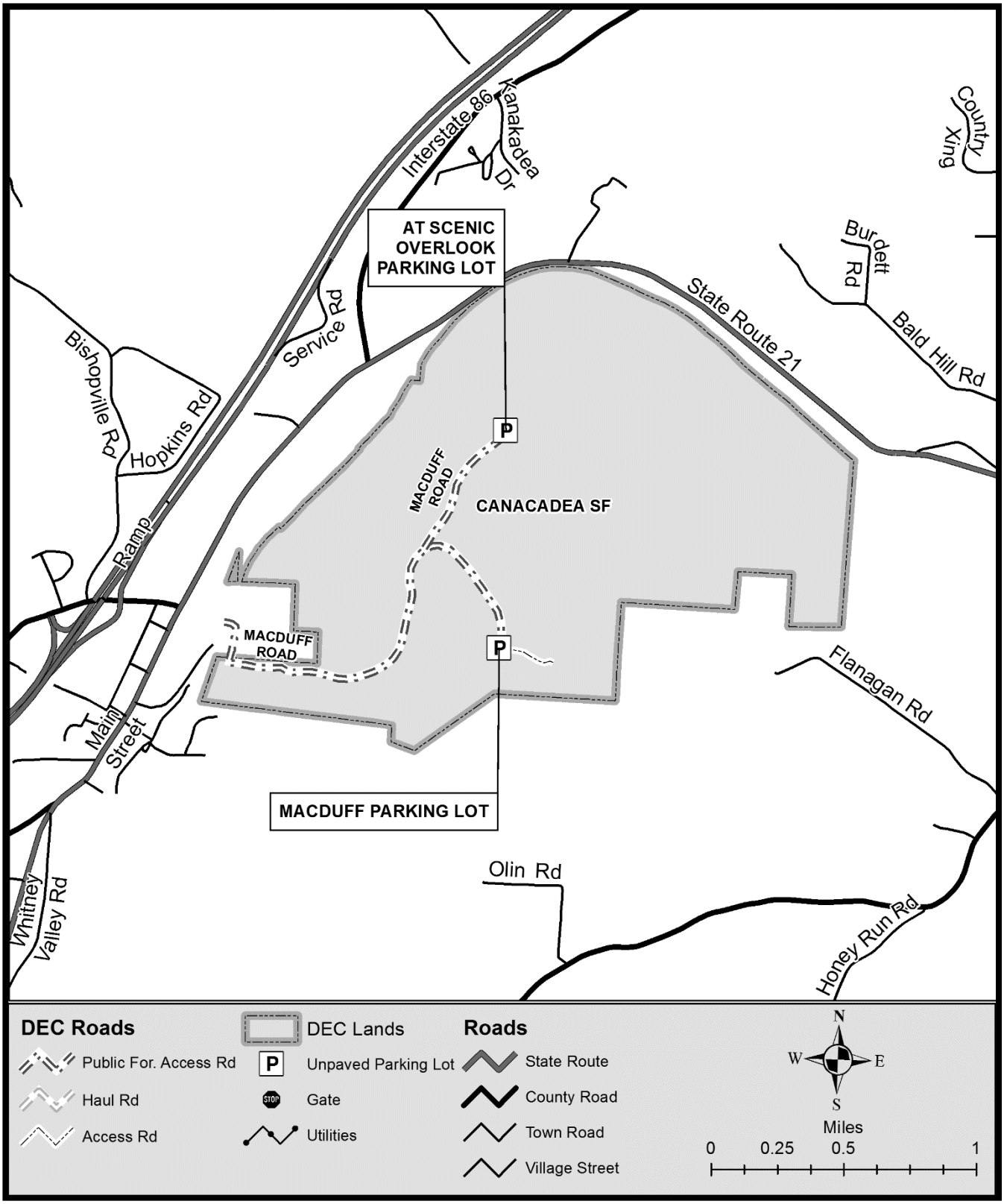
1


Interstate 86
Kanakadea Dr
Country Xing
AT SCENIC OVERLOOK PARKING LOT
Burdett Rd
State Route 21
Bald Hill Rd
Service Rd
Bishopville Rd
Hopkins Rd
P
MACDUFF ROAD
CANACADEA SF
Ramp
MACDUFF ROAD
P
Flanagan Rd
Main Street
MACDUFF PARKING LOT
Olin Rd
Whitney Valley Rd
Honey Run Rd
DEC Roads
Public For. Access Rd
Haul Rd
Access Rd
DEC Lands
Unpaved Parking Lot
Gate
Utilities
Roads
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County Road
Town Road
Village Street
N
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Miles
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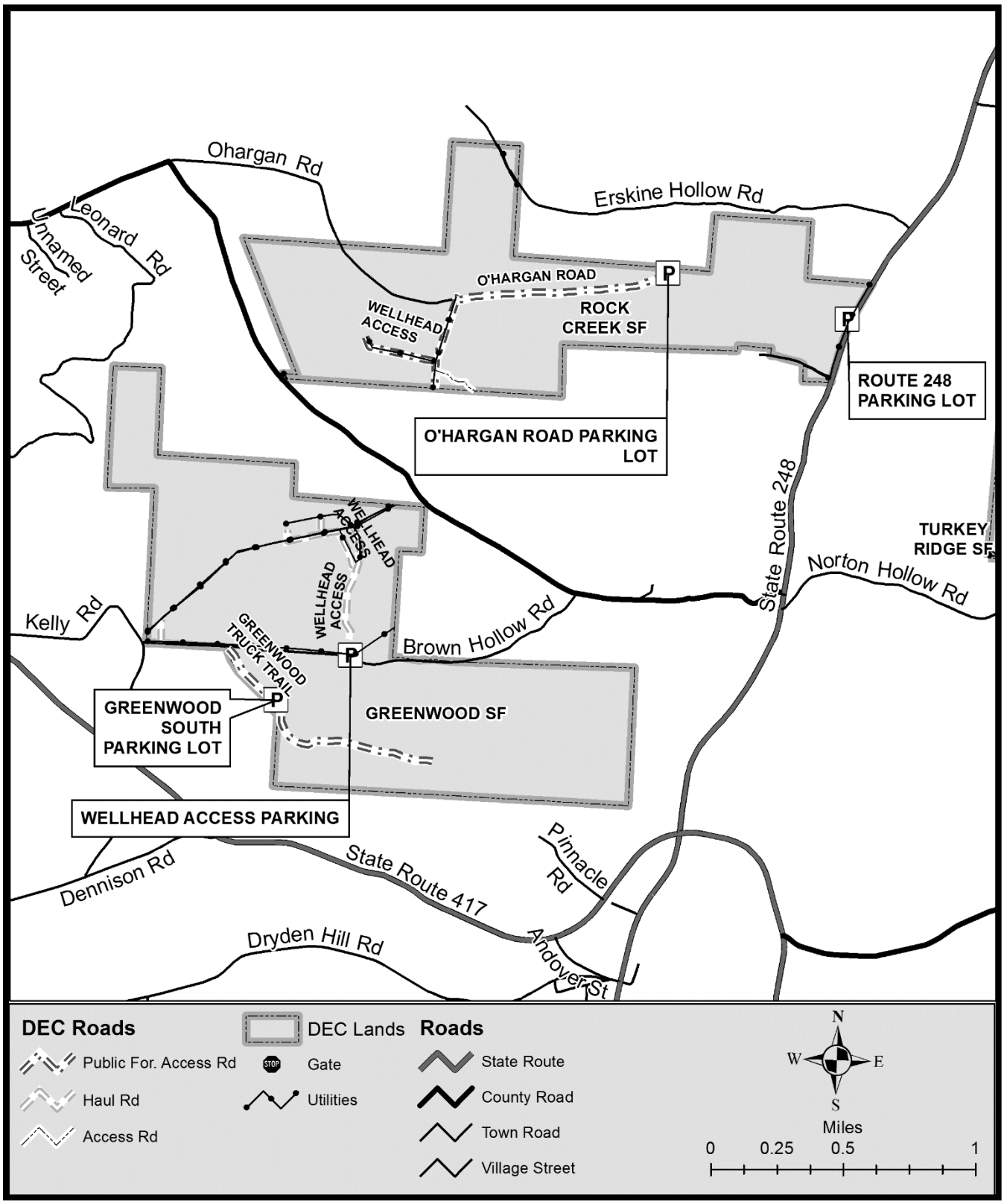
0.25
0.5
1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Leonard Rd
Unnamed Street
Erskine Hollow Rd
O'HARGAN ROAD
WELLHEAD ACCESS
ROCK CREEK SF
ROUTE 248 PARKING LOT
O'HARGAN ROAD PARKING LOT
State Route 248
TURKEY RIDGE SF
Norton Hollow Rd
Kelly Rd
WELLHEAD ACCESS
WELLHEAD ACCESS
GREENWOOD TRUCK TRAIL
Brown Hollow Rd
GREENWOOD SOUTH PARKING LOT
GREENWOOD SF
WELLHEAD ACCESS PARKING
Dennison Rd
State Route 417
Pinnacle Rd
Dryden Hill Rd
Andover St
DEC Roads
Public For. Access Rd
Haul Rd
Access Rd
DEC Lands
Gate
Utilities
Roads
State Route
County Road
Town Road
Village Street
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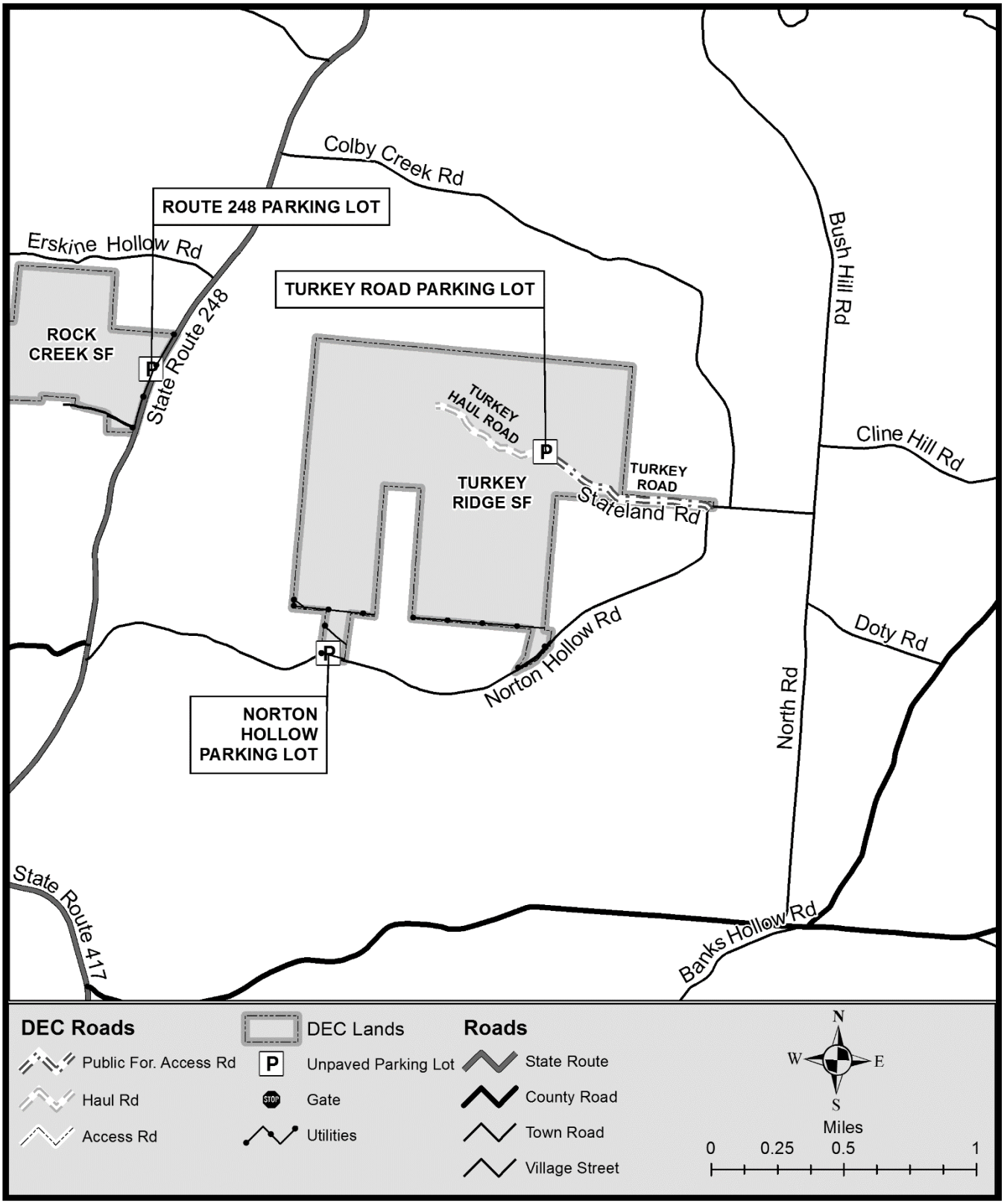
Colby Creek Rd
ROUTE 248 PARKING LOT
Erskine Hollow Rd
TURKEY ROAD PARKING LOT
Bush Hill Rd
ROCK CREEK SF
State Route 248
TURKEY HAUL ROAD
Cline Hill Rd
TURKEY ROAD
TURKEY RIDGE SF
Stateland Rd
Doty Rd
Norton Hollow Rd
NORTON HOLLOW PARKING LOT
North Rd
State Route 417
Banks Hollow Rd
DEC Roads
Public For. Access Rd
Haul Rd
Access Rd
DEC Lands
Unpaved Parking Lot
Gate
Utilities
Roads
State Route
County Road
Town Road
Village Street
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Miles
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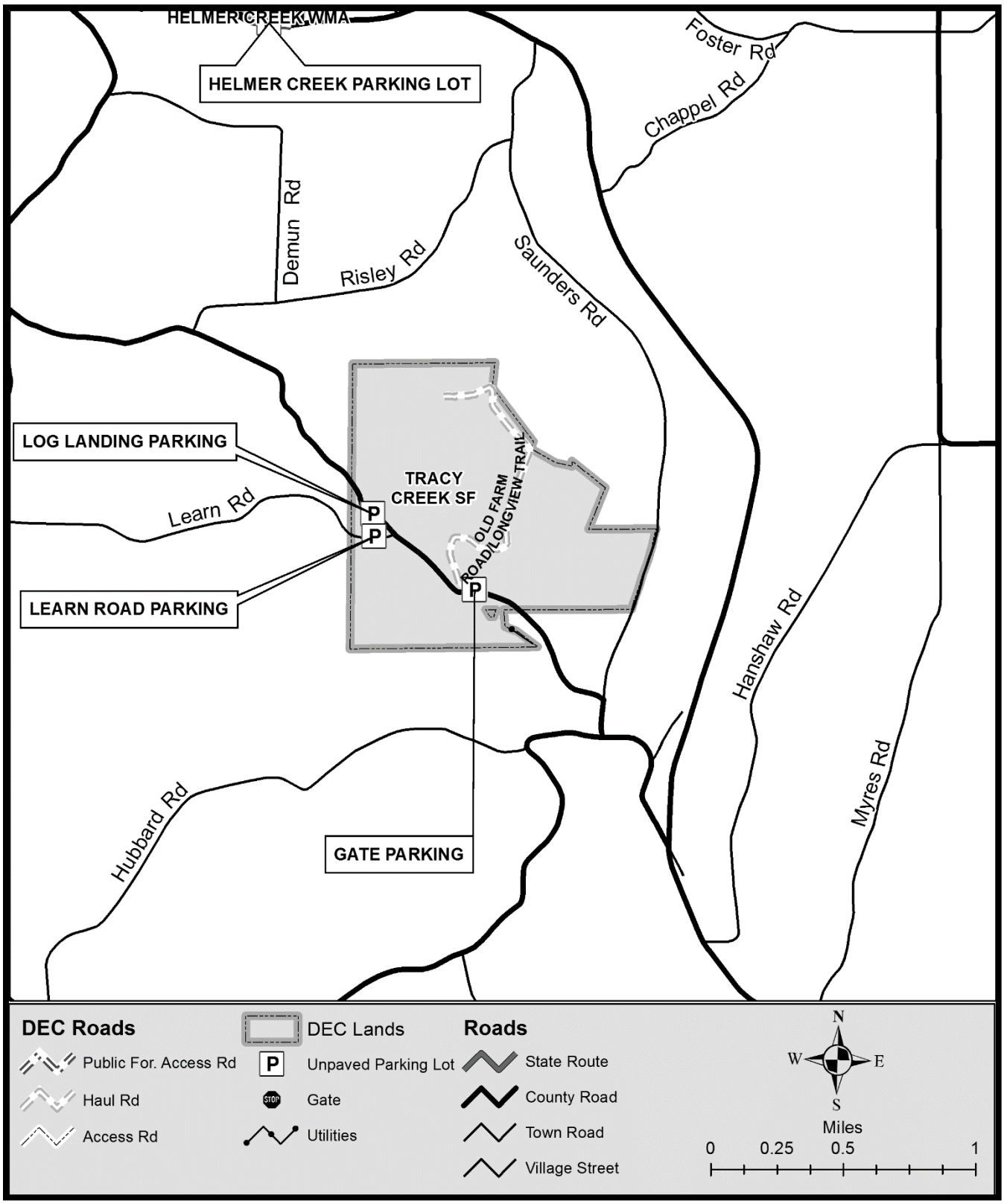
HELMER CREEK WMA
HELMER CREEK PARKING LOT
Foster Rd
Chappel Rd
Demun Rd
Risley Rd
Saunders Rd
LOG LANDING PARKING
TRACY CREEK SF
OLD FARM ROAD/LONGVIEW TRAIL
Learn Rd
LEARN ROAD PARKING
Hanshaw Rd
Myres Rd
Hubbard Rd
GATE PARKING
DEC Roads
Public For. Access Rd
Haul Rd
Access Rd
DEC Lands
Unpaved Parking Lot
Gate
Utilities
Roads
State Route
County Road
Town Road
Village Street
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Recreation and Other Facilities

For Additional Information see: Access Management (pg. 71), Public Recreation and Use (pg. 21), Public Recreation and Use Management (pg. 102), Maintenance and Facilities Management (pg 110), and Appendix D: Facilities (pg. 142).

Some facilities will be missing from these maps. For example, many culverts, bird/duck/bat houses, historic sites and some log landings and access trails (old farm lanes) have not yet been GPSed.

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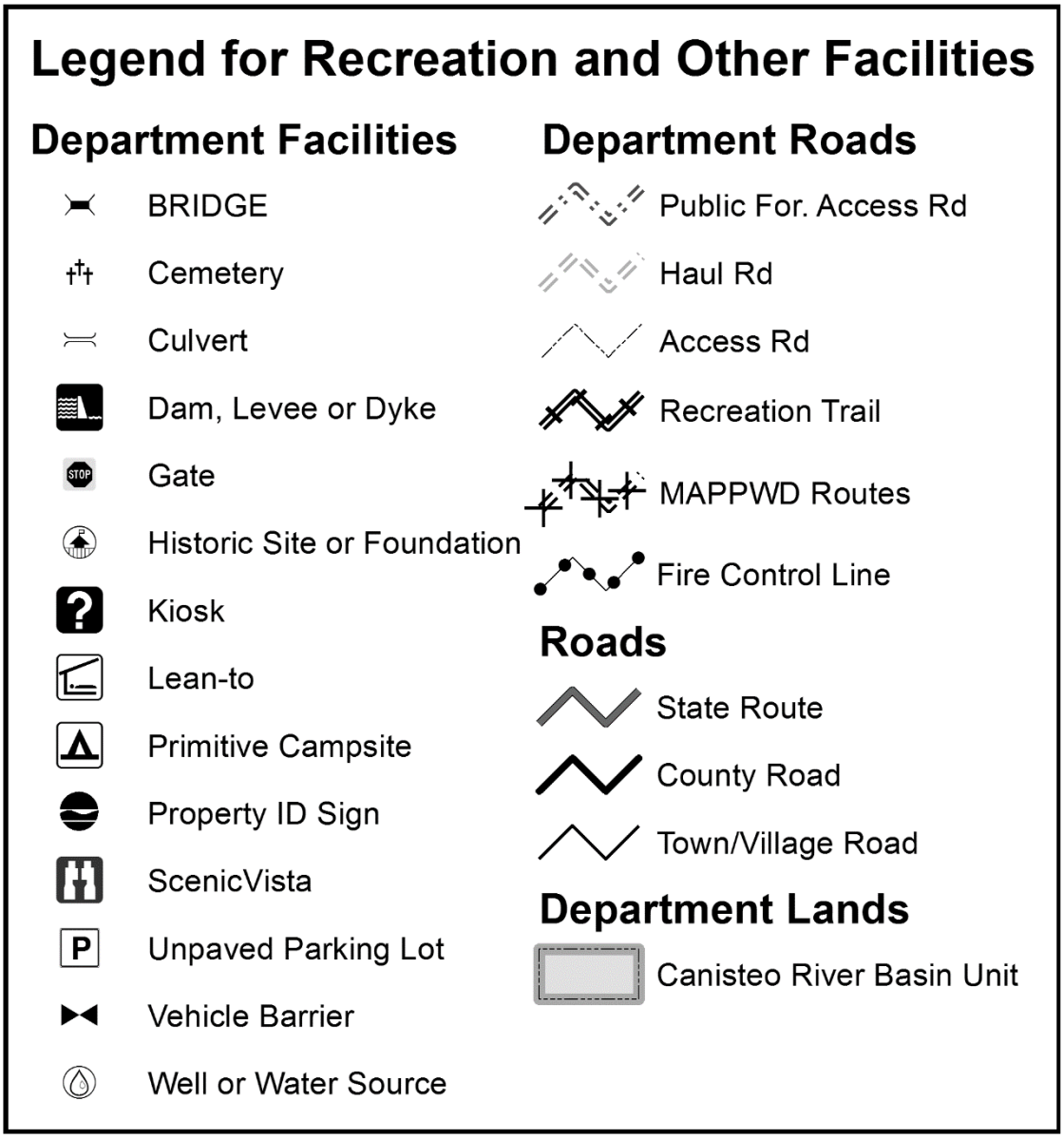
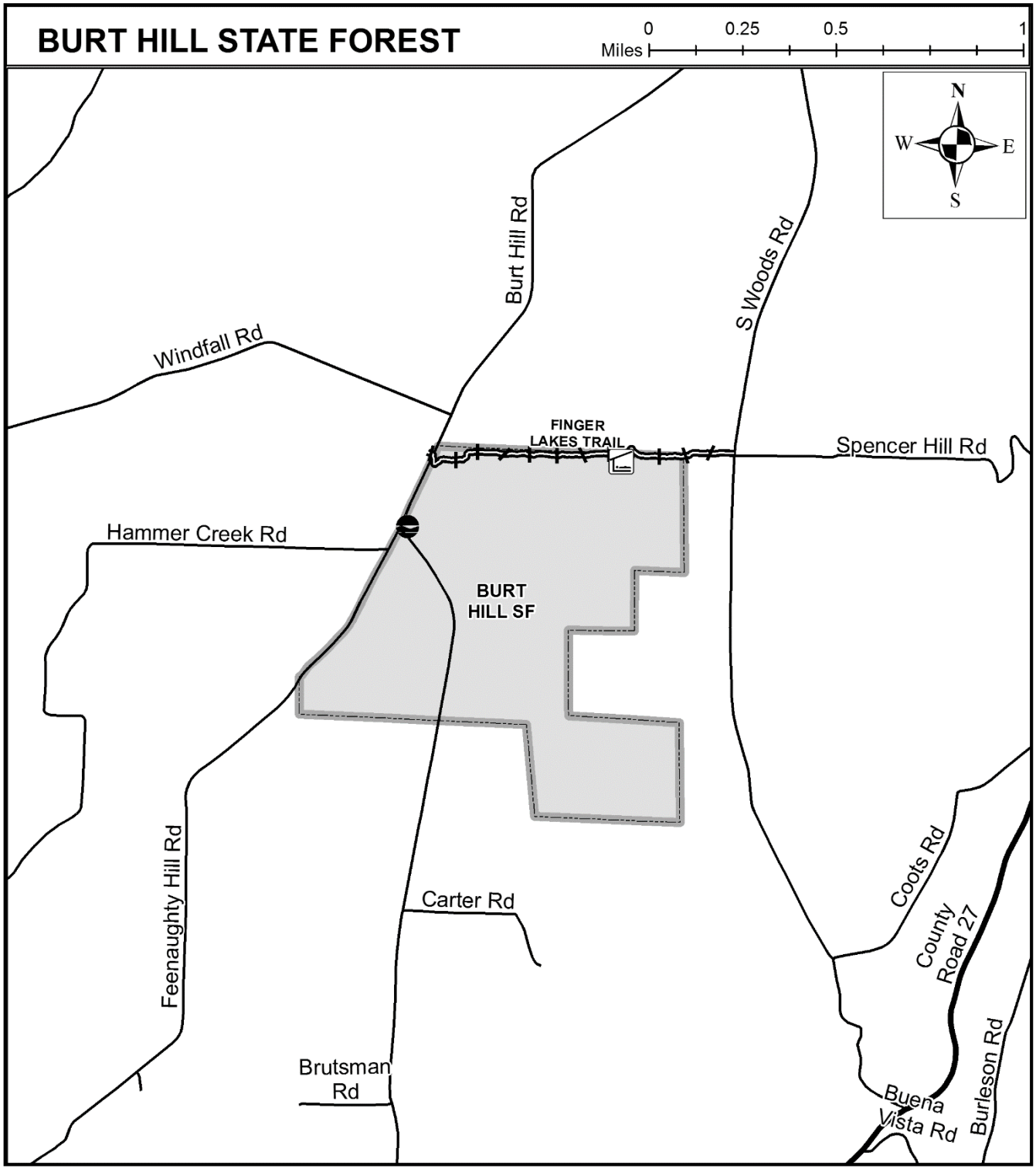


Legend for all Facilities maps is located on page 191.



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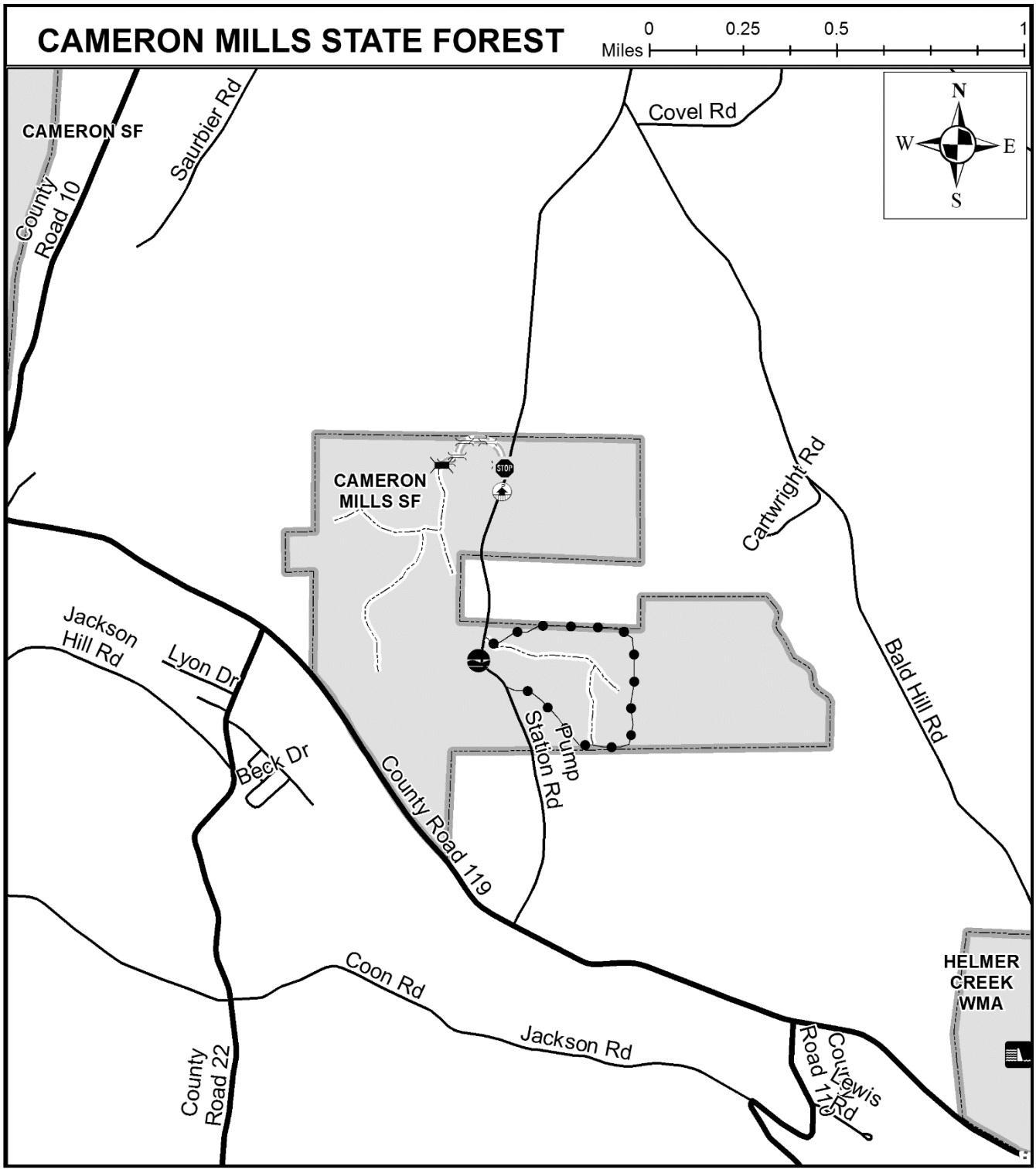

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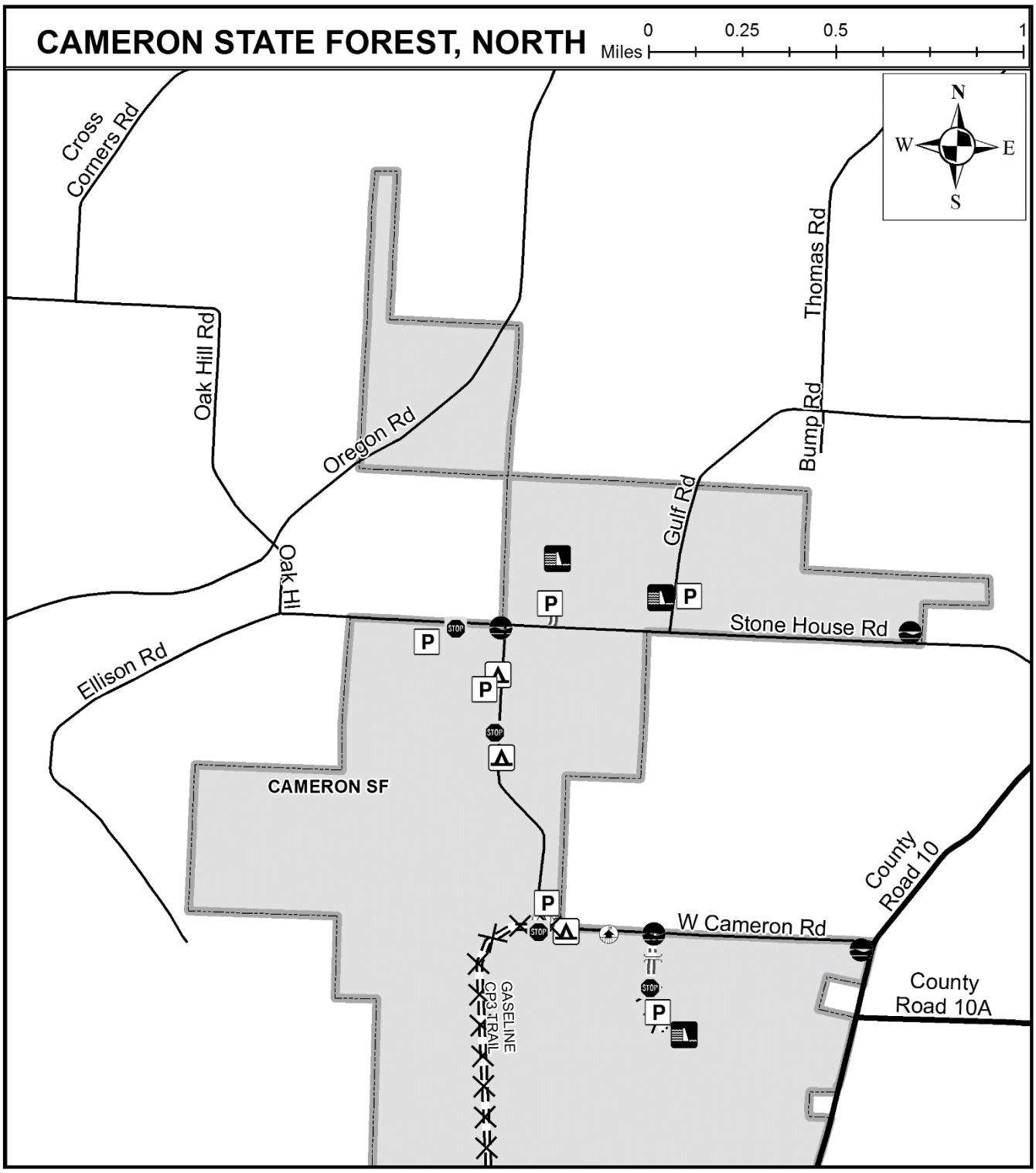

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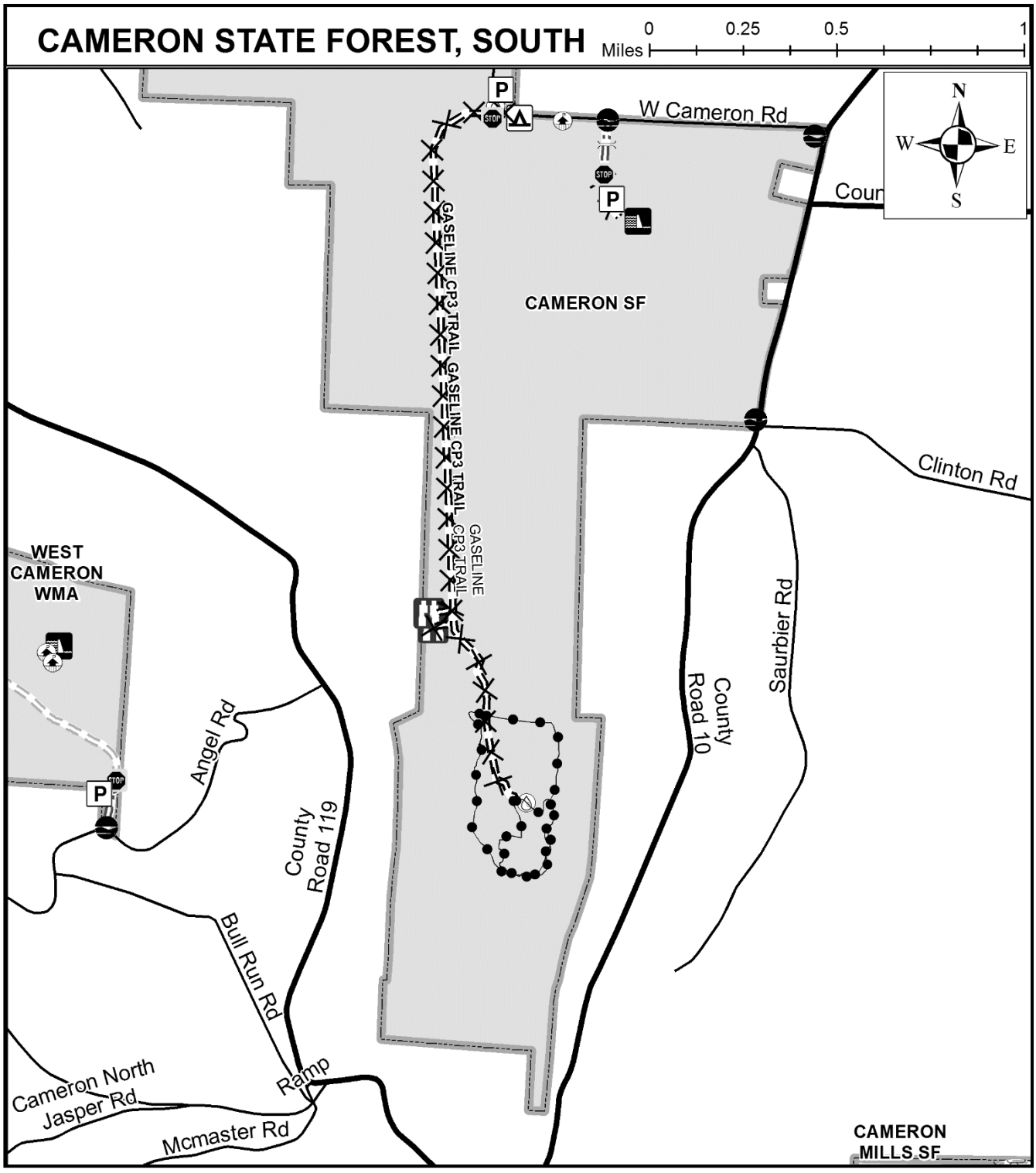

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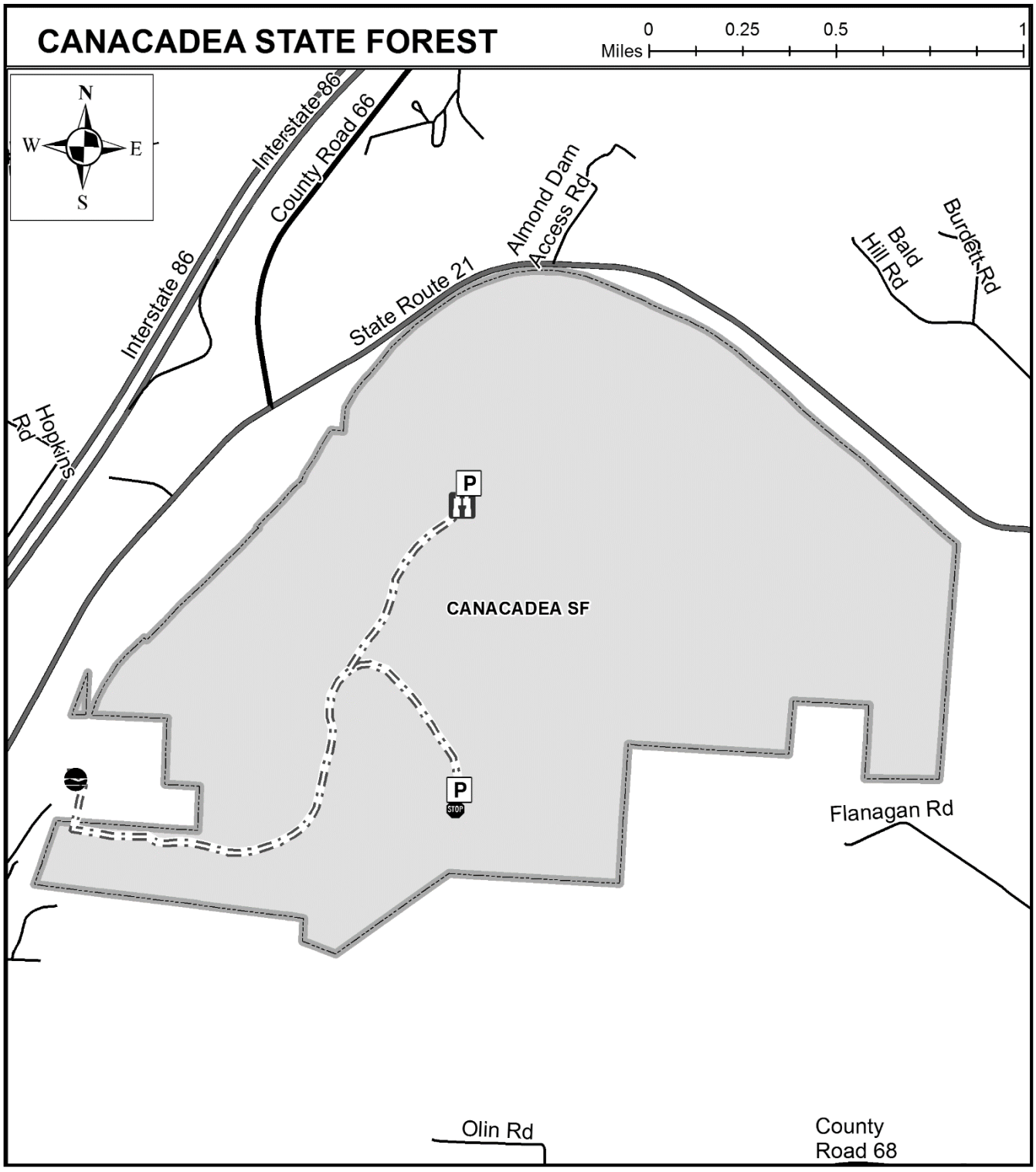

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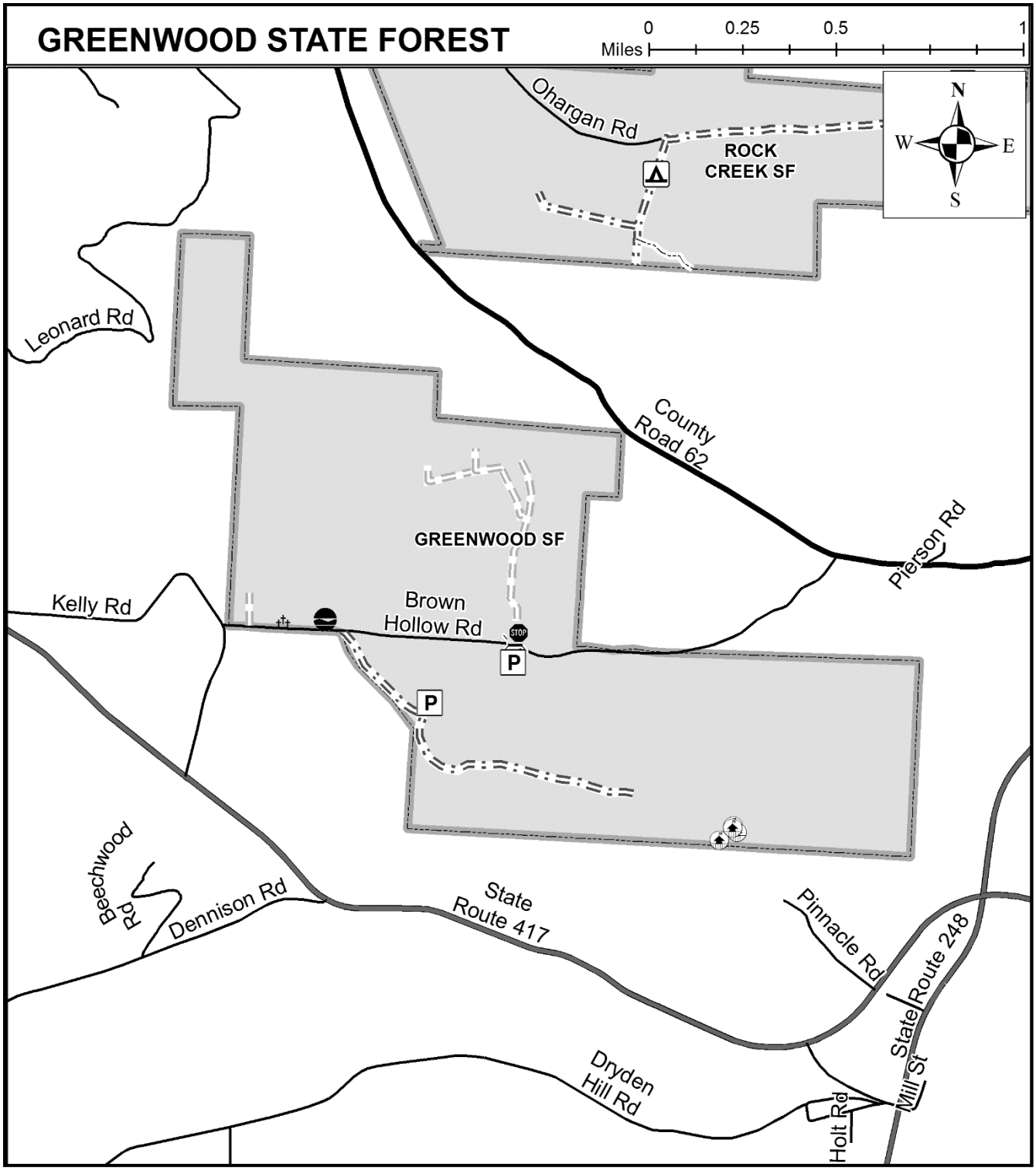

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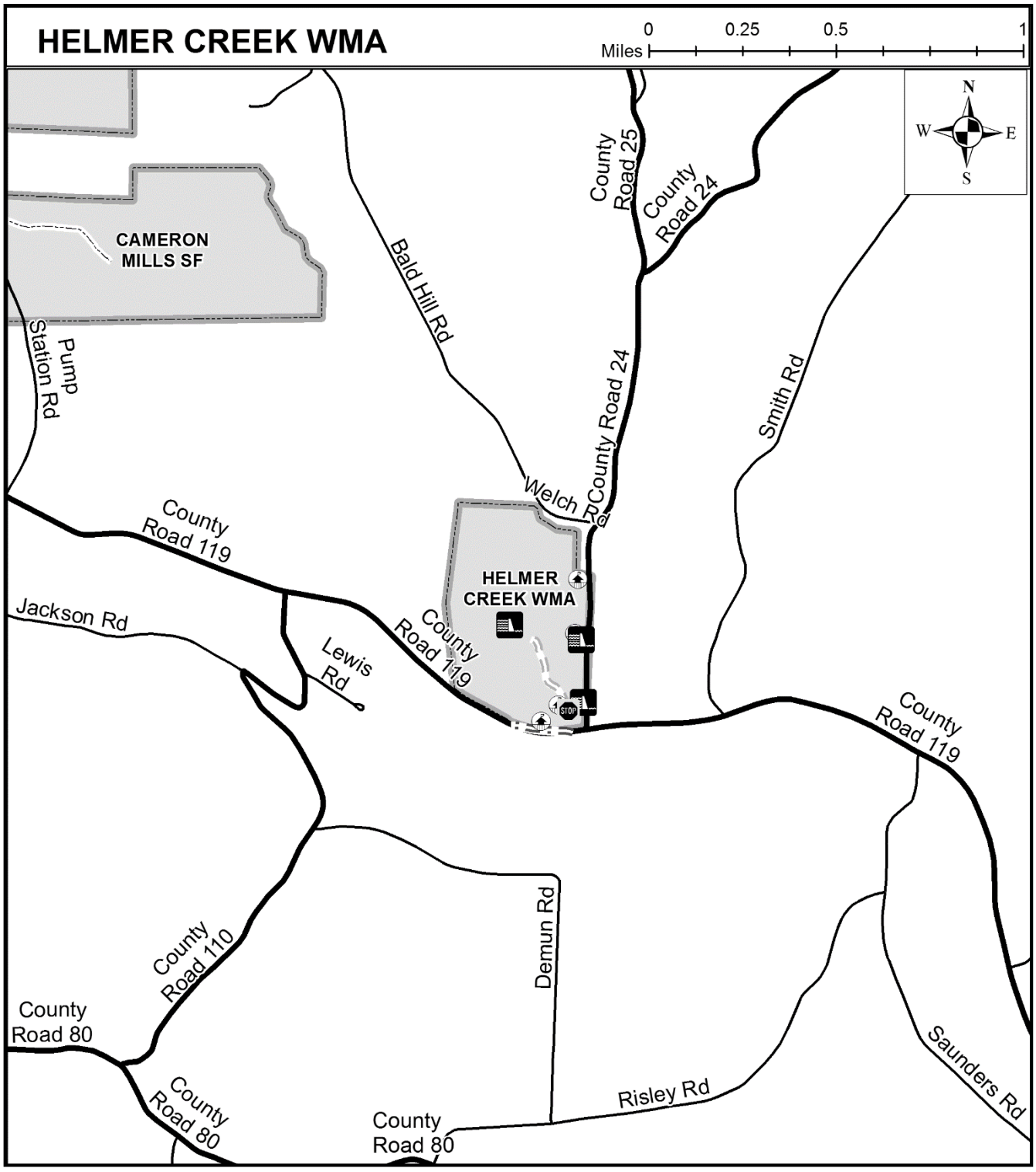

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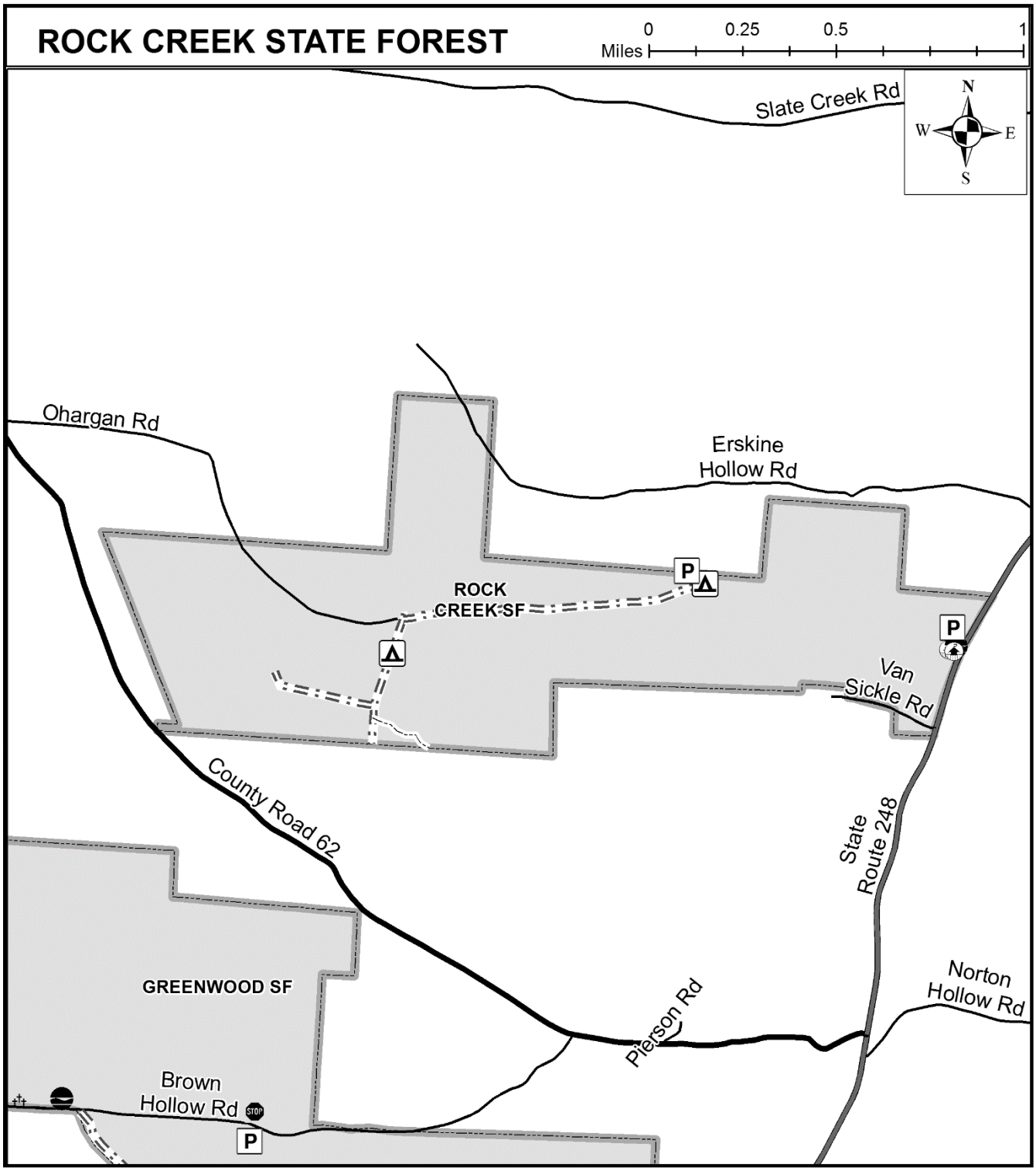

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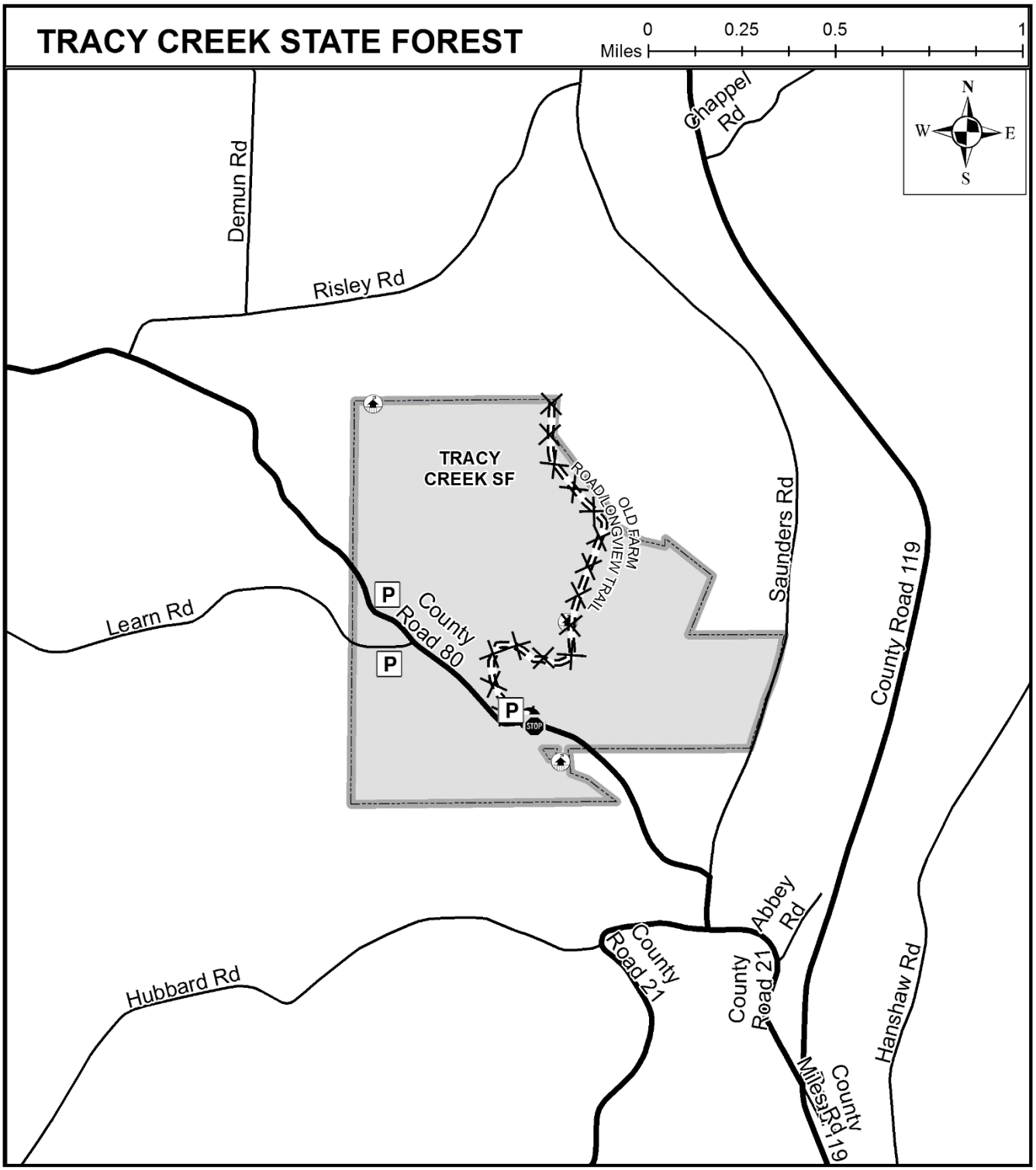

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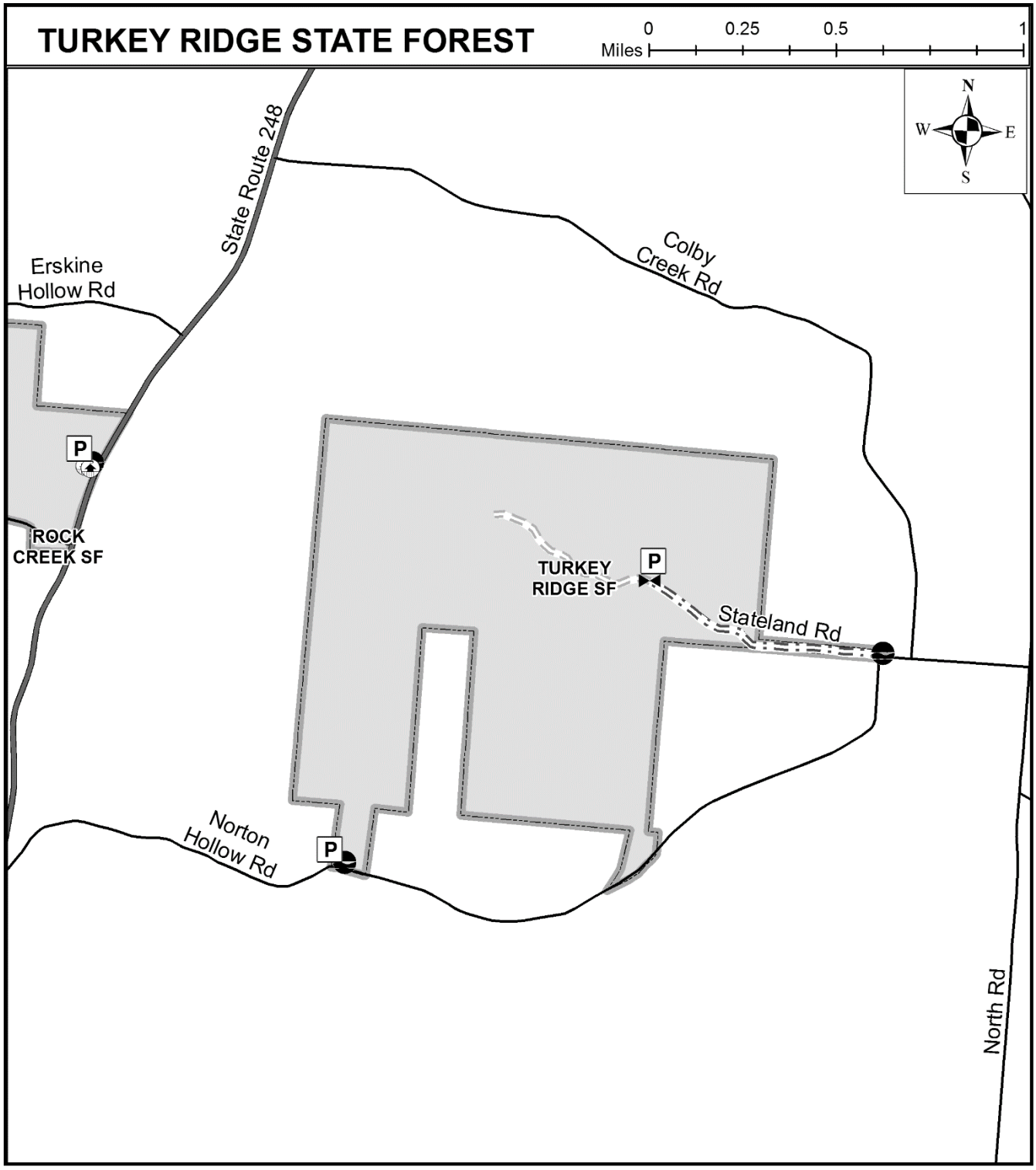

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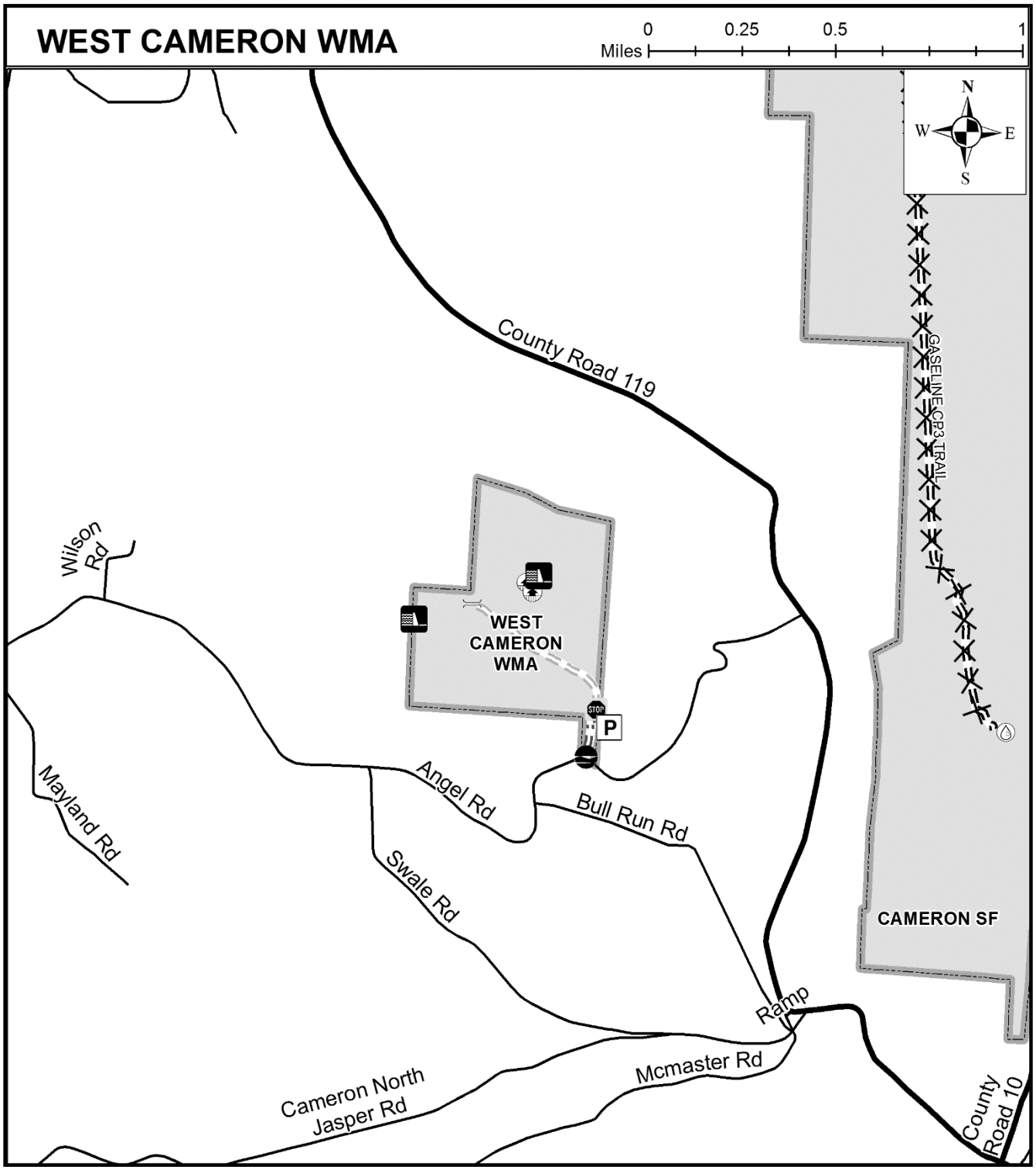

Vegetative Types and Stages

See Also: Timber and Vegetation (pg. 40), Timber and Vegetation Management (pg. 75), and Appendix F: Vegetation Management (pg. 147). A stand is a group of plants with similar characteristics that are analyzed and treated as a single unit. Each parcel is divided into one or more compartments, and each compartment divided into stands. Compartments are given a letter designation, and stands a number. This letter-number combination is used for tracking, mapping and planning the actions and activities that happen in and on Department owned land.

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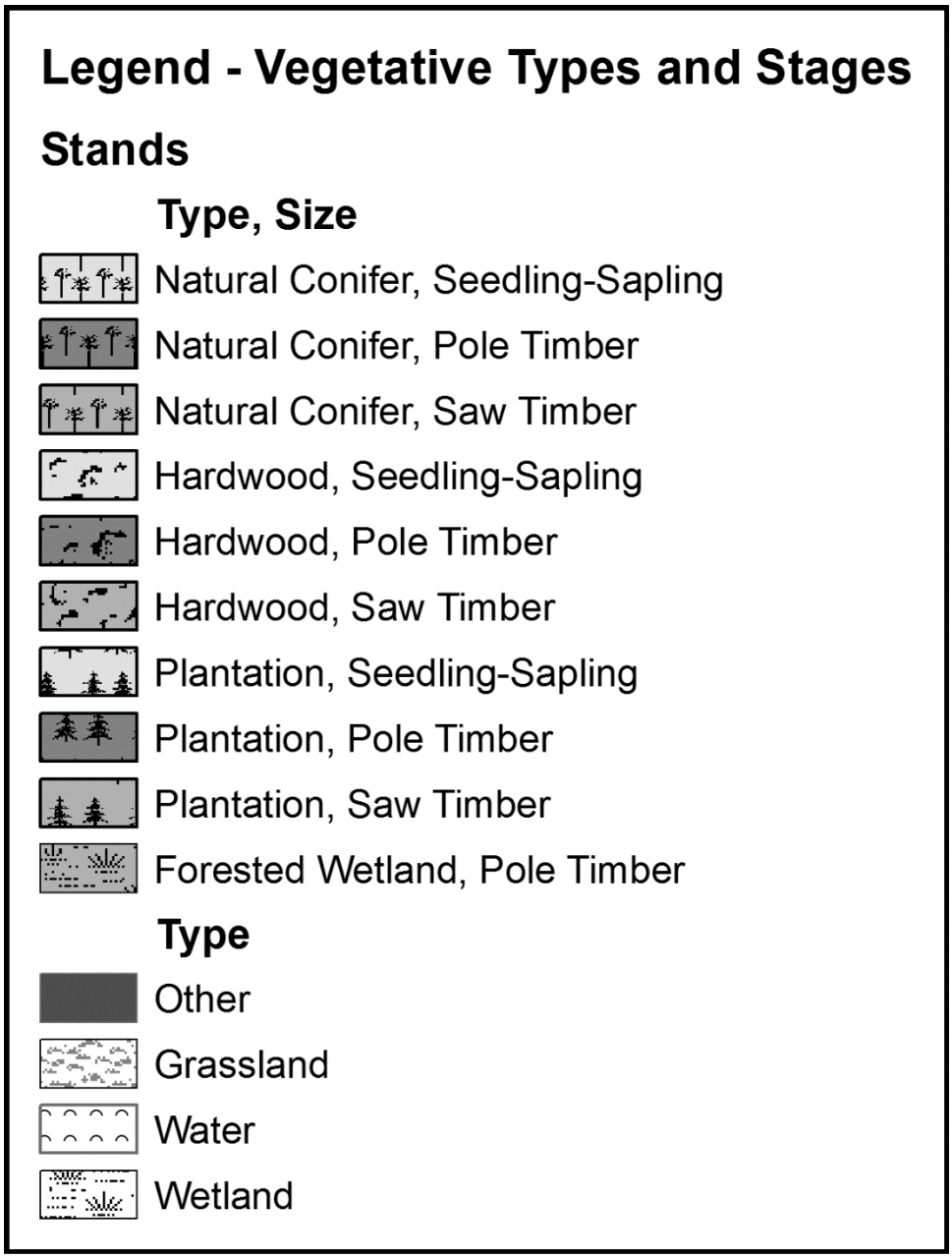
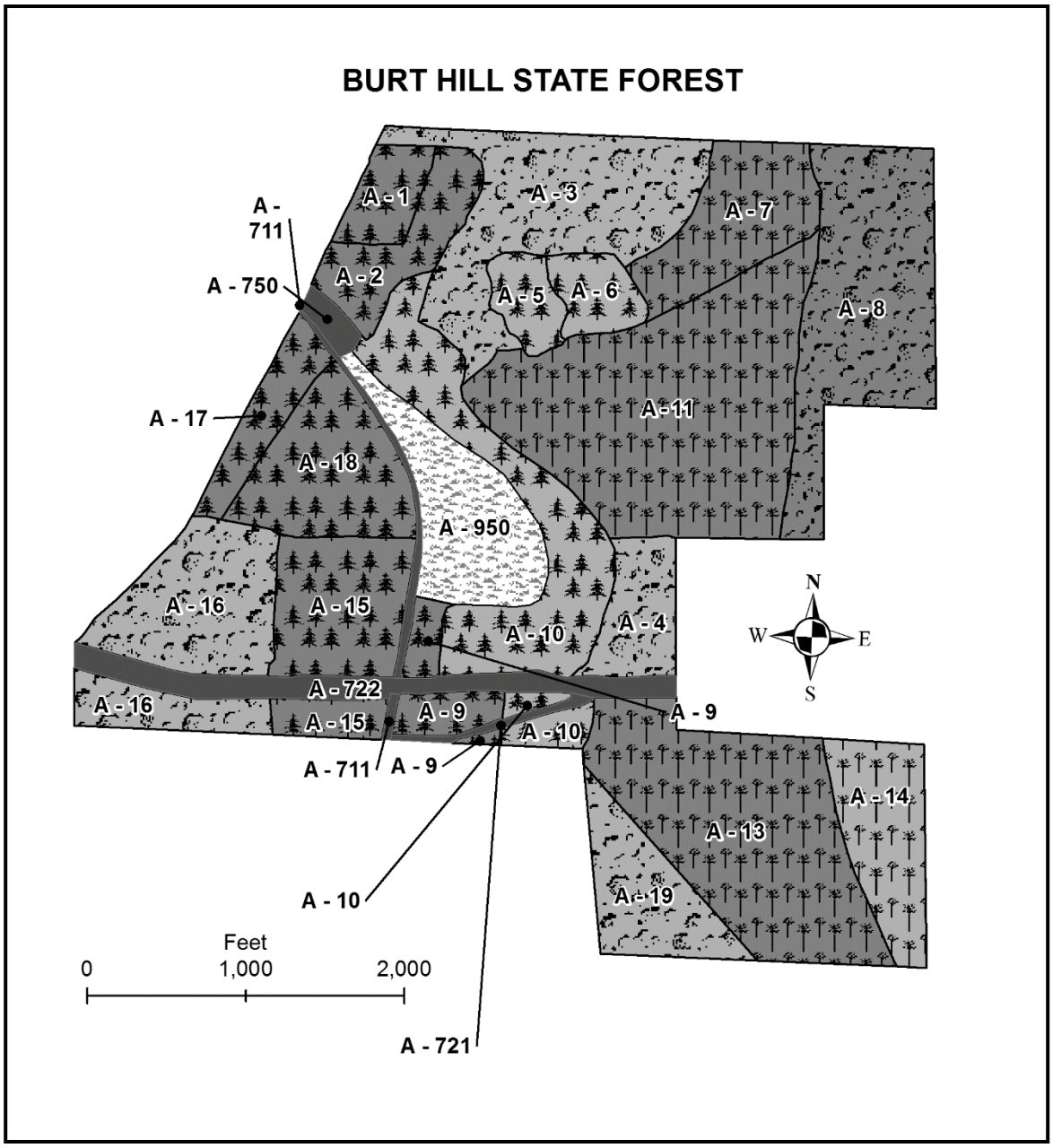
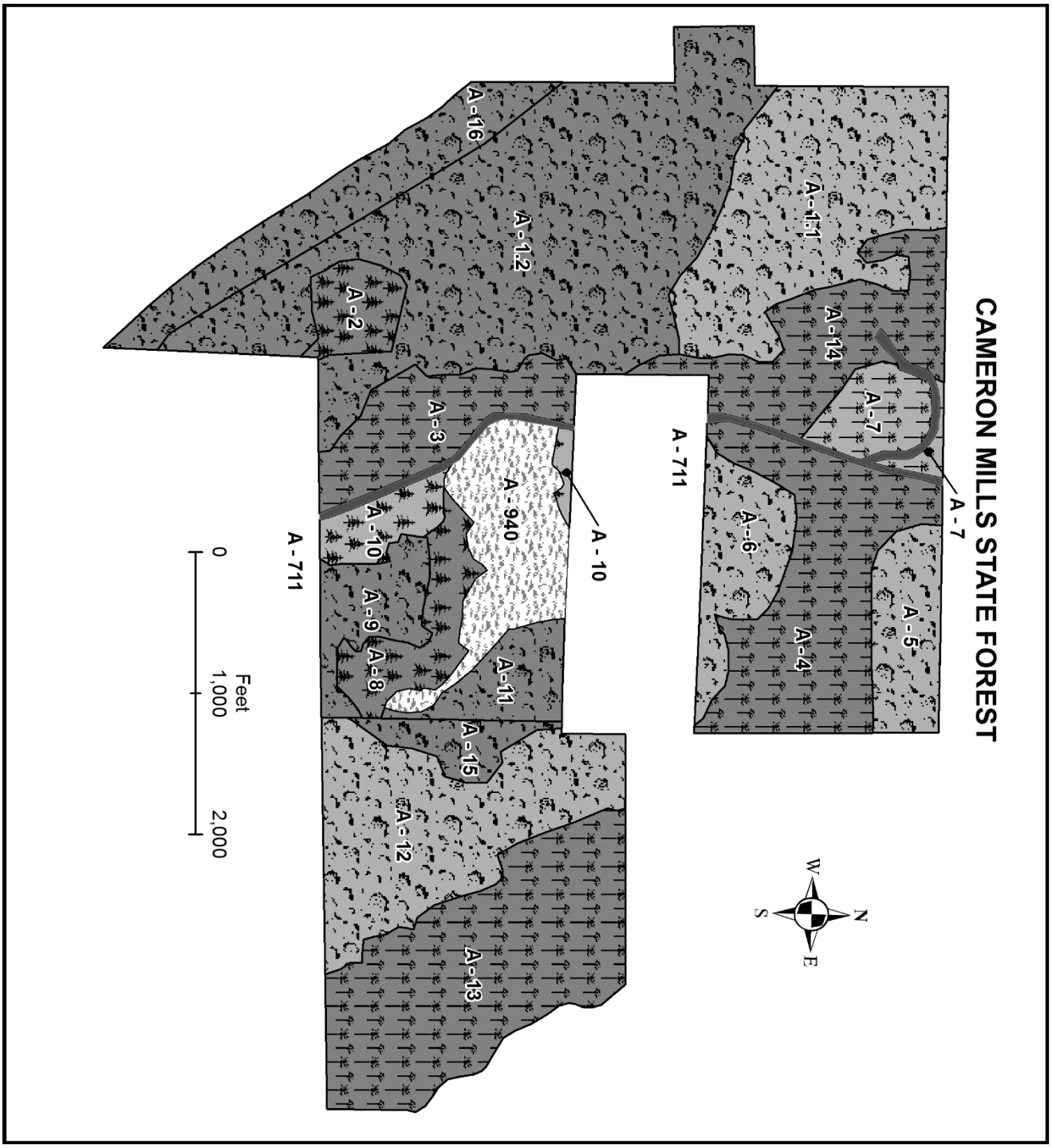


Legend for all Vegetative Types and Stages maps is located on page 203.



Legend for all Vegetative Types and Stages maps is located on page 203



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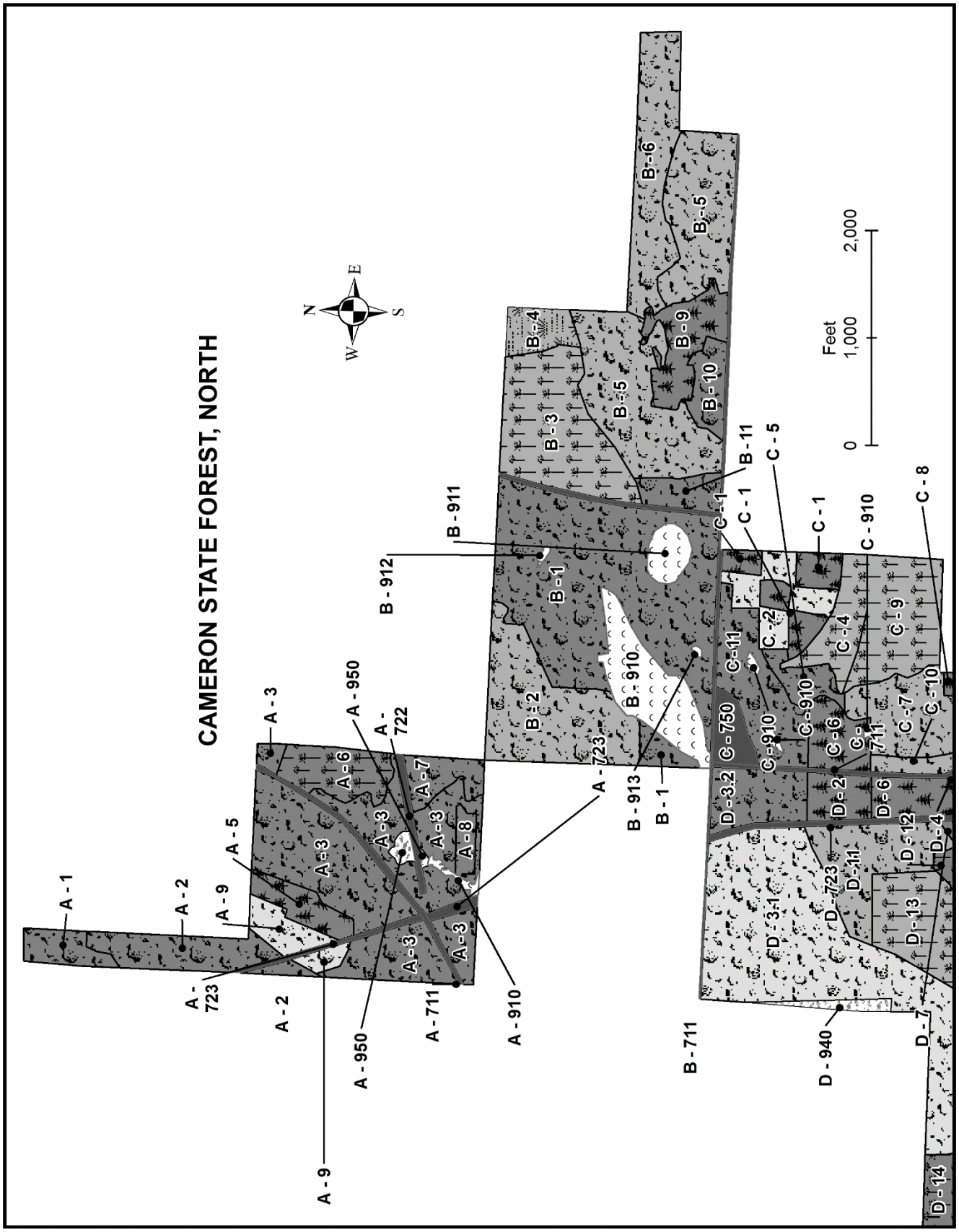

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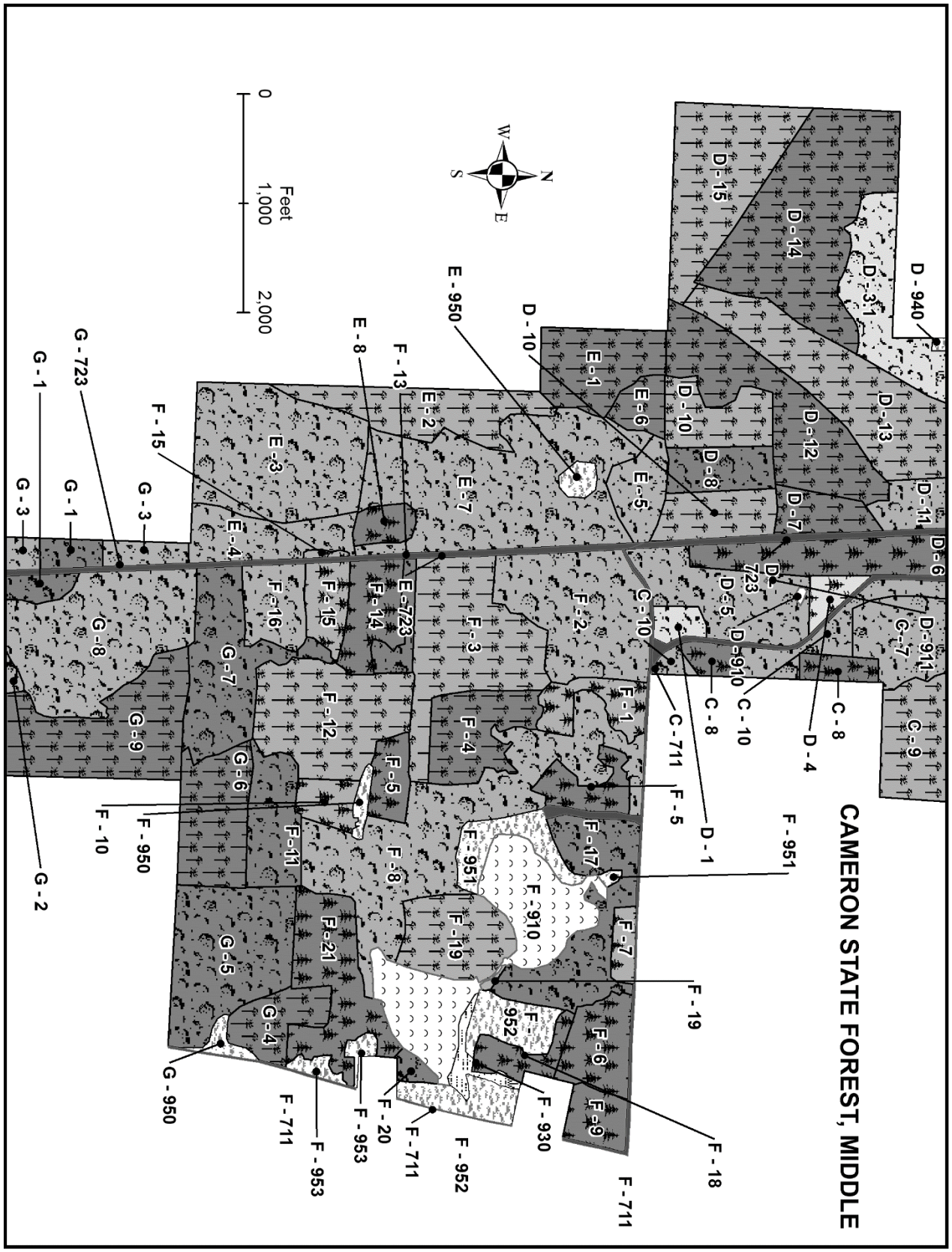

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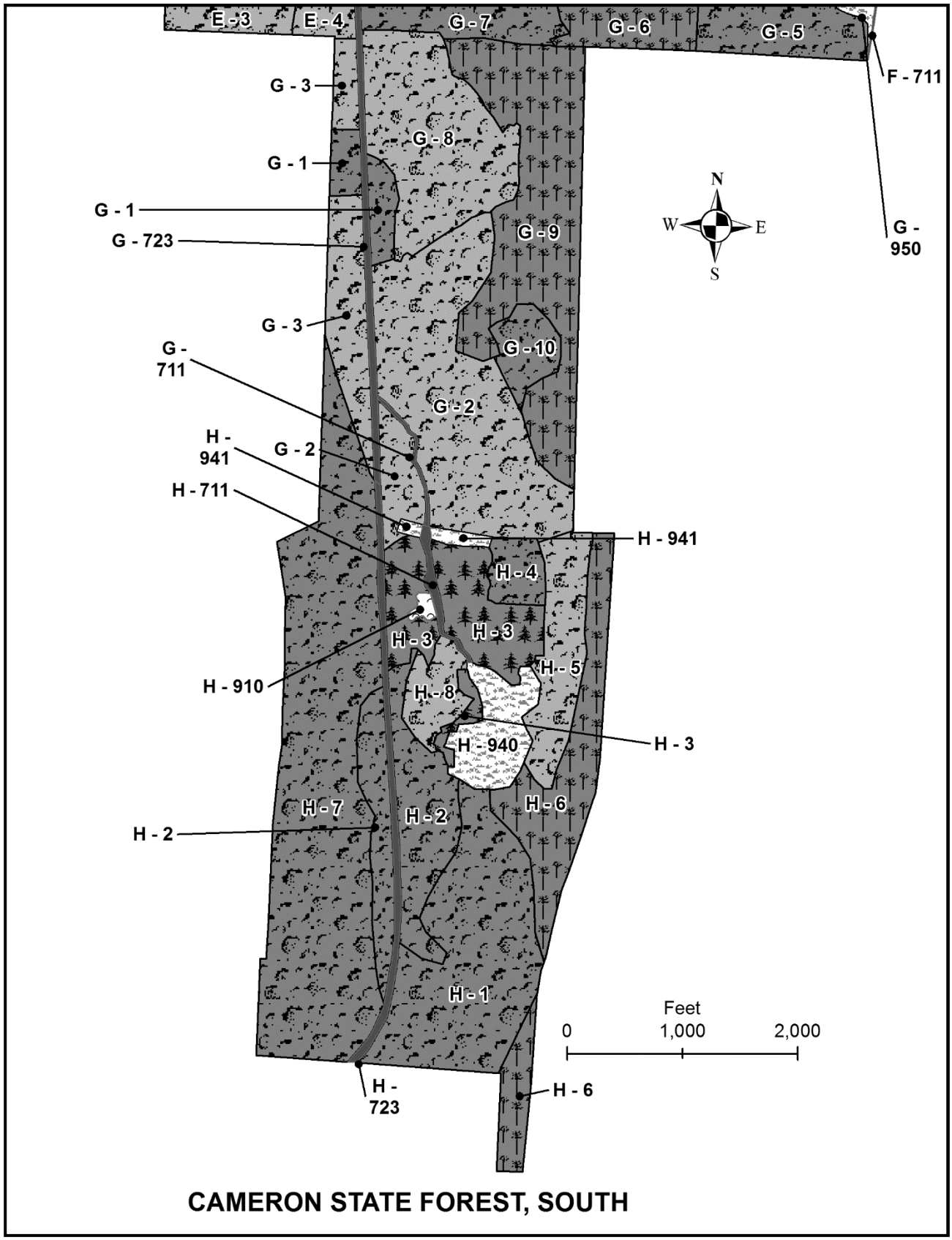

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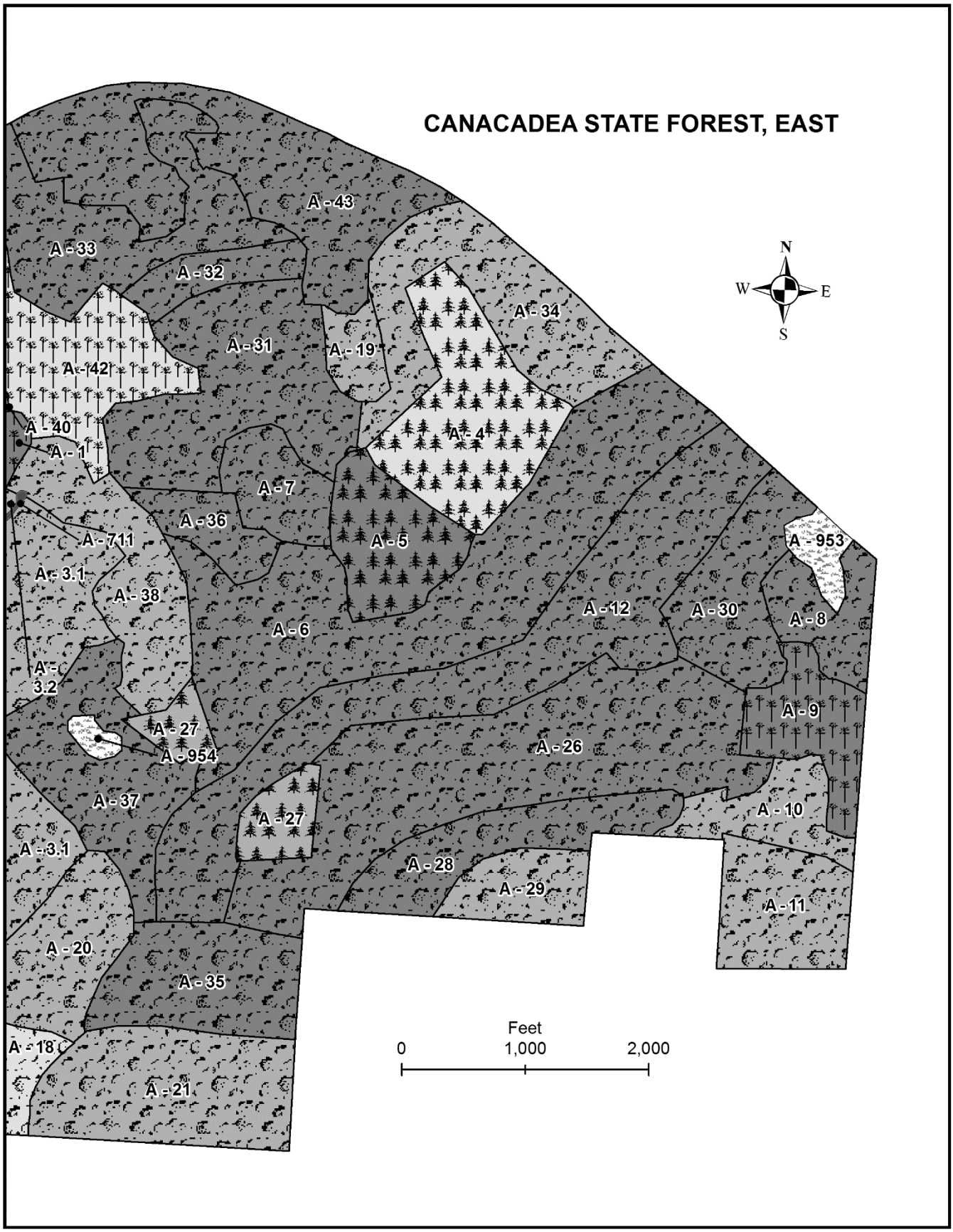

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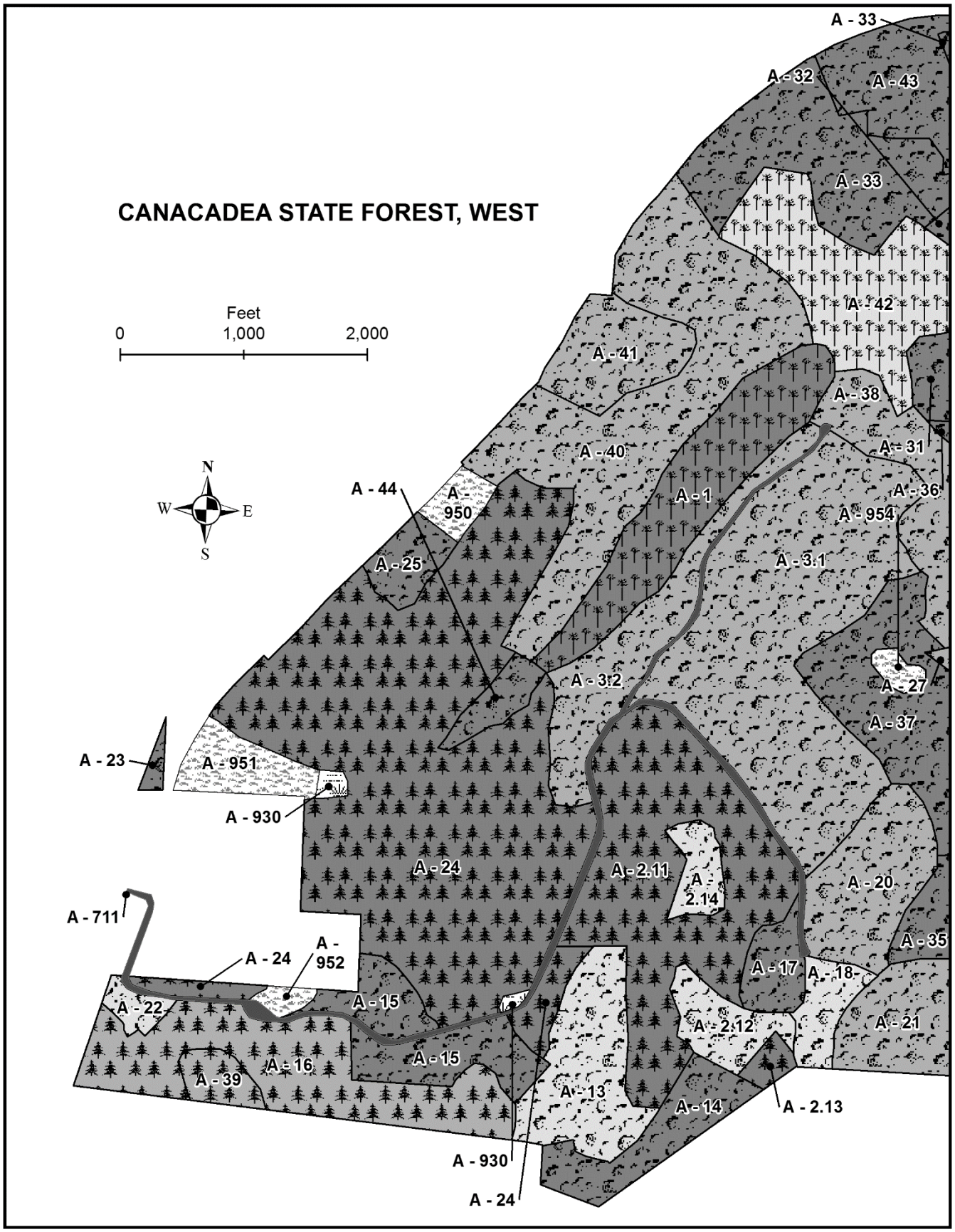

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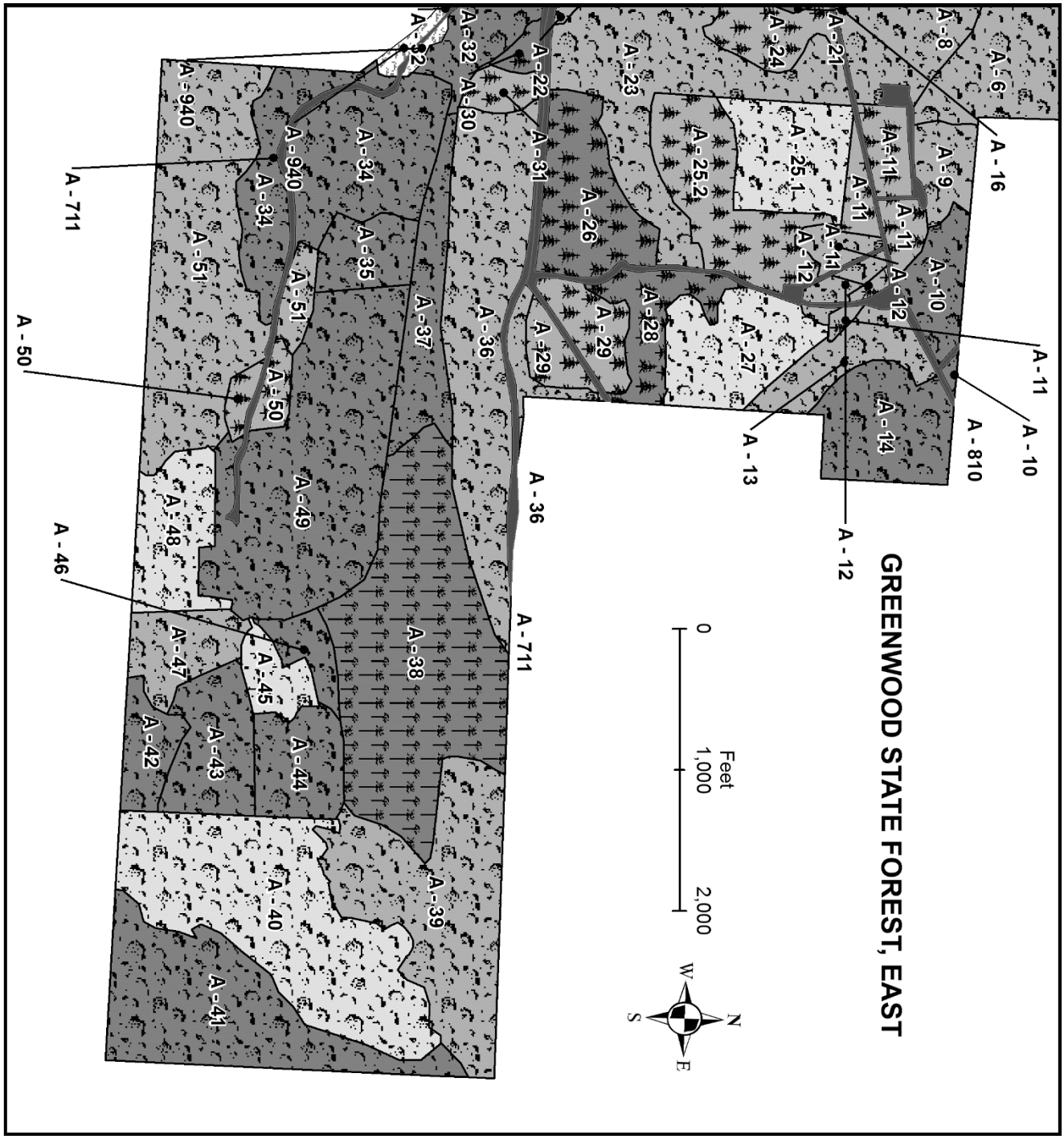
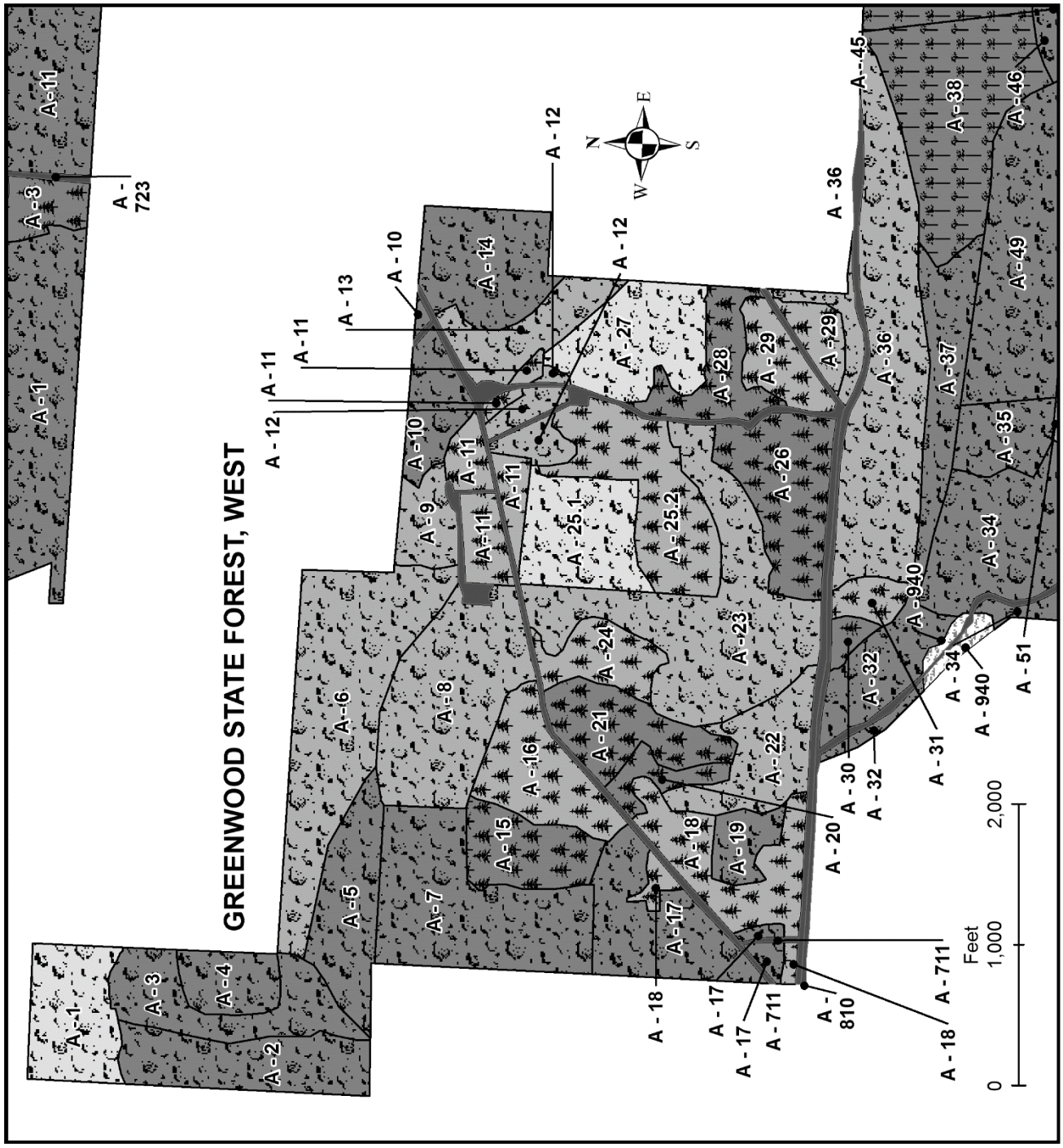
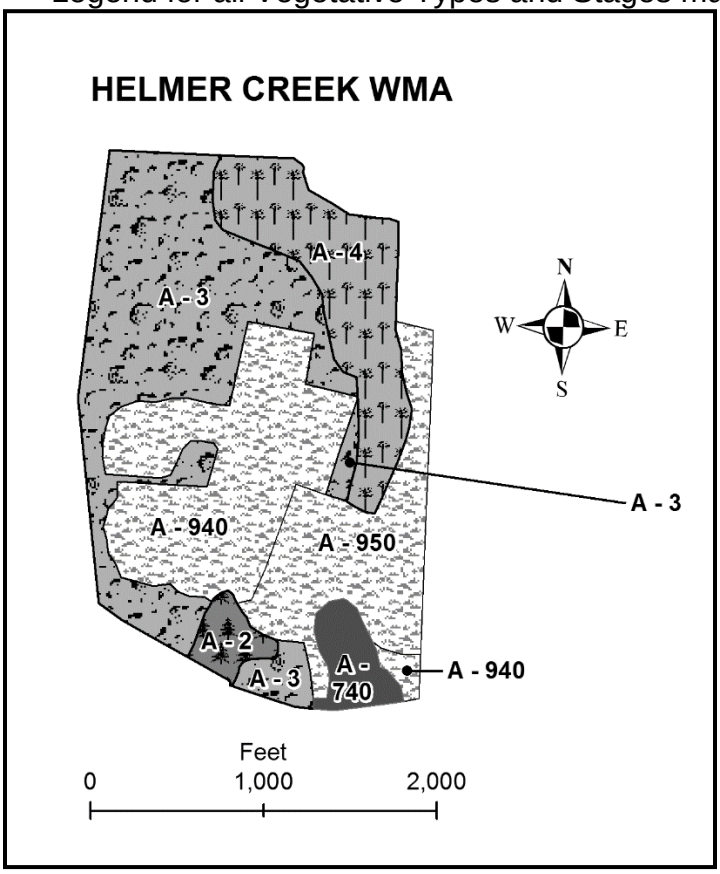
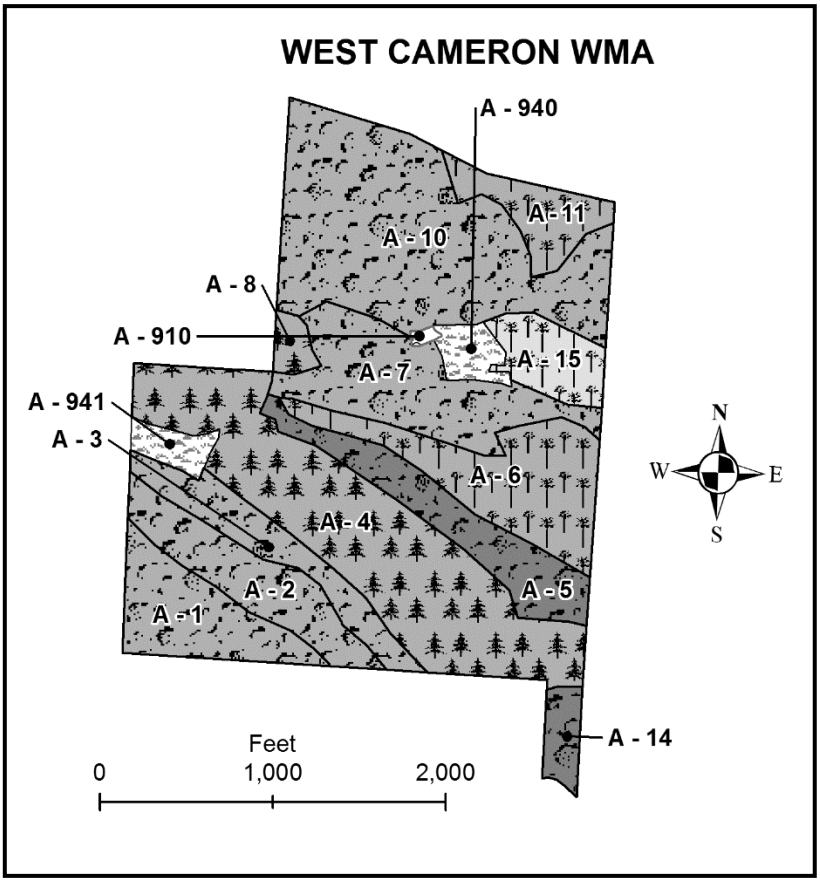


Legend for all Vegetative Types and Stages maps is located on page 203.

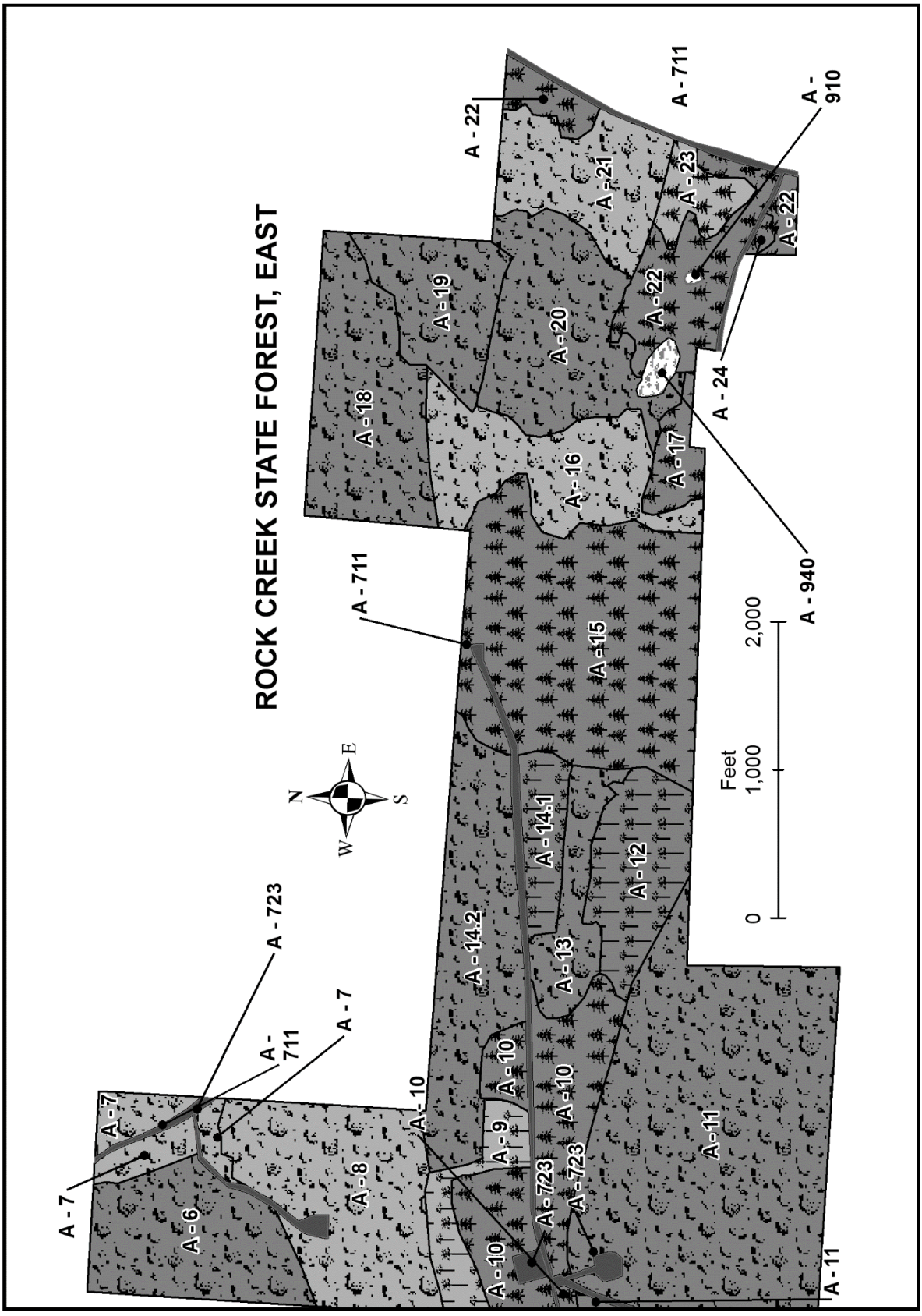


Legend for all Vegetative Types and Stages maps is located on page 203.

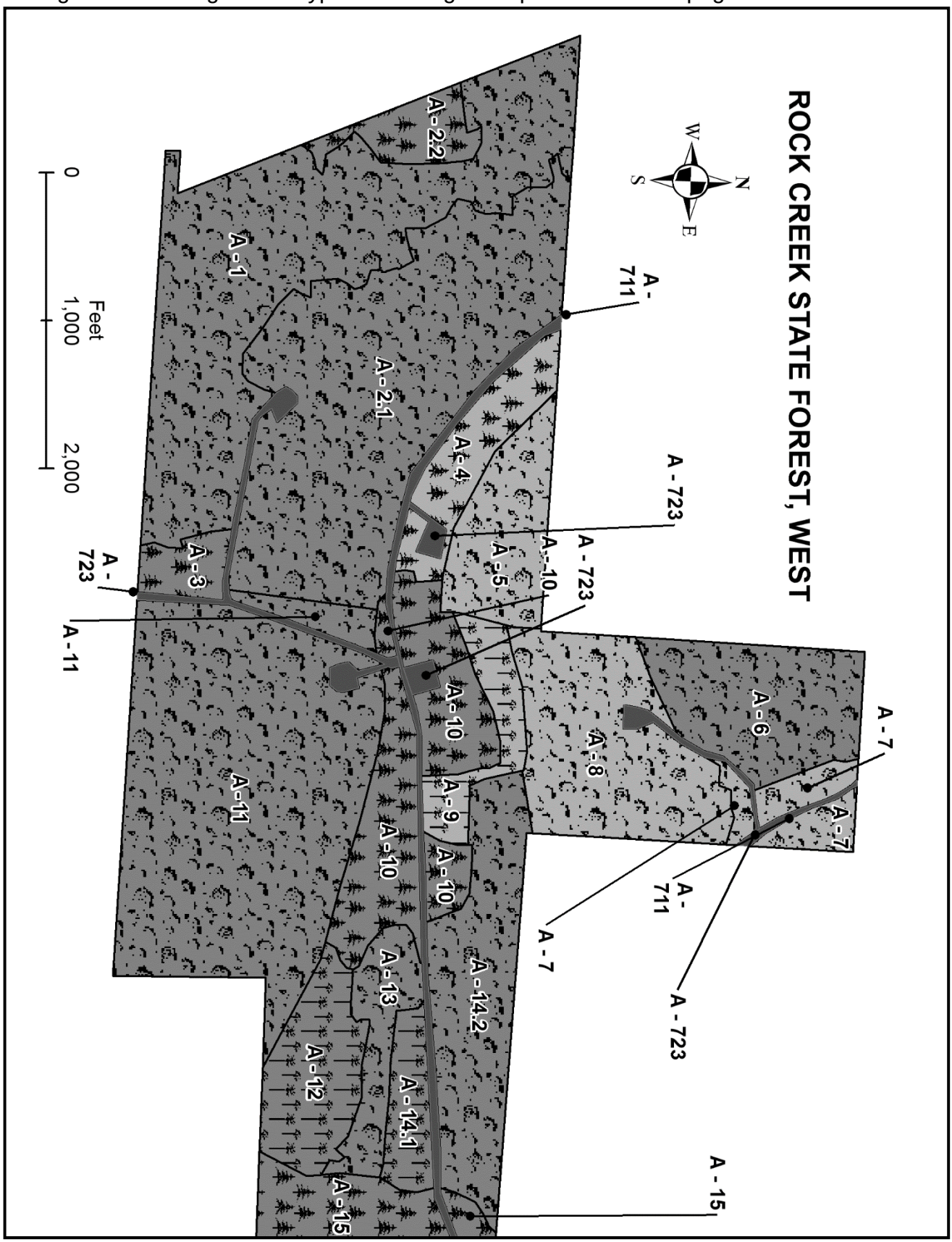




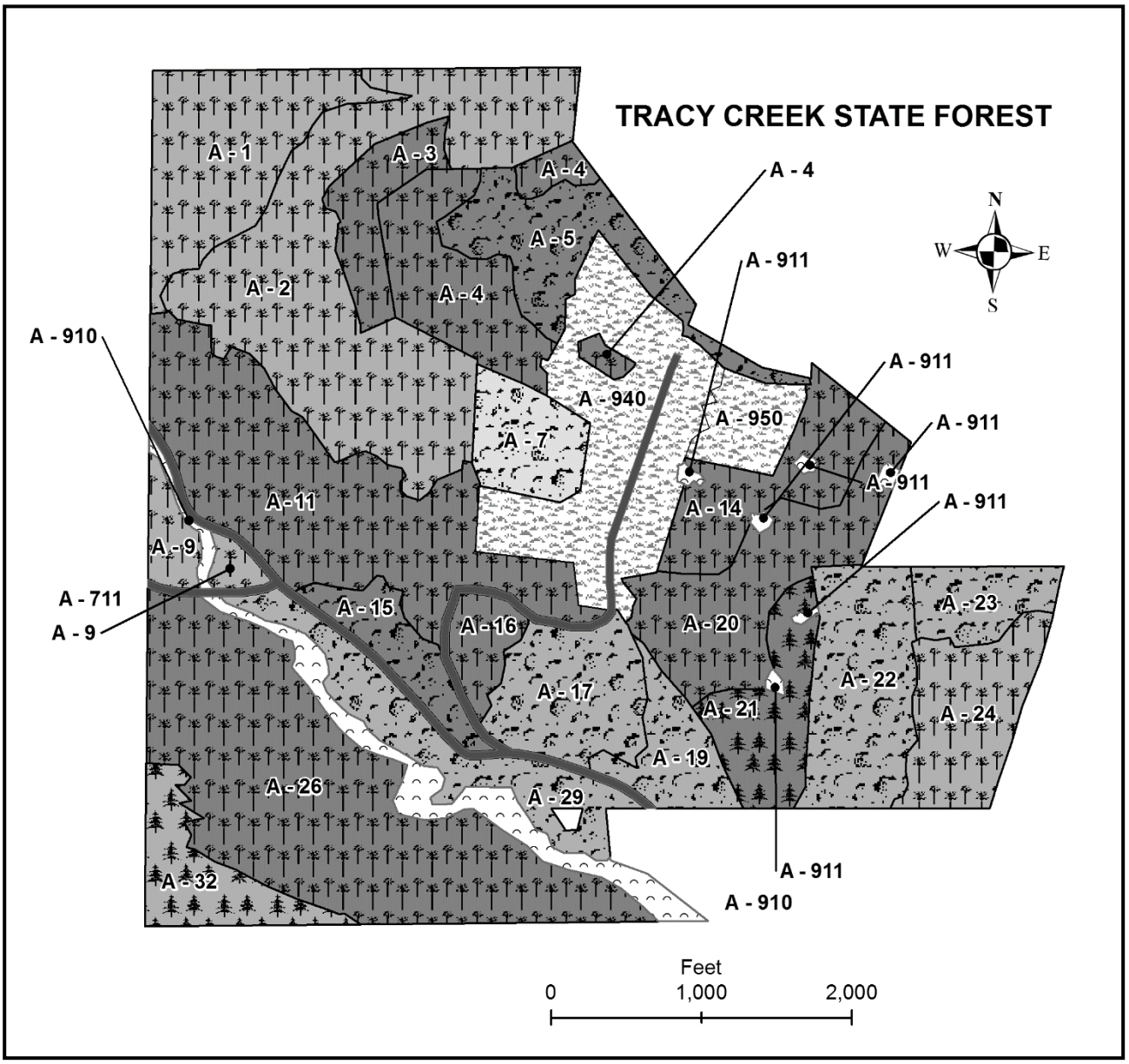
Legend for all Vegetative Types and Stages maps is located on page 203.



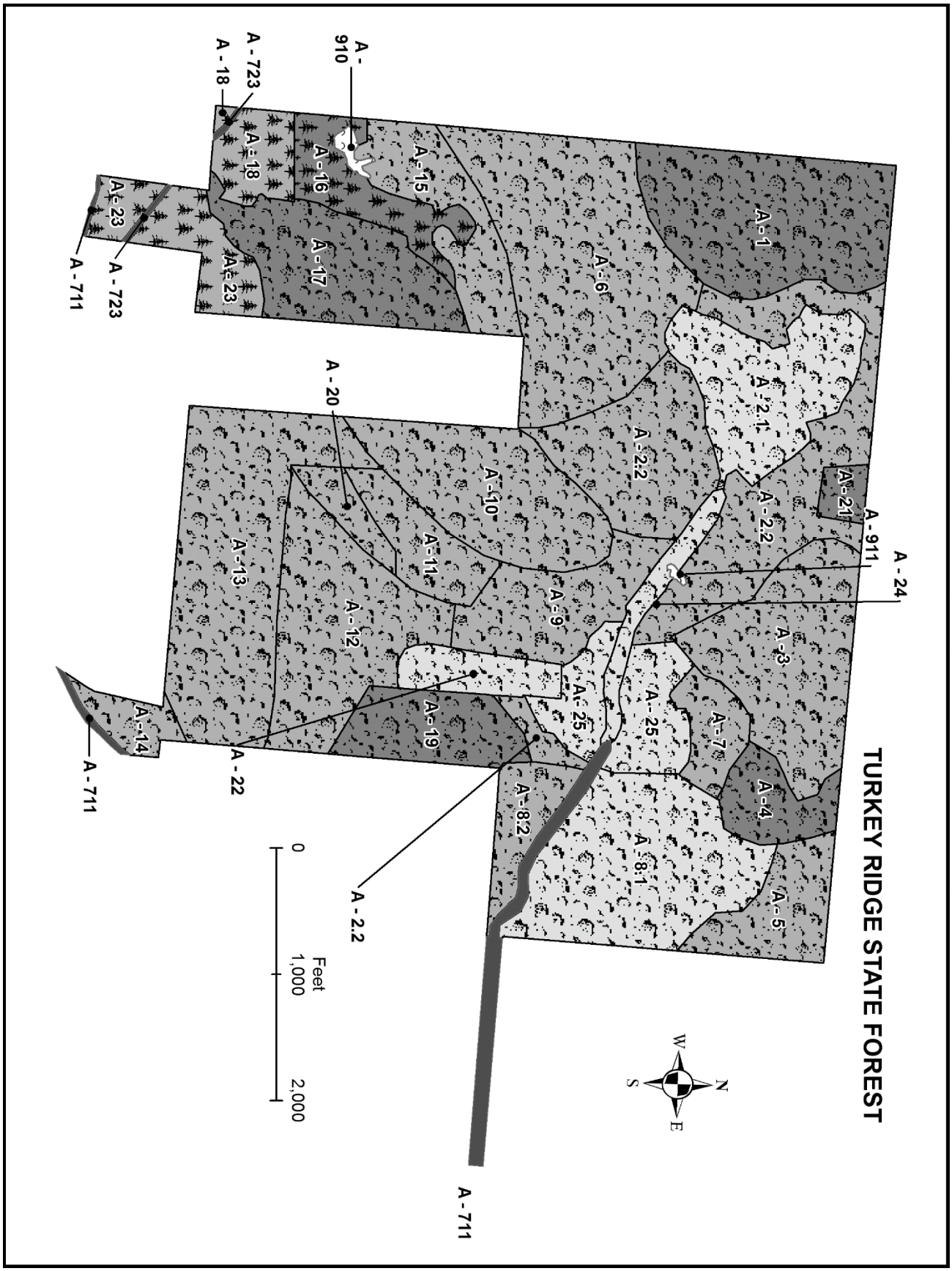
Legend for all Vegetative Types and Stages maps is located on page 203.



Legend for all Vegetative Types and Stages maps is located on page 203.

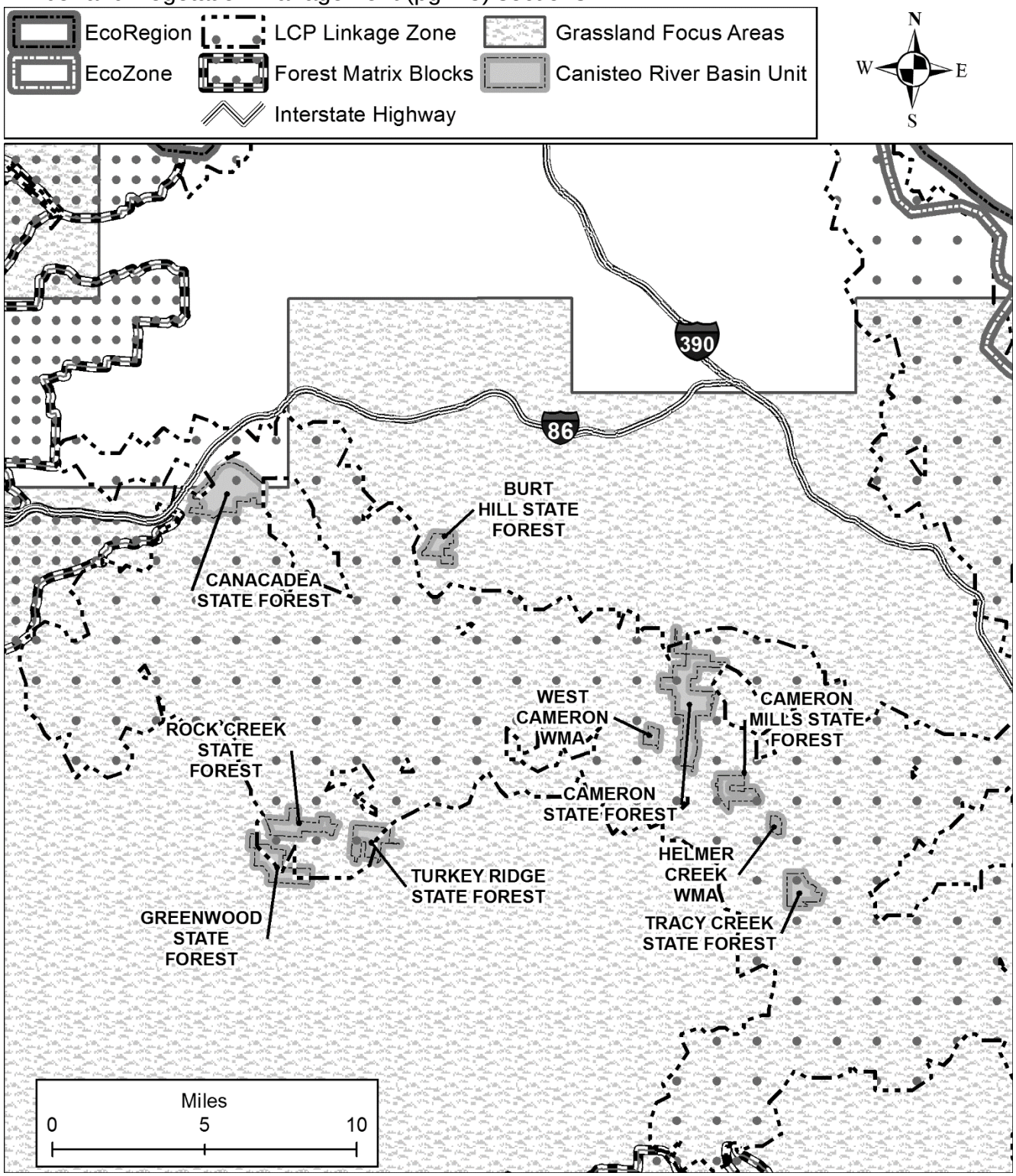


Legend for all Vegetative Types and Stages maps is located on page 203.



EcoRegions, Forest Matrix Block and Least Cost Path Corridors, and Grassland Focus Areas

For additional information see the Timber and Vegetation (pg. 40), Forest Matrix Blocks and Least Cost Path Corridors (pg. 49), Ecological Zones and EcoRegions (pg. 52), and Timber and Vegetation Management (pg. 75) sections.

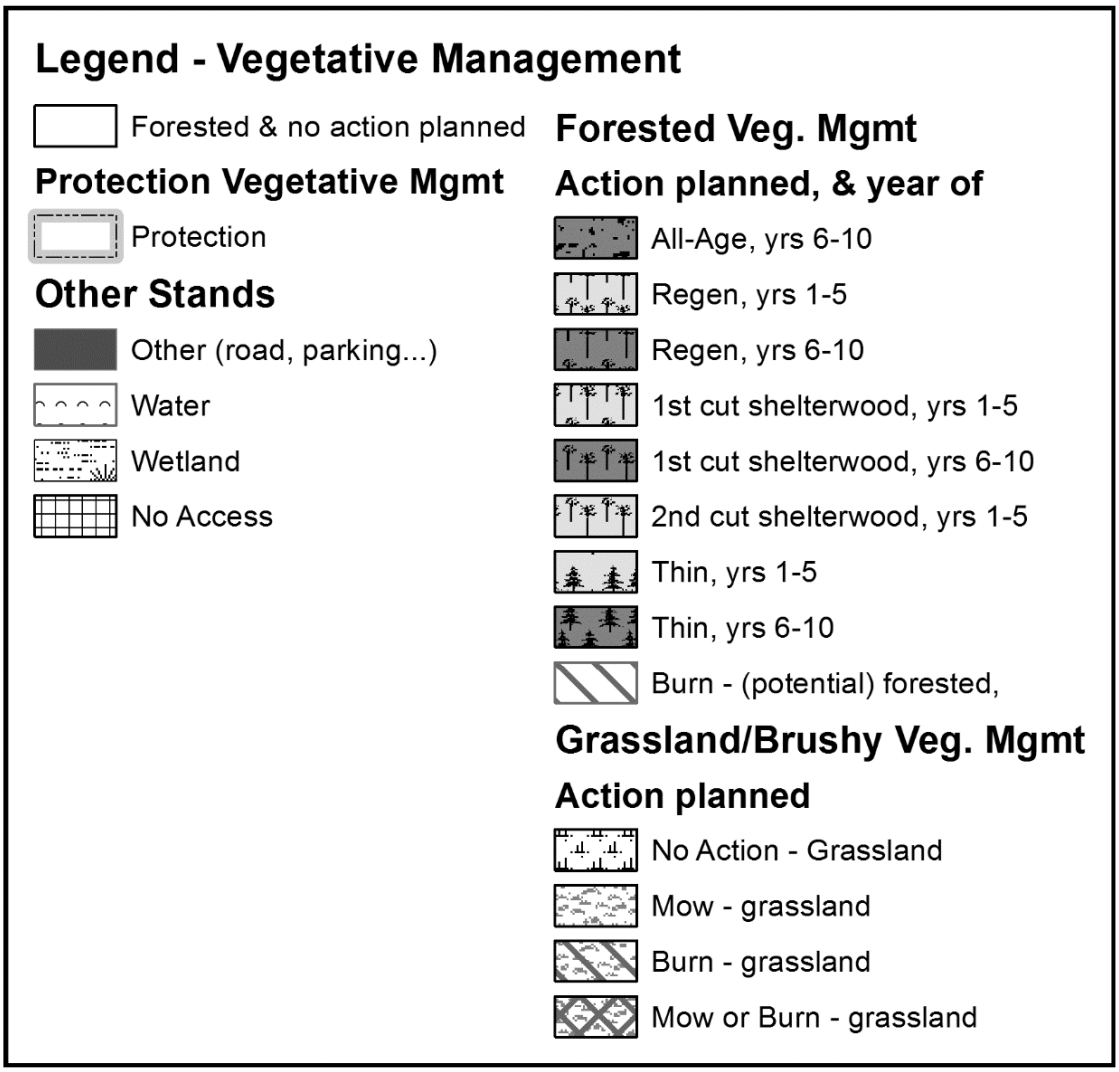


Vegetative Management

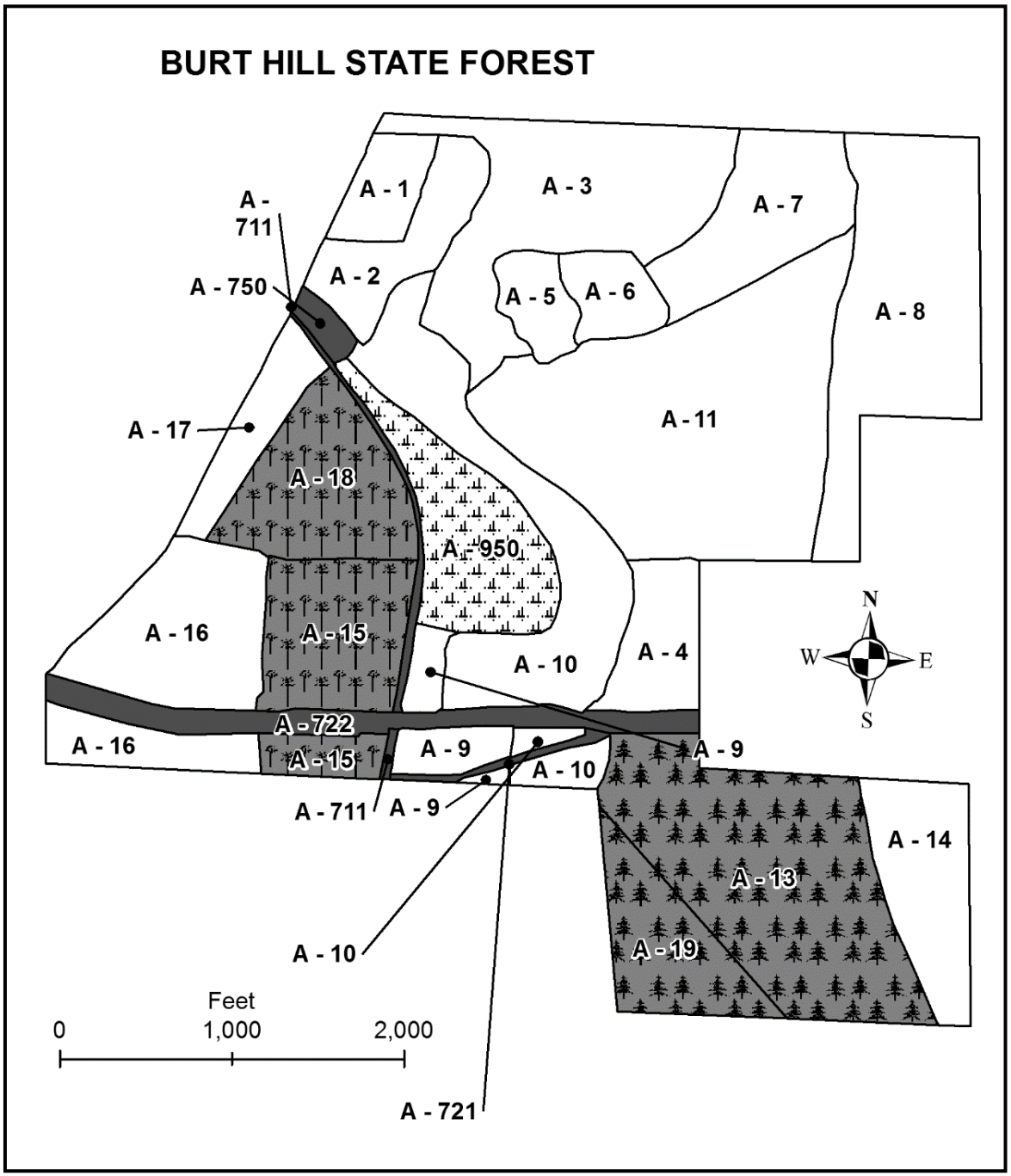
See Also: Timber and Vegetation (pg. 40), Timber and Vegetation Management (pg. 75), and Appendix F: Vegetation Management (pg. 147).

A stand is a group of plants with similar characteristics that are analyzed and treated as a single unit. Each parcel is divided into one or more compartments, and each compartment divided into stands. Compartments are given a letter designation, and stands a number. This letter-number combination is used for tracking, mapping and planning the actions and activities that happen in and on Department owned land.

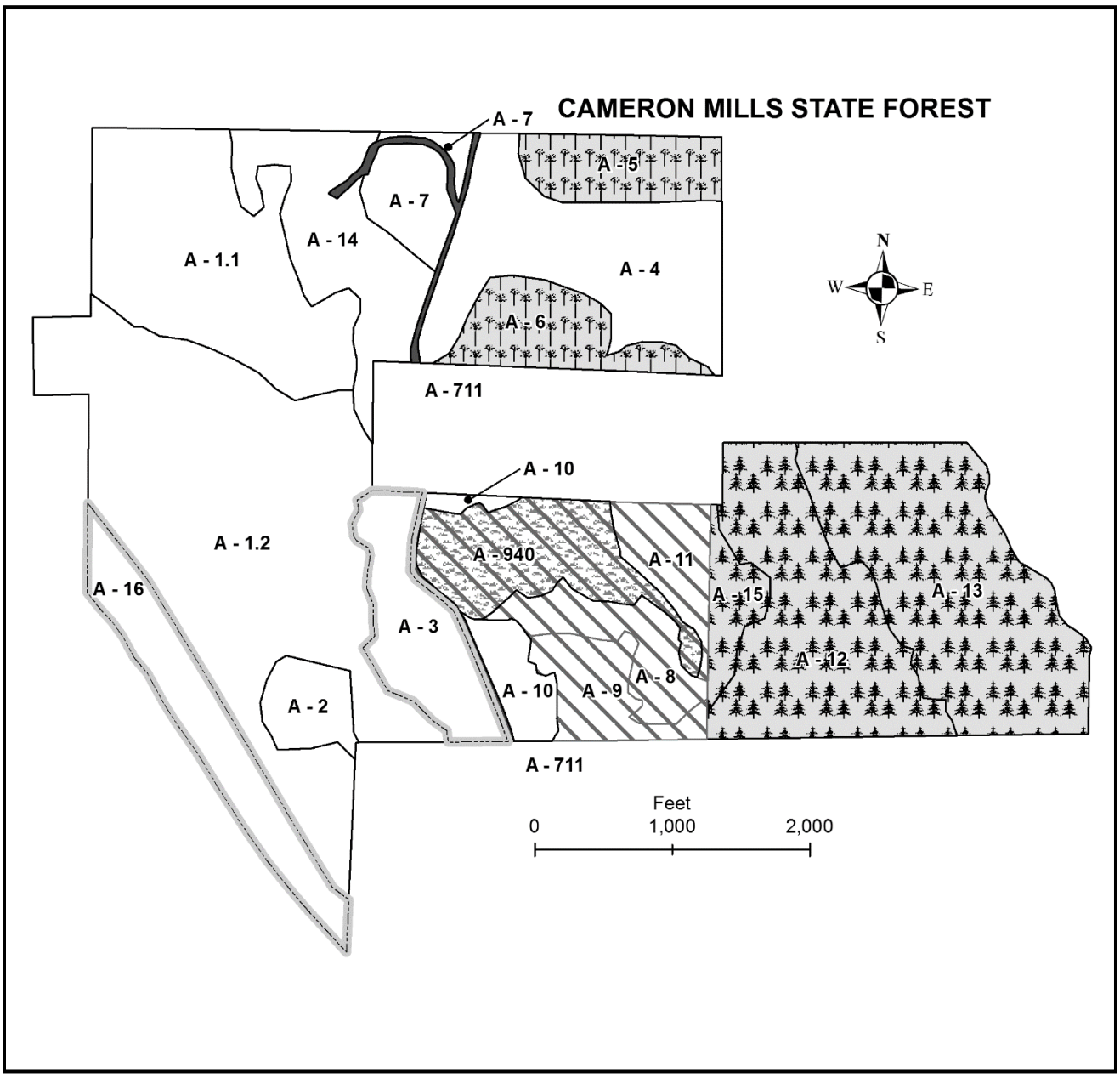
Legend for the following 8 maps:



Legend for all Vegetative Management maps is located on page 219.



Legend for all Vegetative Management maps is located on page 219.



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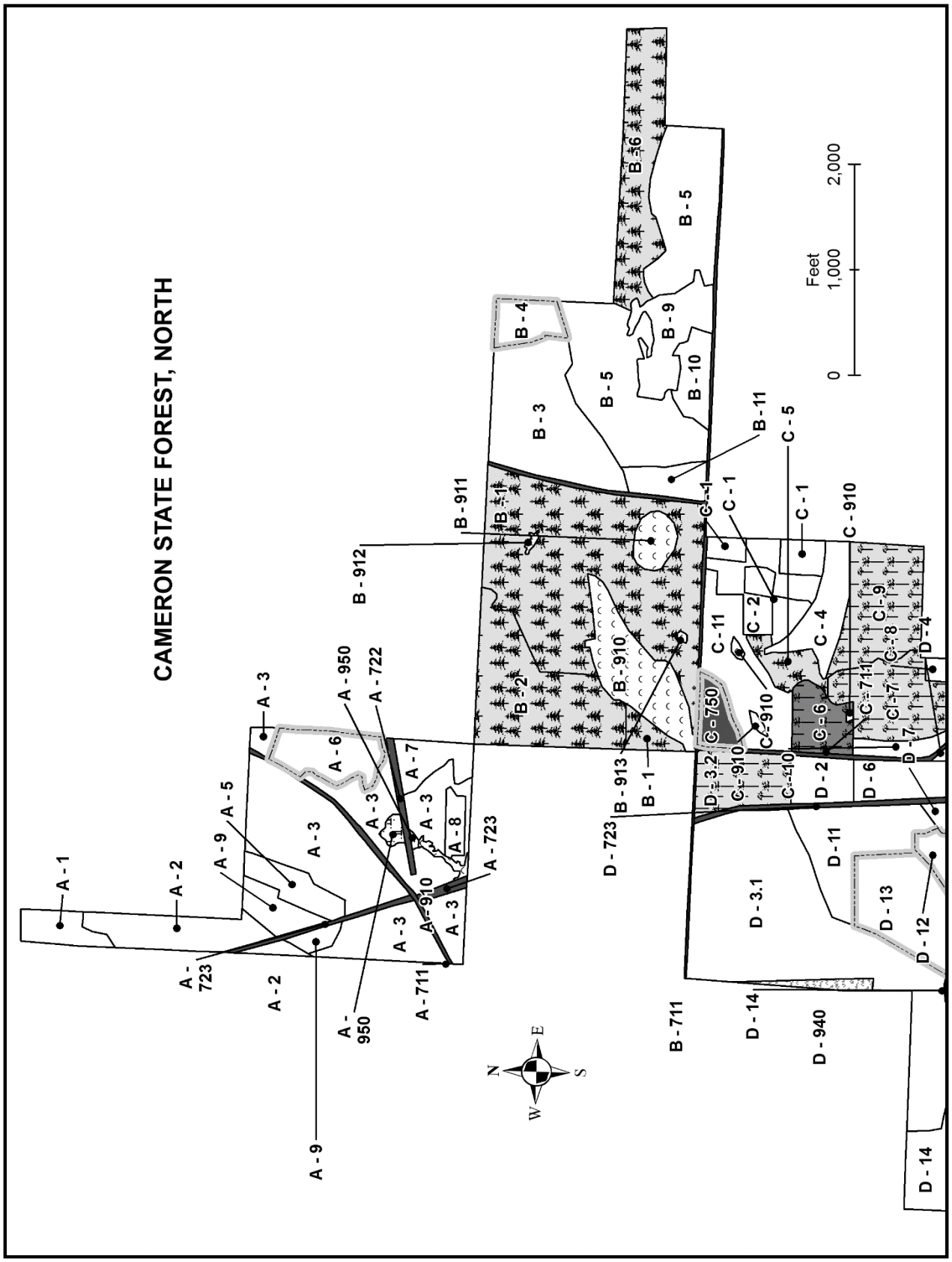

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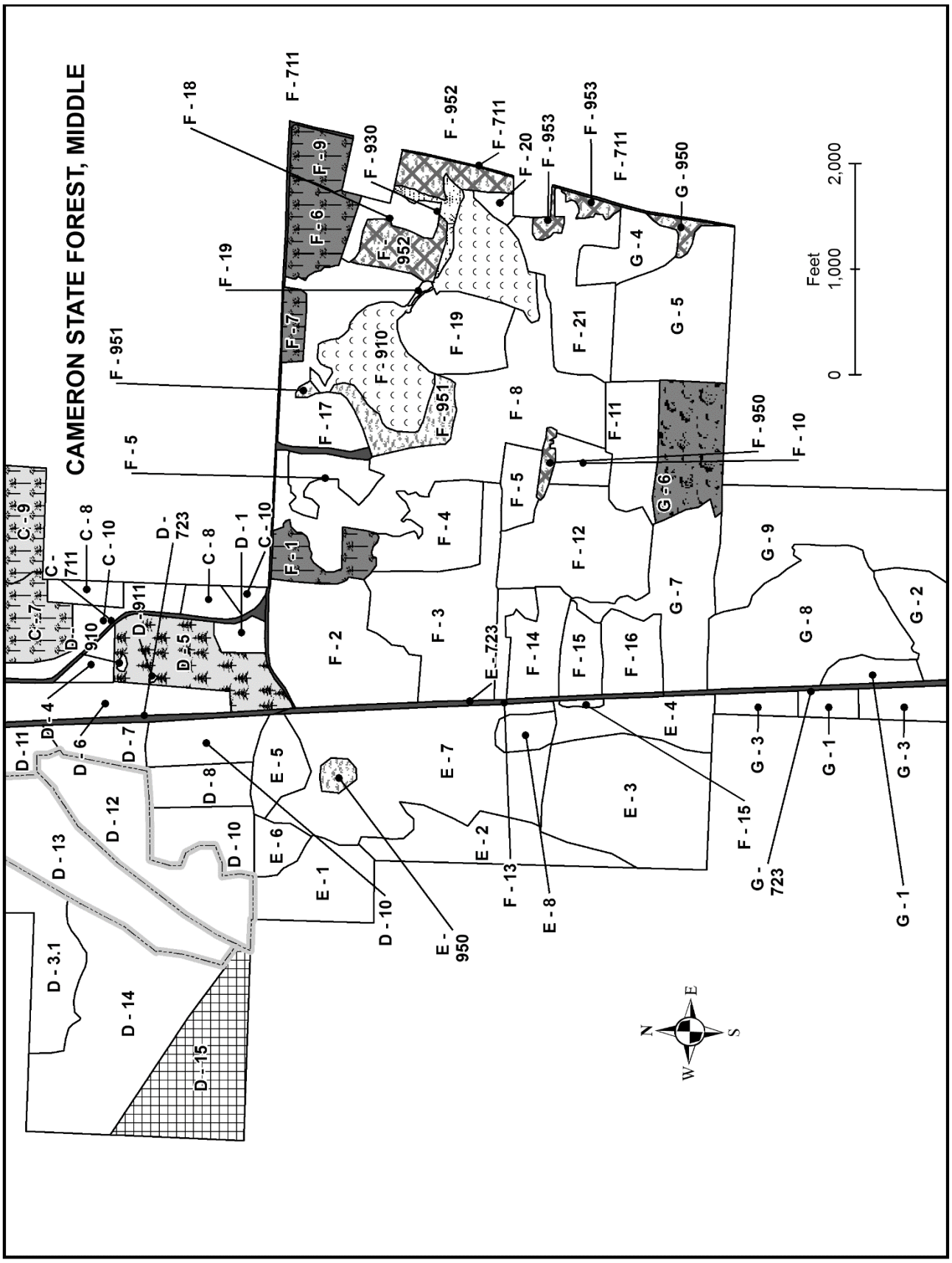

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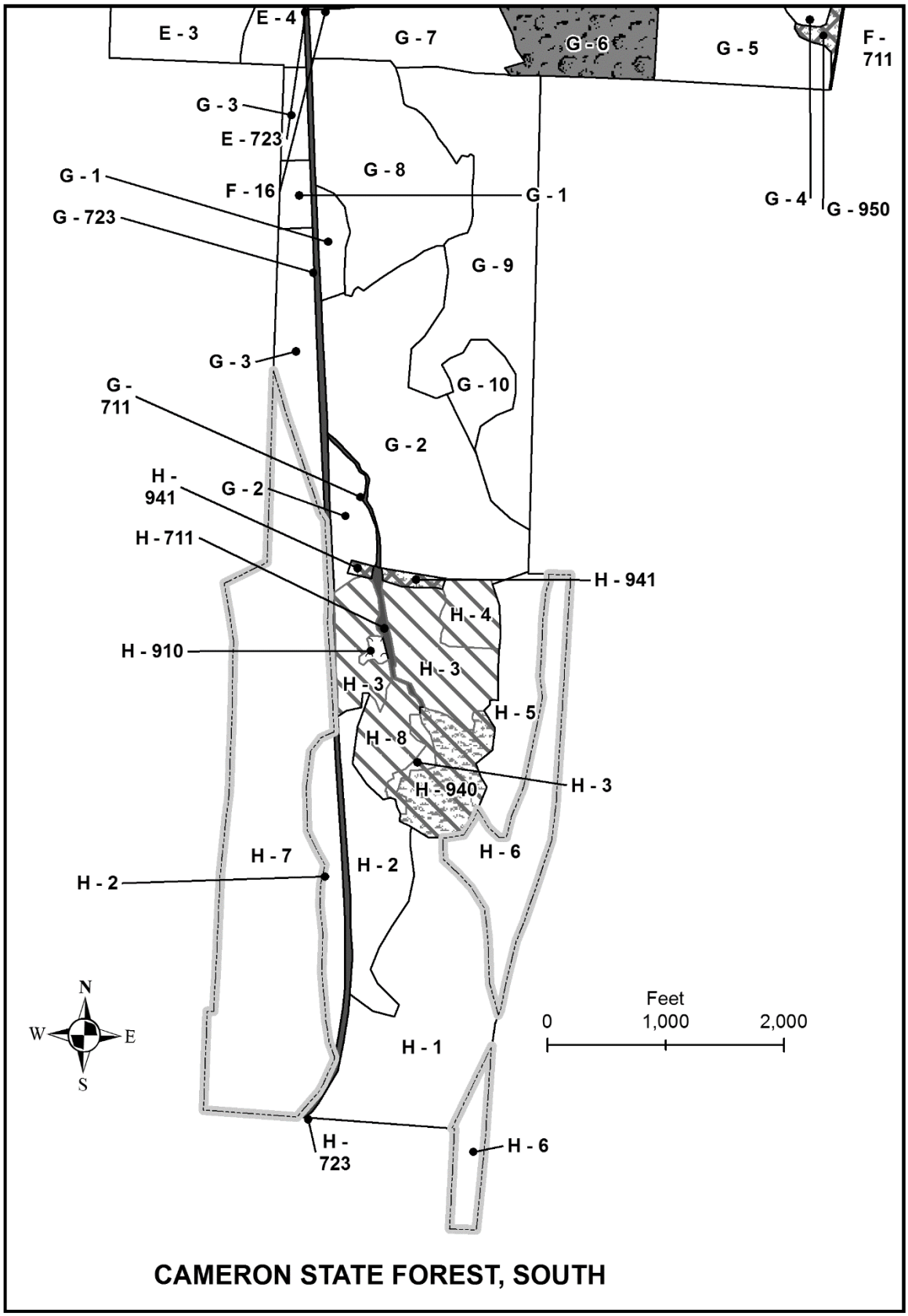
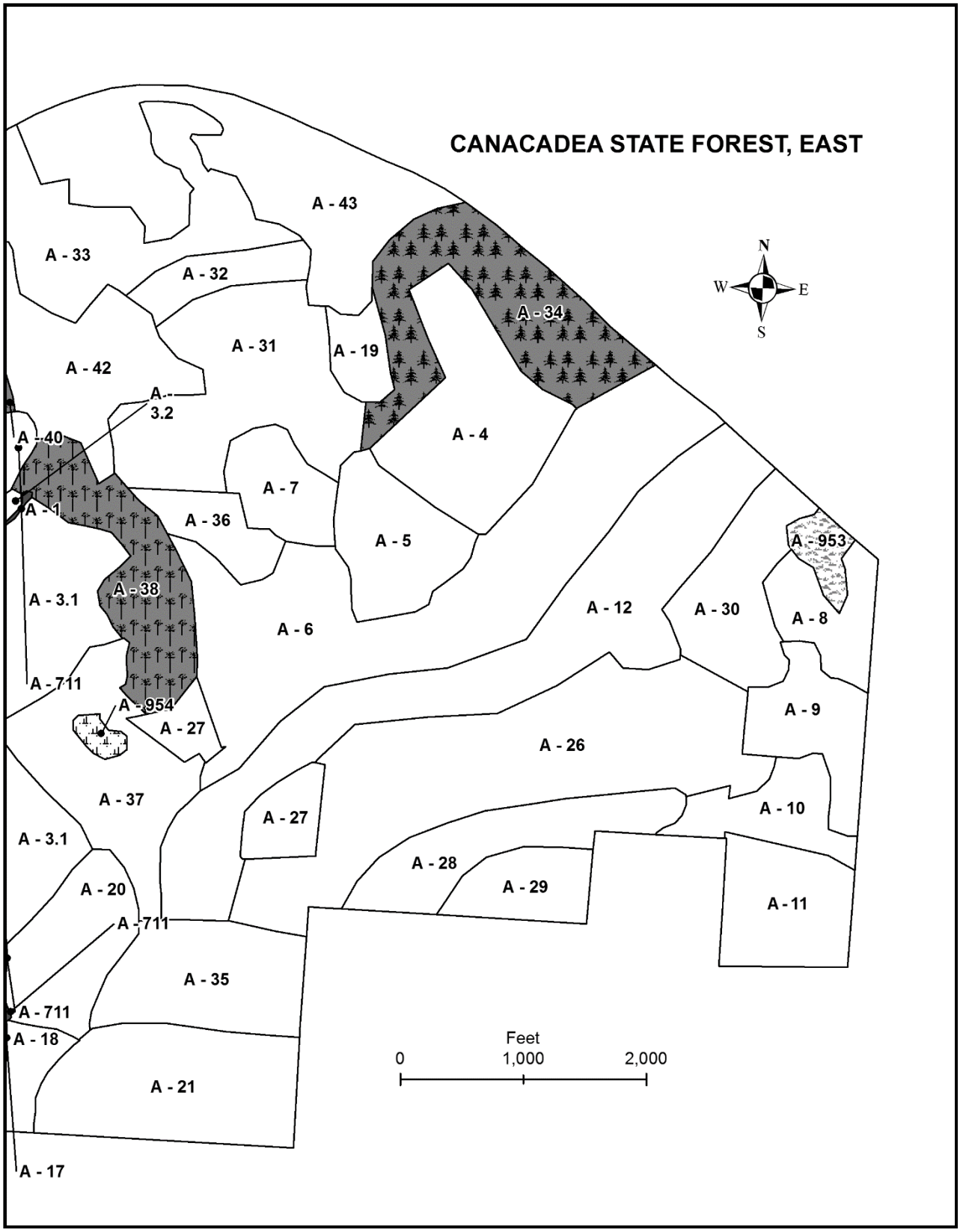
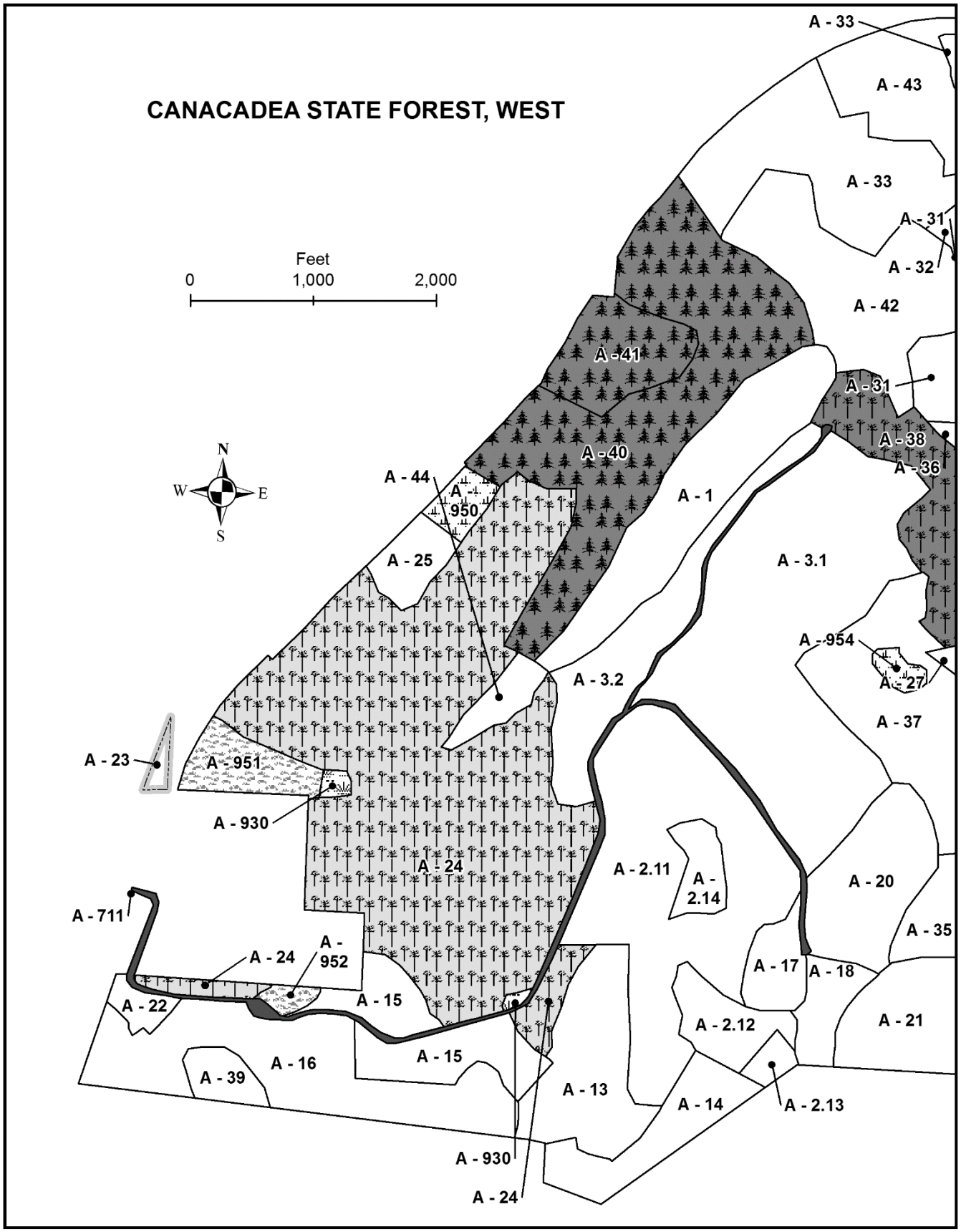


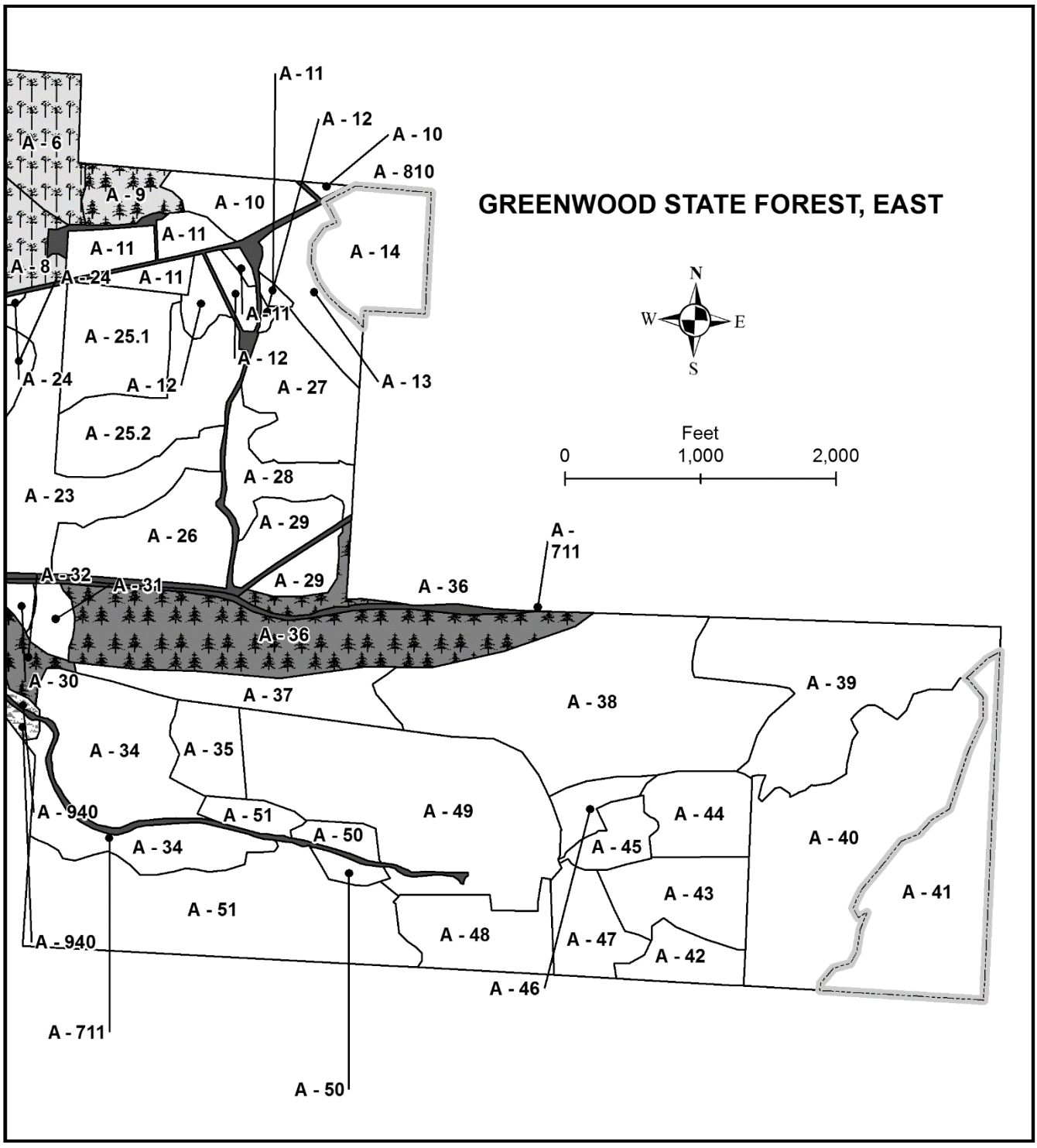
Legend for all Vegetative Management maps is located on page 219.



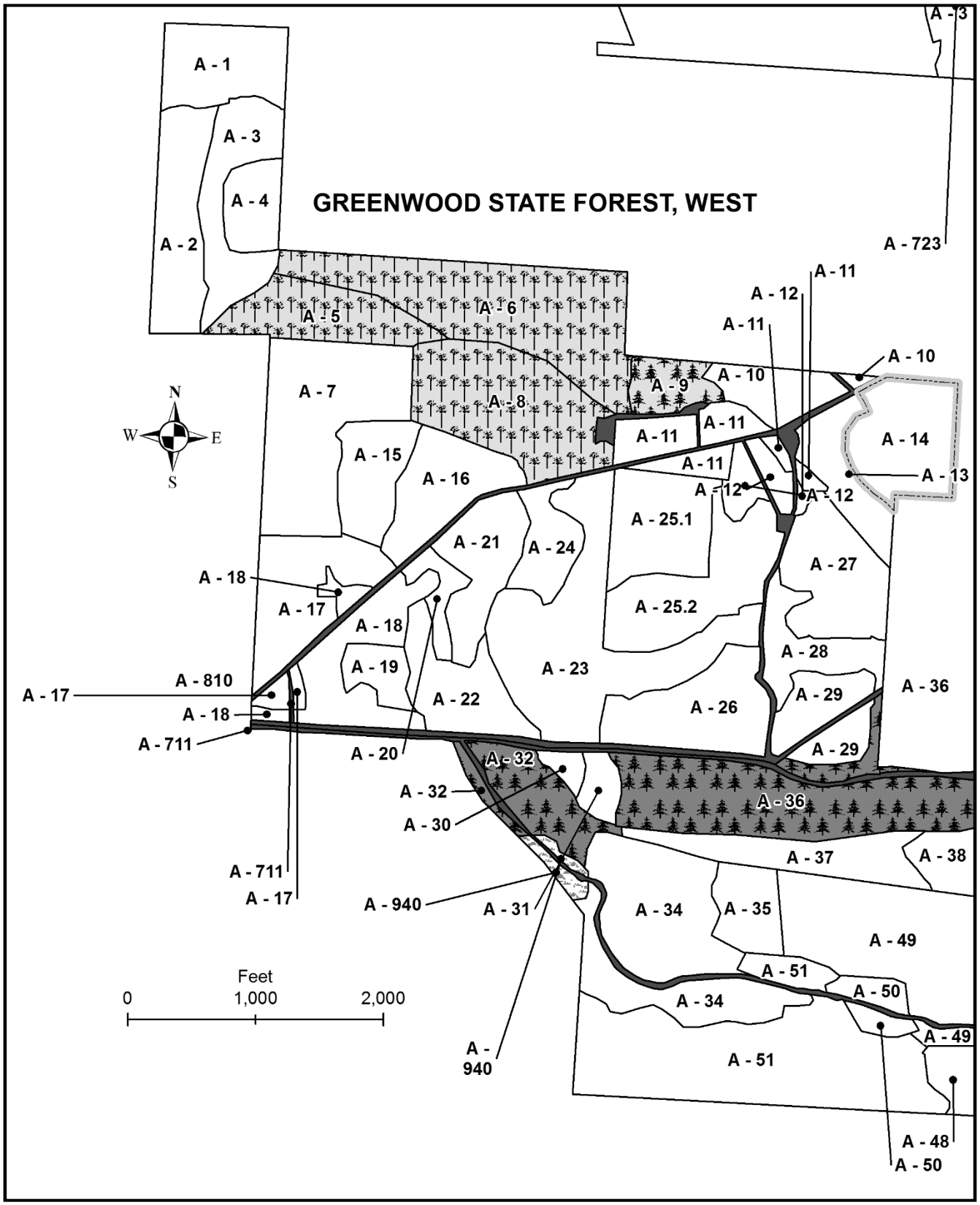
Legend for all Vegetative Management maps is located on page 219.



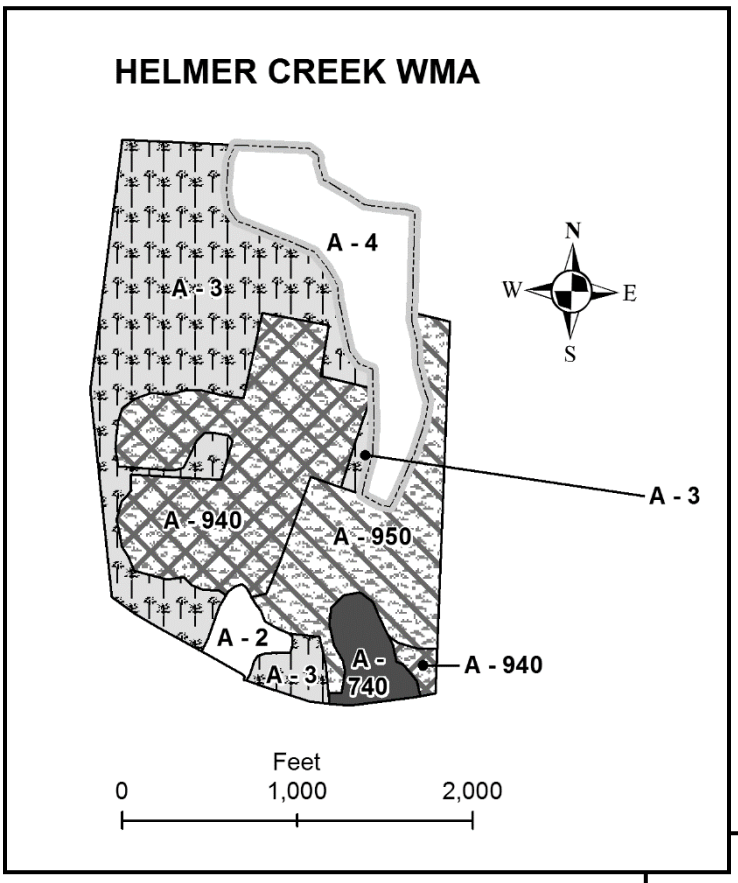
Legend for all Vegetative Management maps is located on page 219.

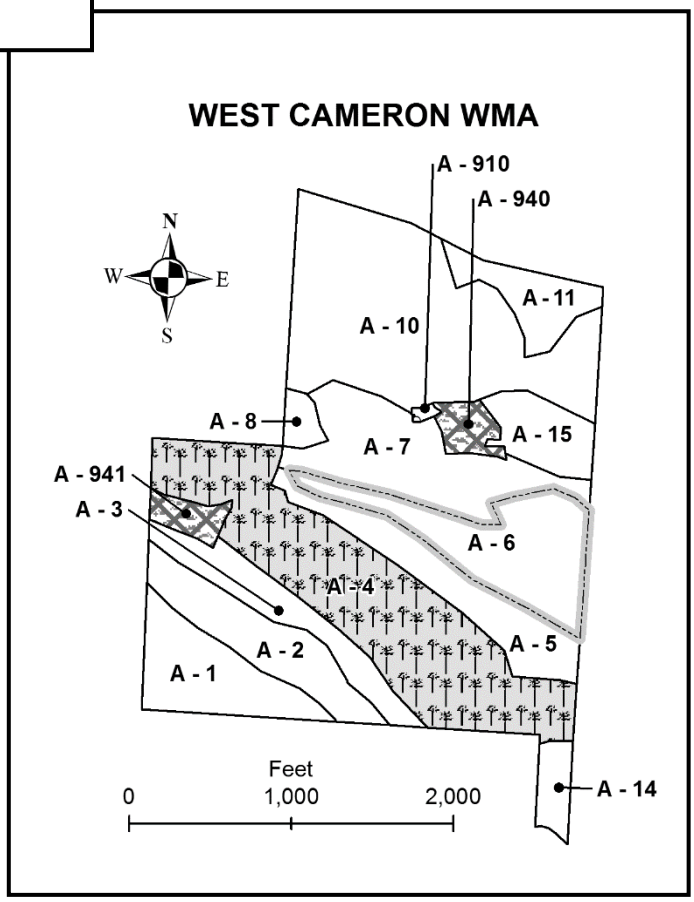


Legend for all Vegetative Management maps is located on page 219.



Legend for all Vegetative Management maps is located on page 219.





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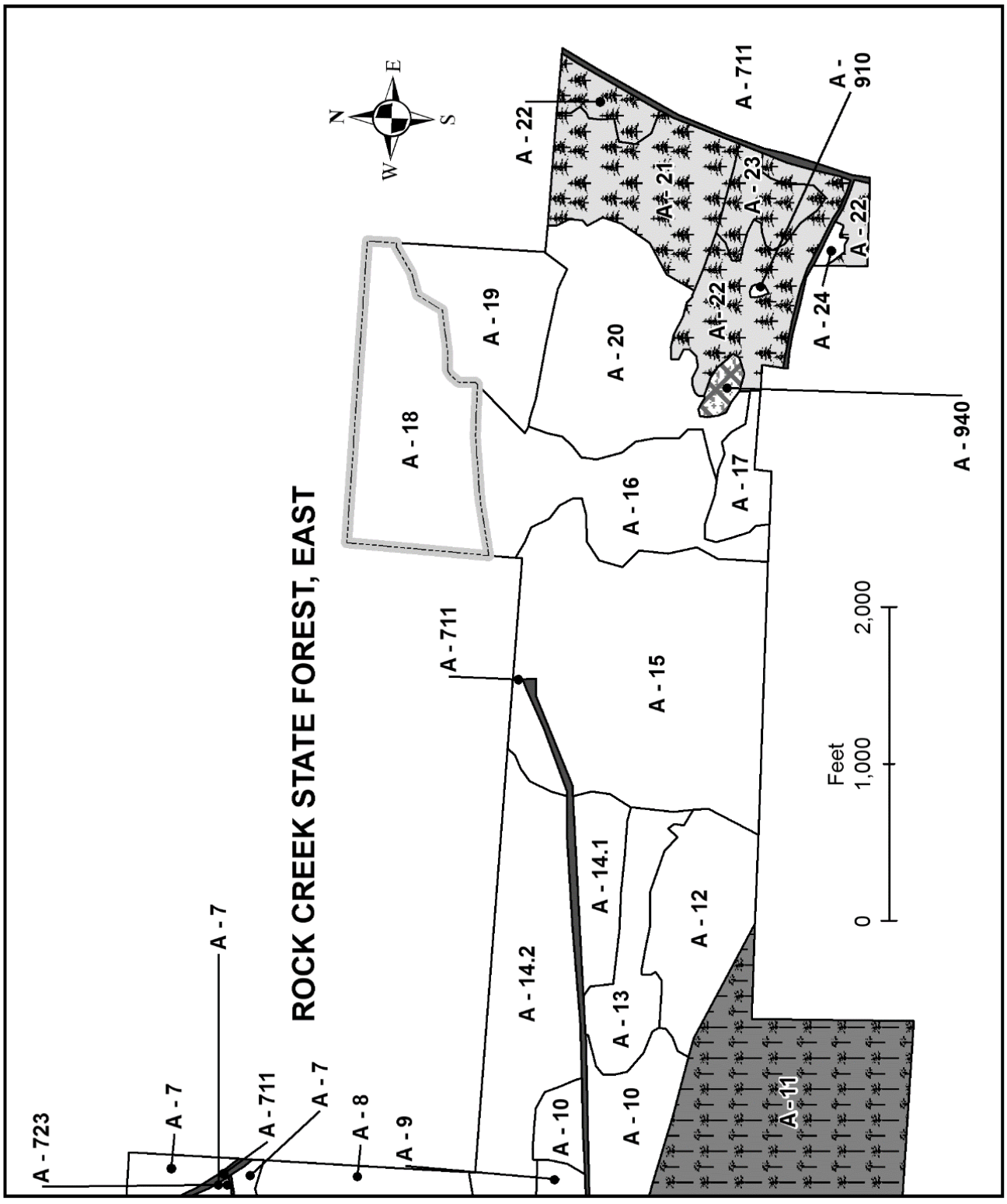
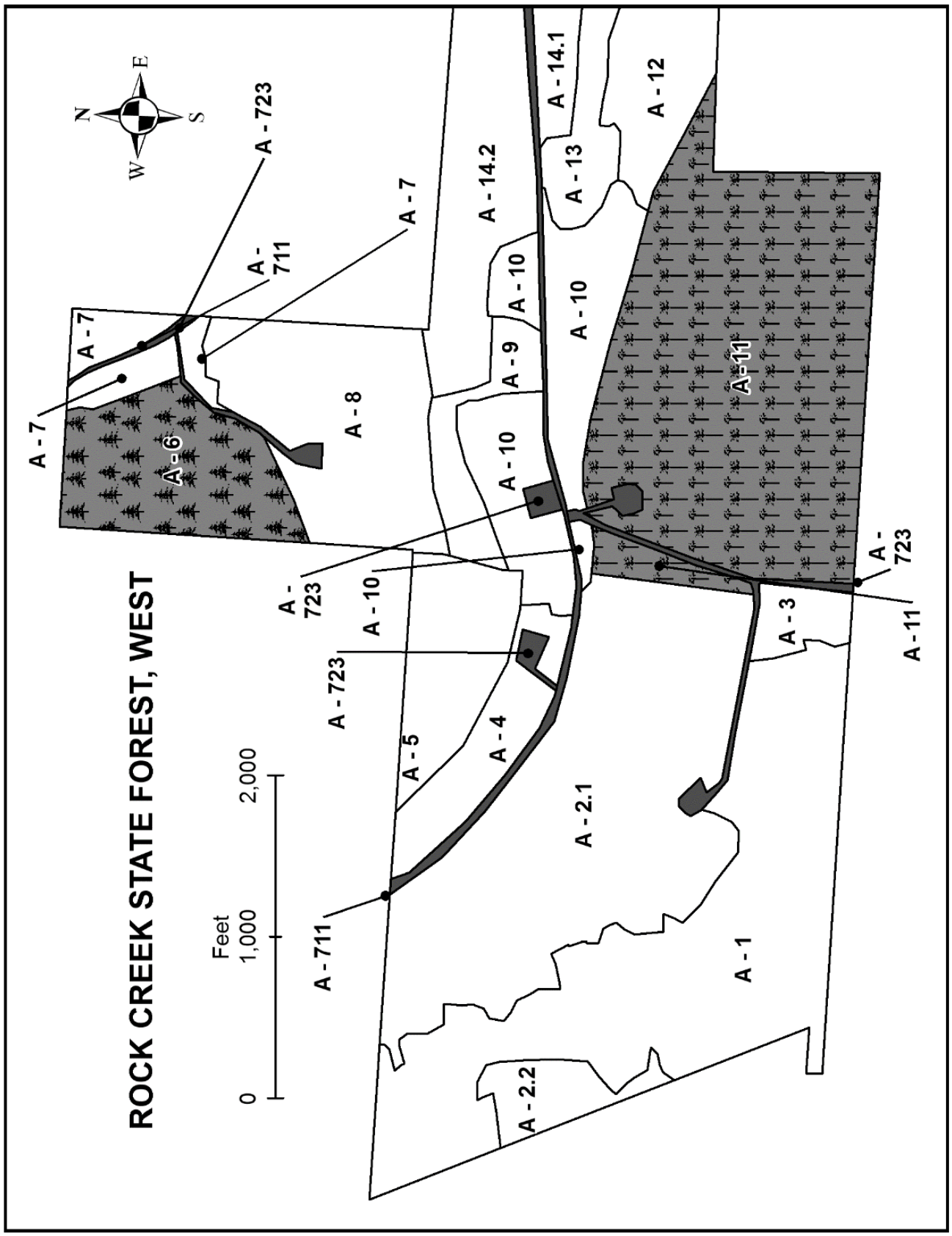
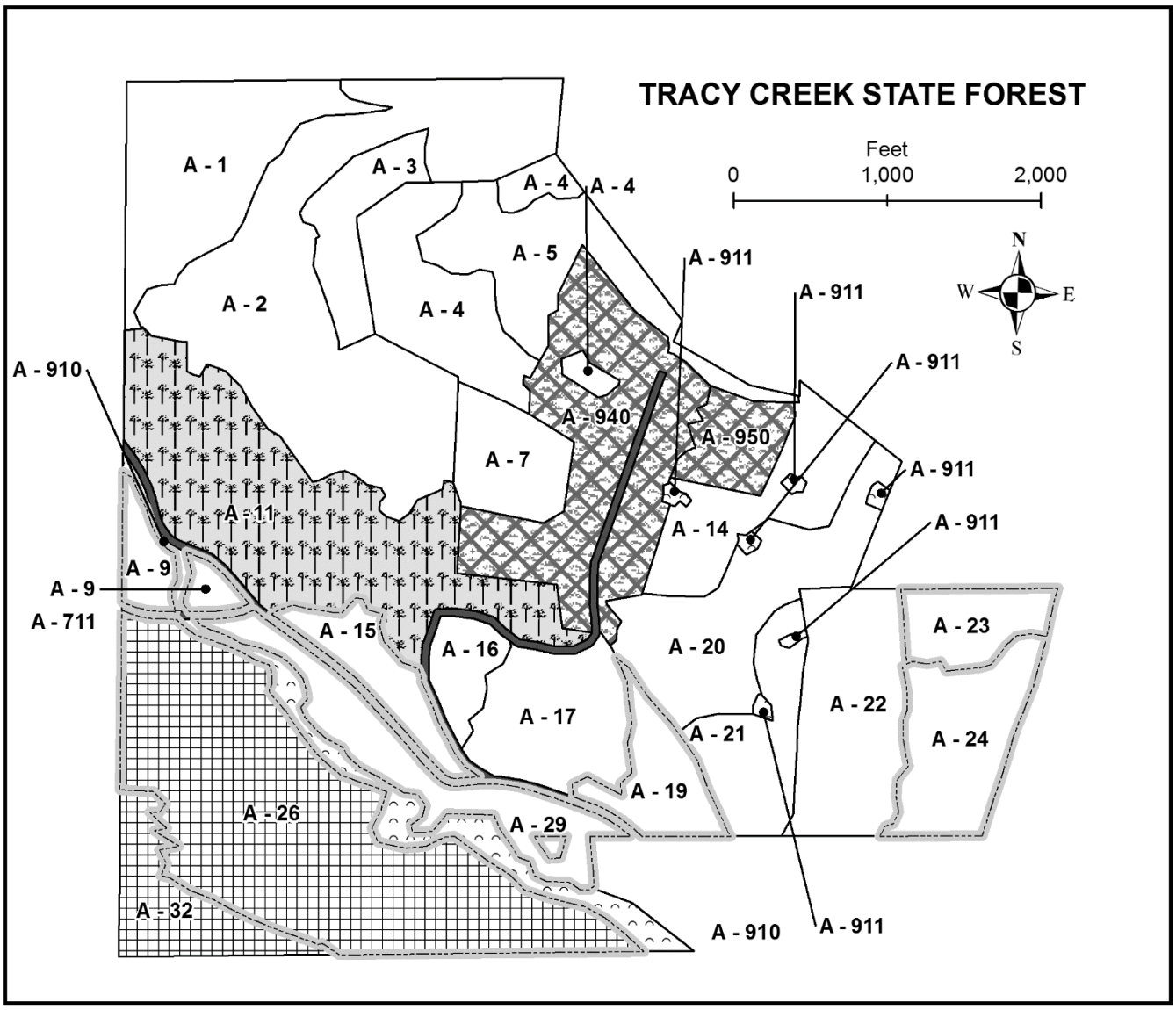


Legend for all Vegetative Management maps is located on page 219.



Legend for all Vegetative Management maps is located on page 219.



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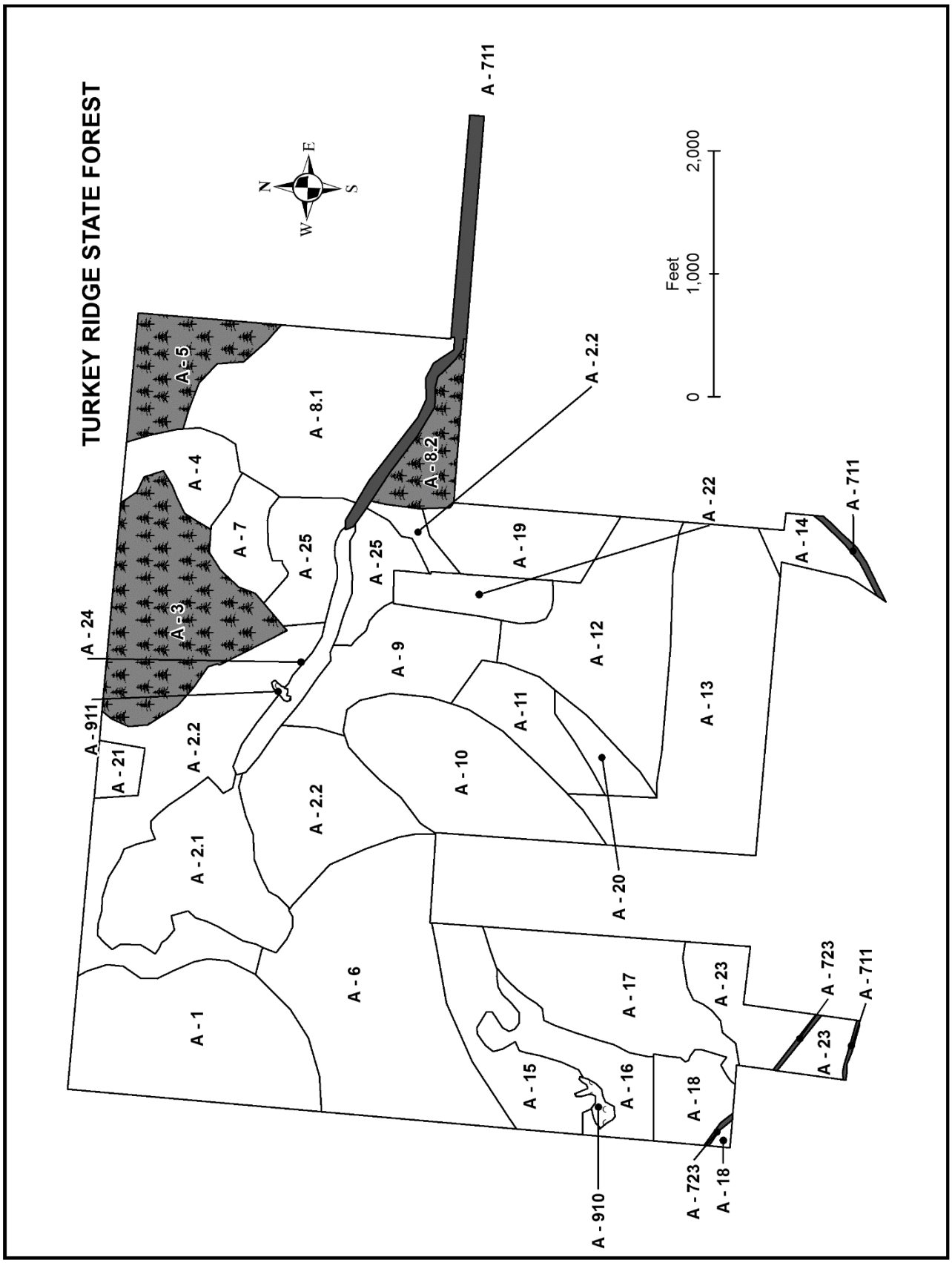
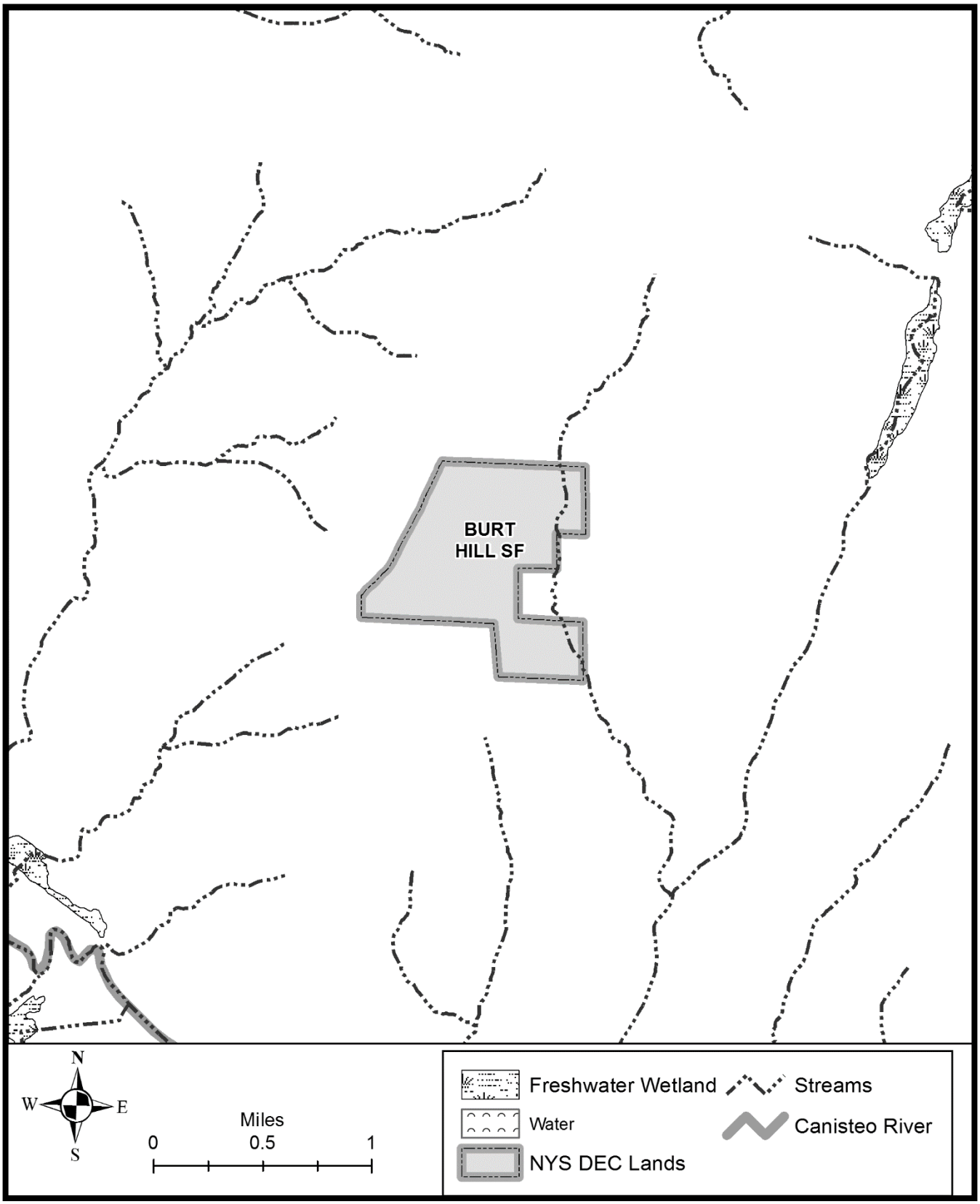
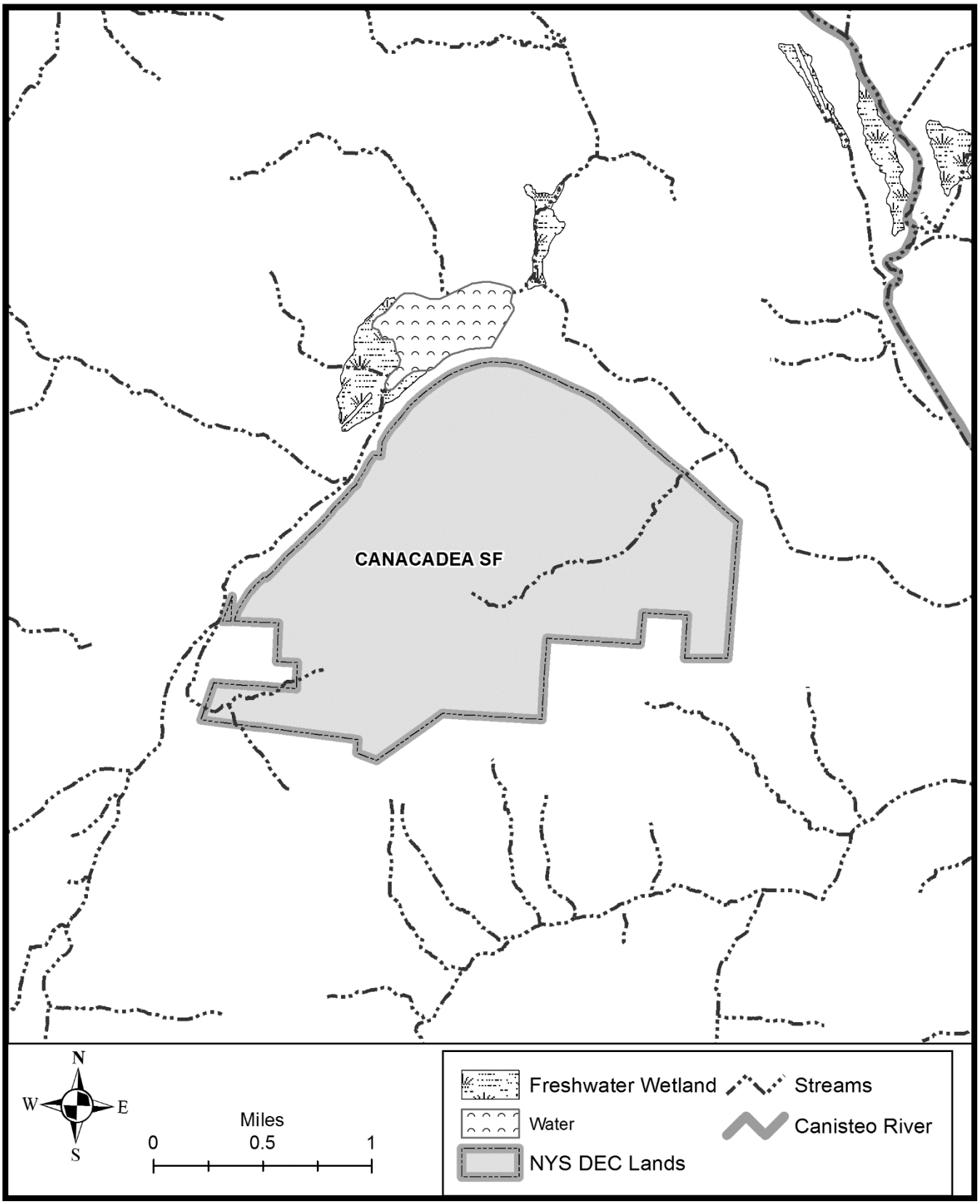
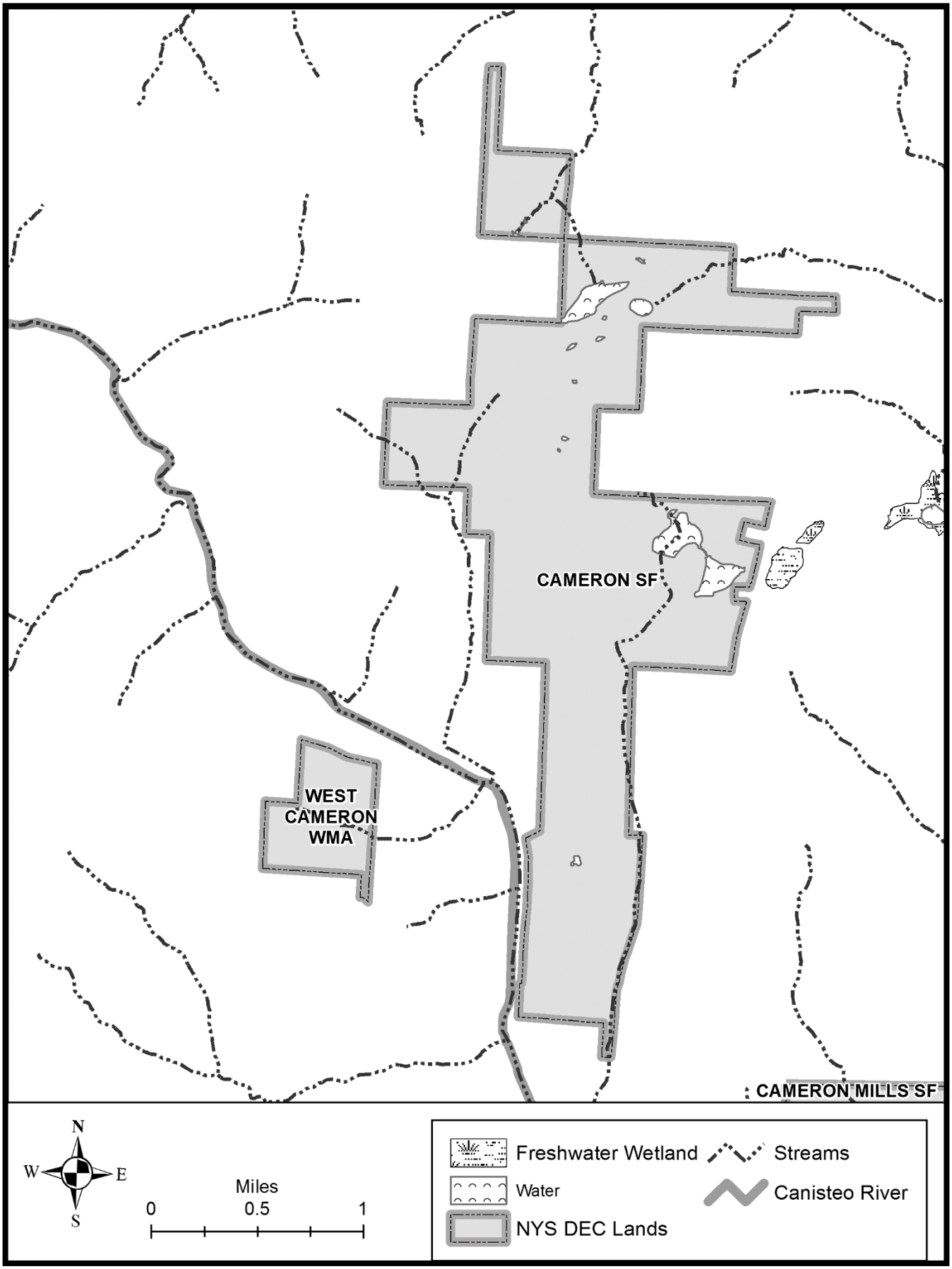
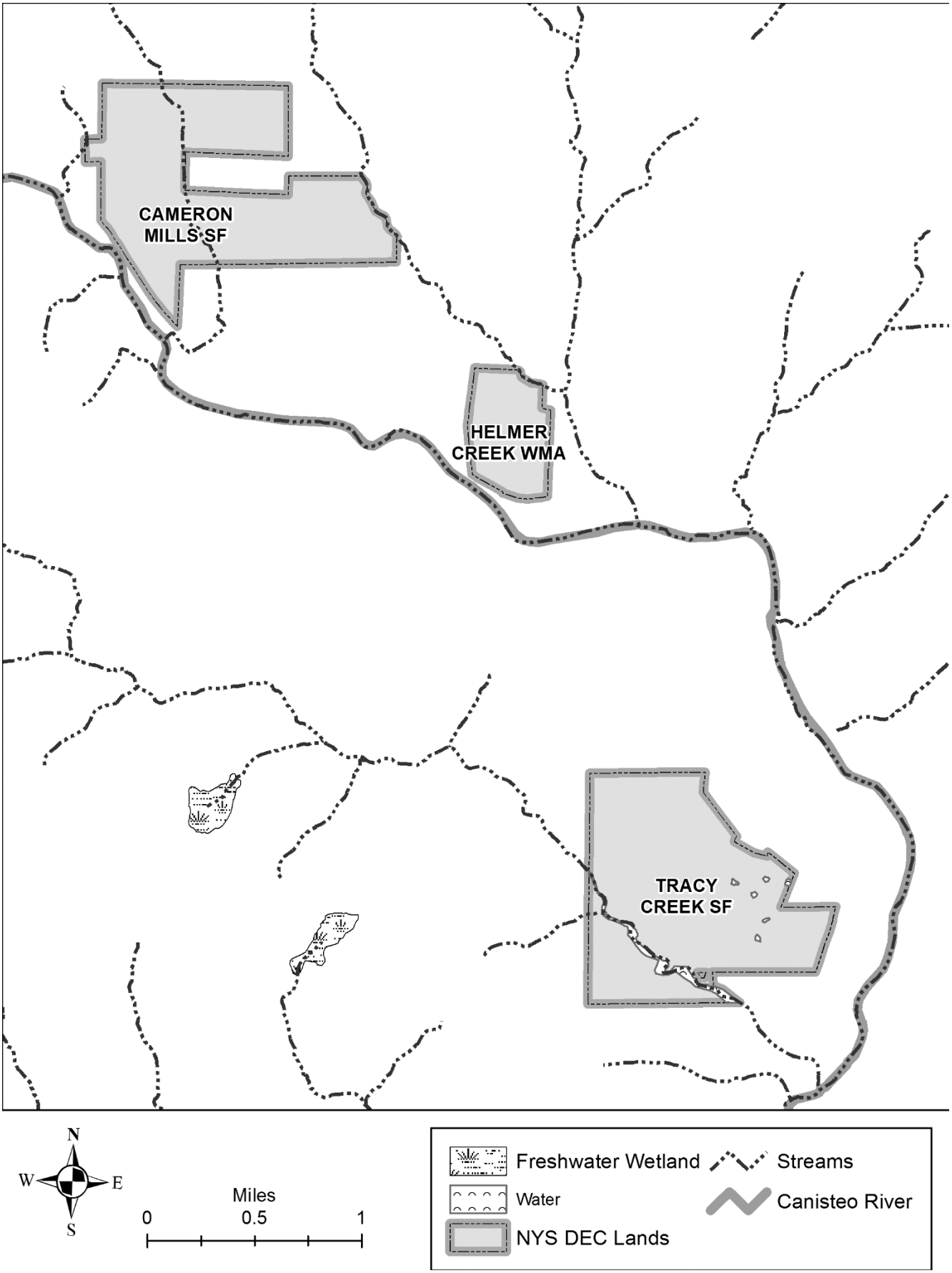


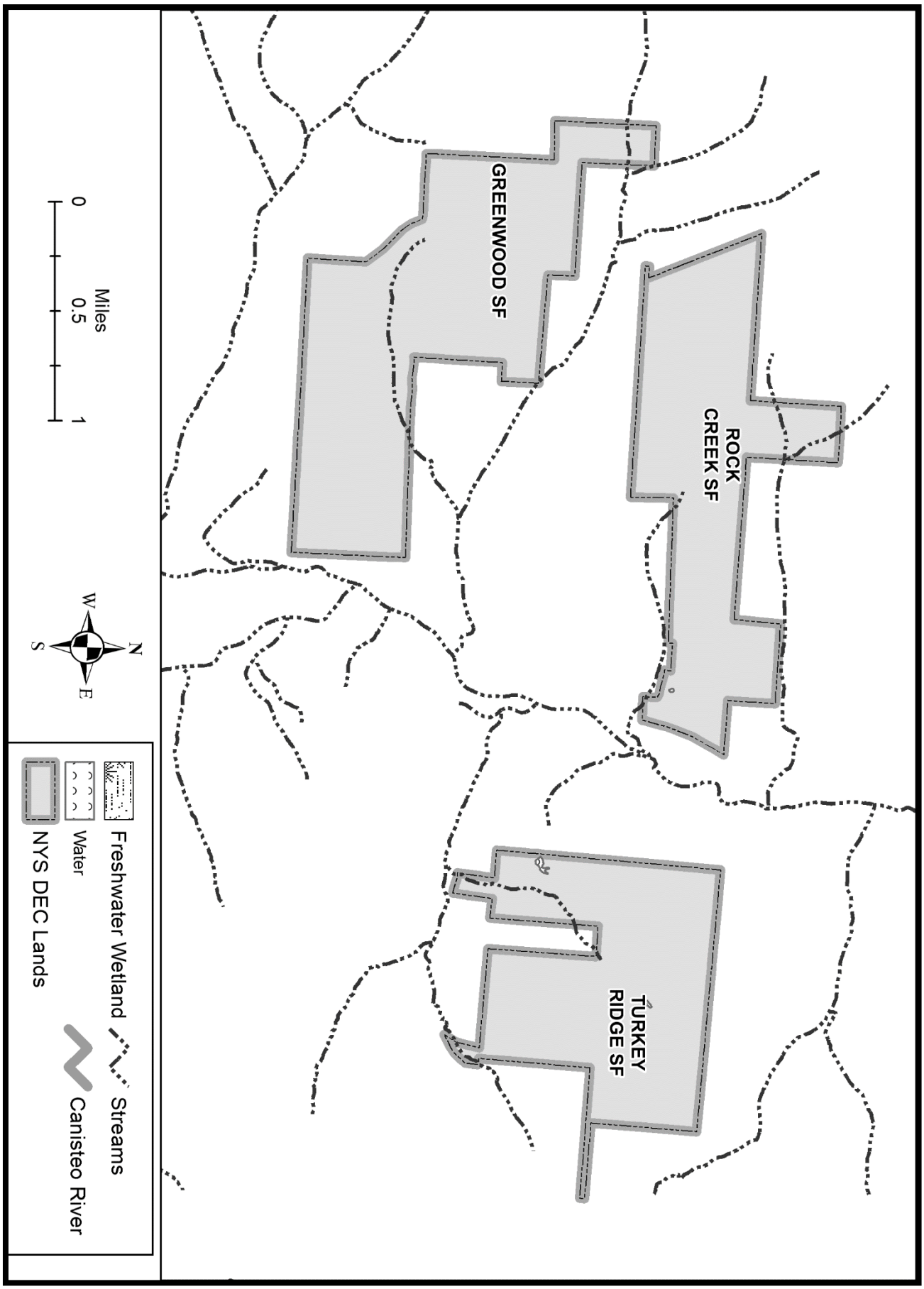
Streams, Ponds and Wetlands




CANACADEA SF
N
W
E
S
Miles
0
0.5
1
Freshwater Wetland
Water
NYS DEC Lands
Streams
Canisteo River

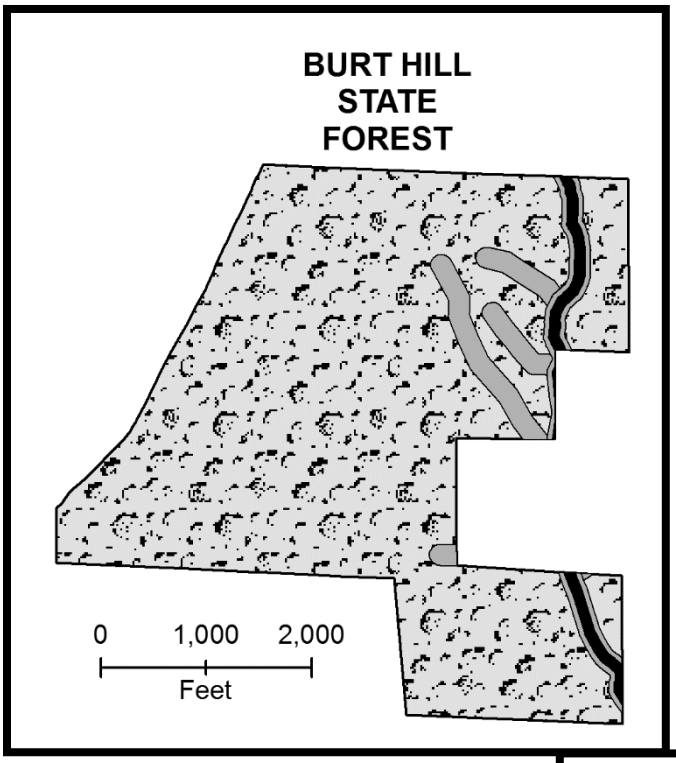

CAMERON SF
WEST
CAMERON
WMA
CAMERON MILLS SF
N
W
E
S
Miles
0
0.5
1
Freshwater Wetland
Water
NYS DEC Lands
Streams
Canisteo River

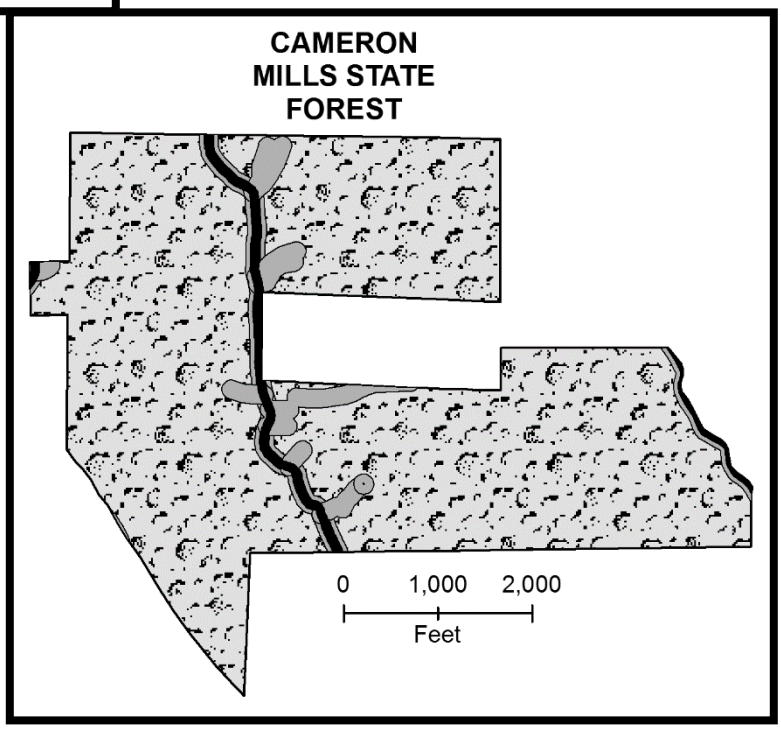

CAMERON
MILLS SF
HELMER
CREEK WMA
TRACY
CREEK SF
N
W
E
S
Miles
0
0.5
1
Freshwater Wetland
Water
NYS DEC Lands
Streams
Canisteo River

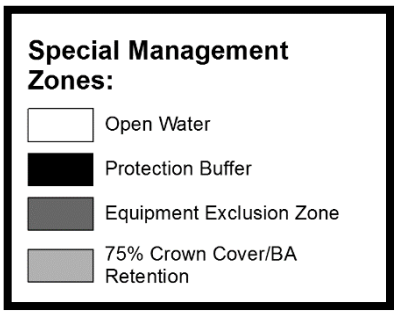

GREENWOOD SF
ROCK CREEK SF
TURKEY RIDGE SF
Miles
0
0.5
1
W
N
S
E
Freshwater Wetland
Streams
Water
Canisteo River
NYS DEC Lands

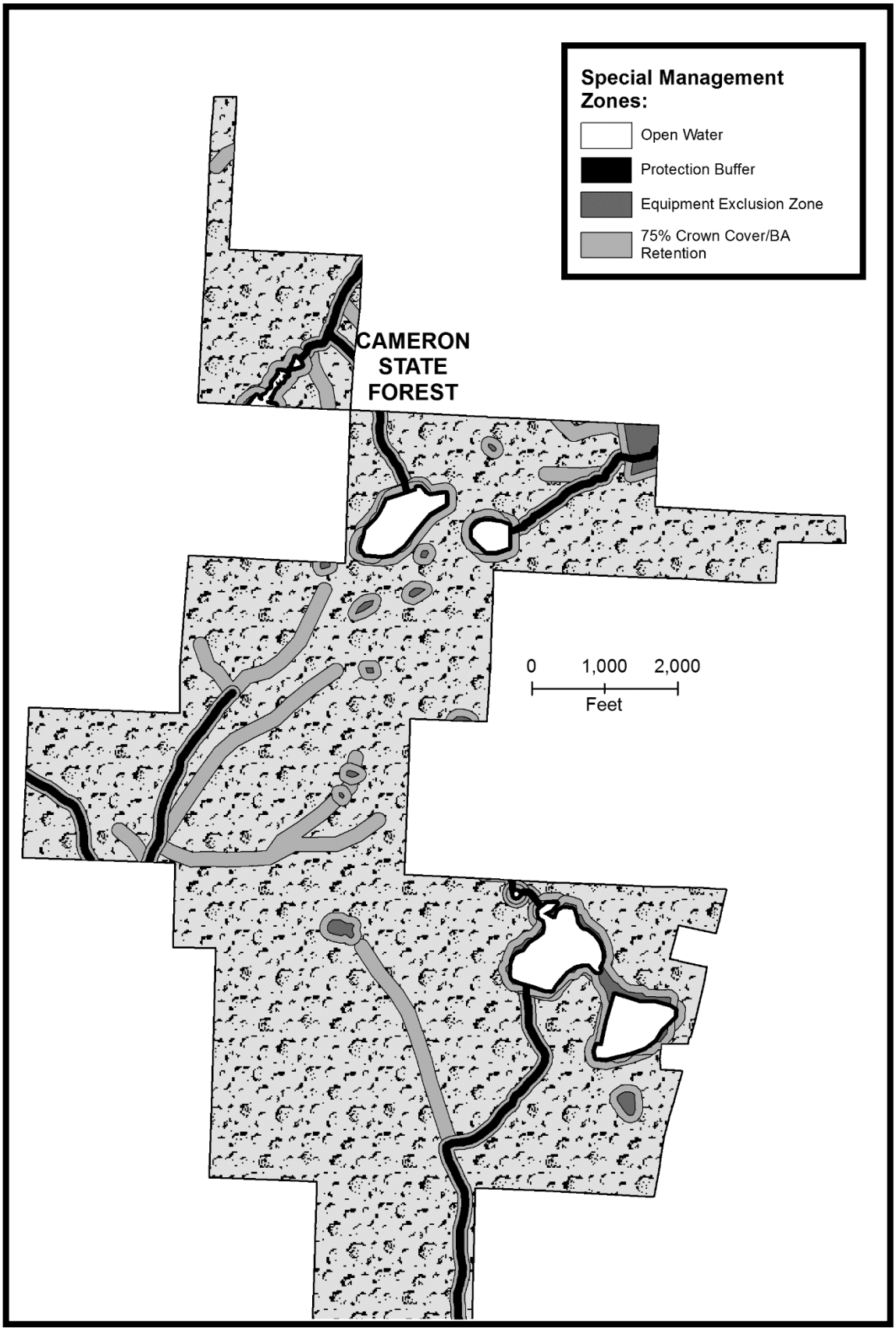
Special Management Zones

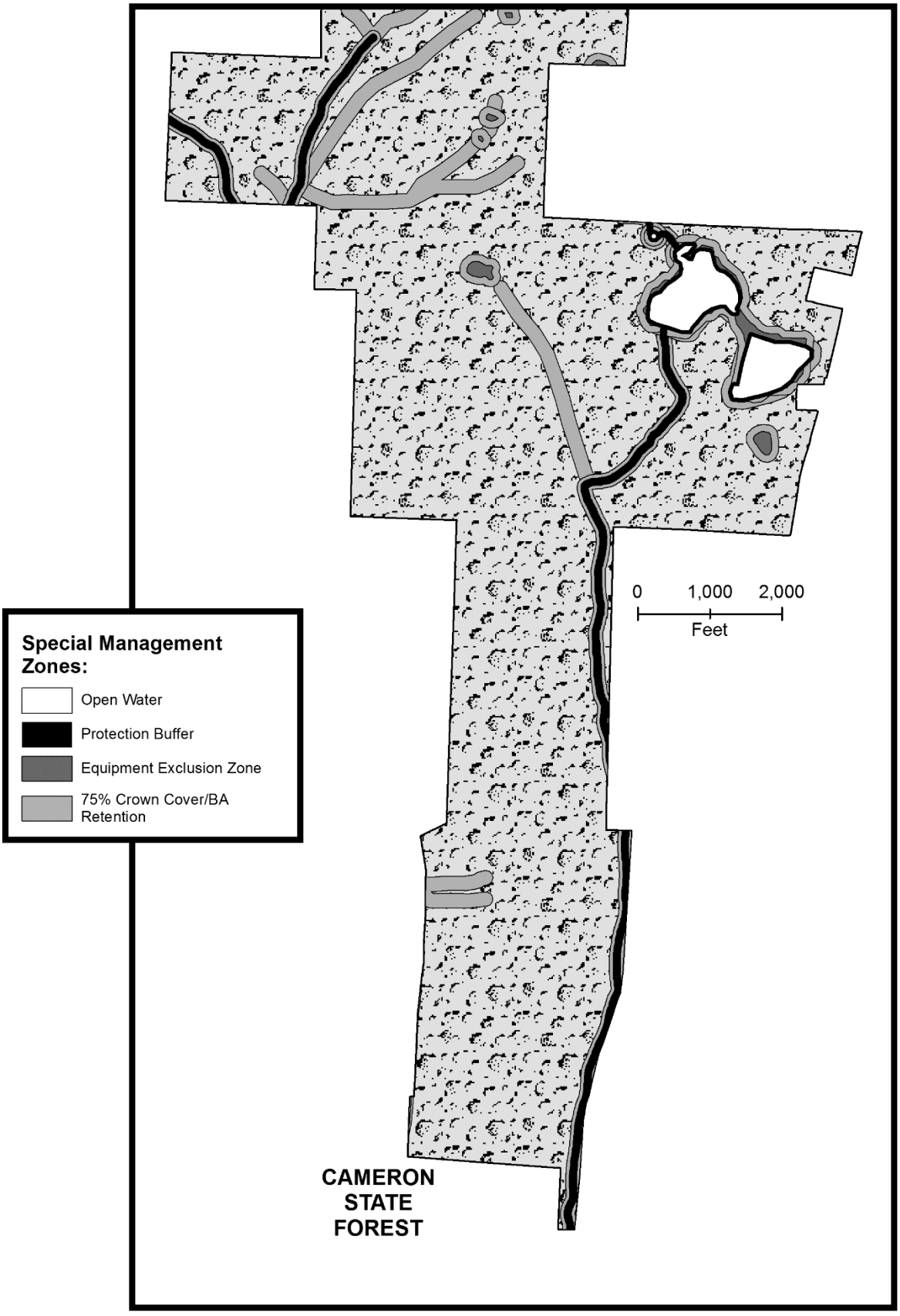
Computer generated location of the Special Management Zones (SMZ's), for more information see pages 46 and 81. SMZ's are areas around specific features (intermittent streams, vernal pools, wetlands, etc.) where management must be modified as compared to what is permissible in the general forest zone. The final configuration of the zones can only be done during sale layout, following field reconnaissance, which is beyond the scope of this plan.

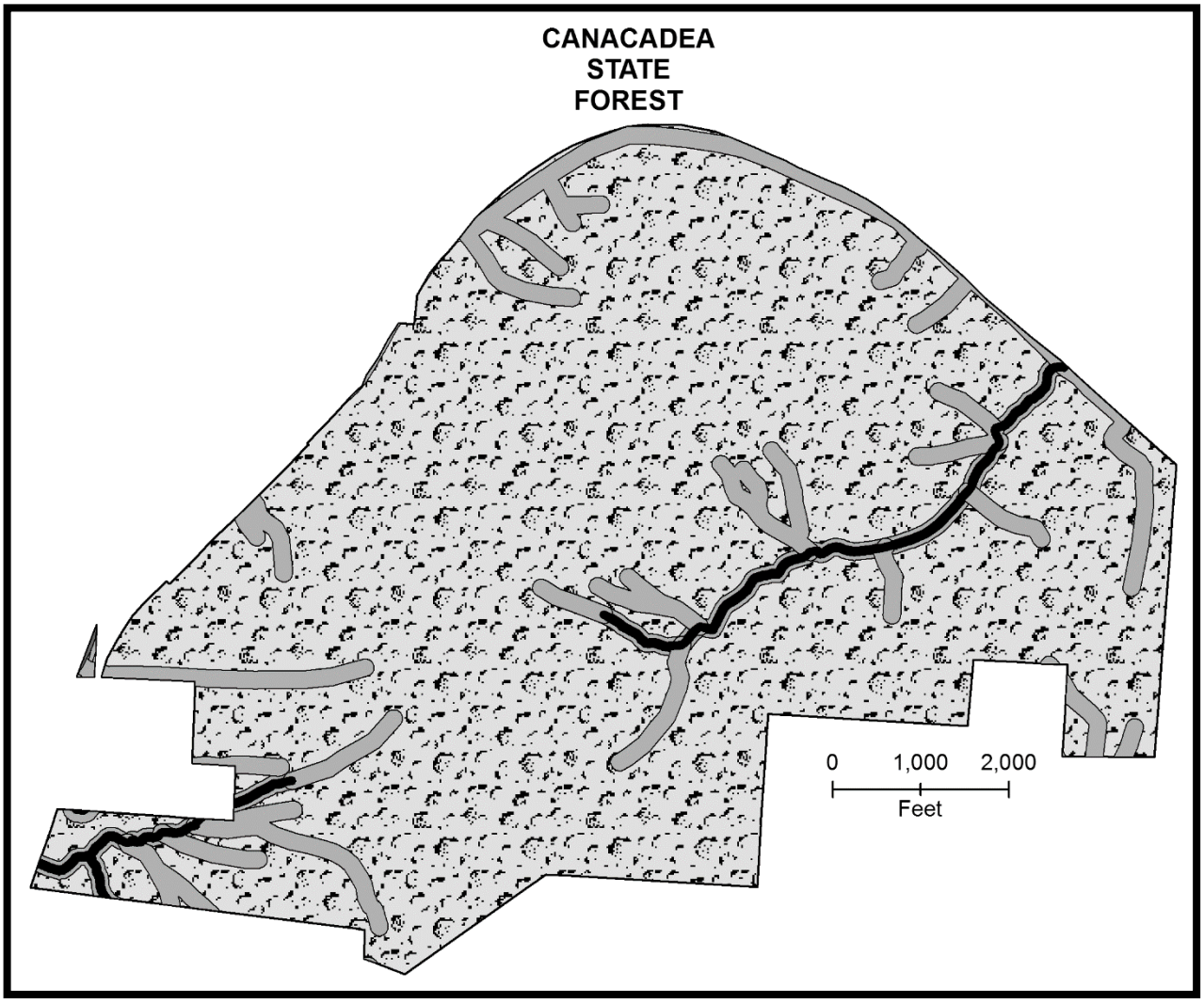




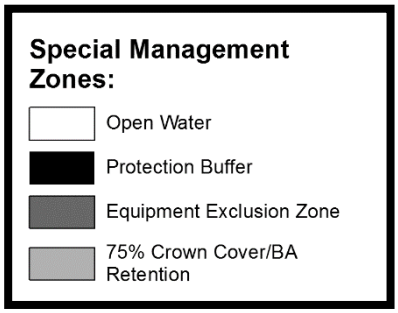


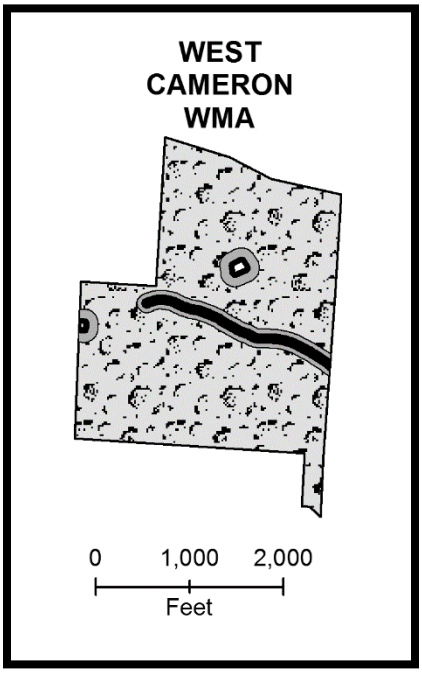

Special Management Zones:
Open Water
Protection Buffer
Equipment Exclusion Zone
75% Crown Cover/BA Retention
CAMERON STATE FOREST
0
1,000
2,000
Feet

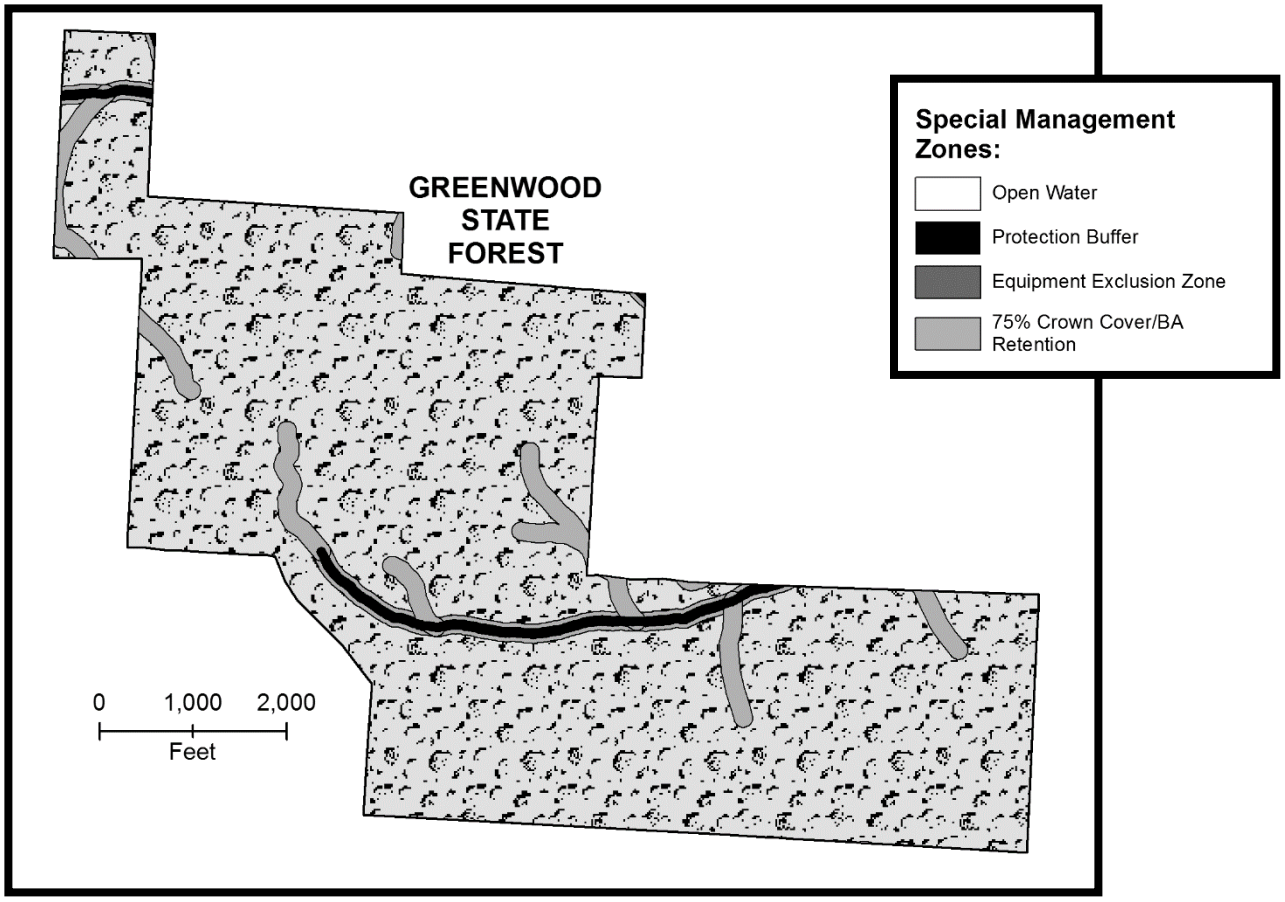

Special Management Zones:
Open Water
Protection Buffer
Equipment Exclusion Zone
75% Crown Cover/BA Retention
0
1,000
2,000
Feet
CAMERON STATE FOREST

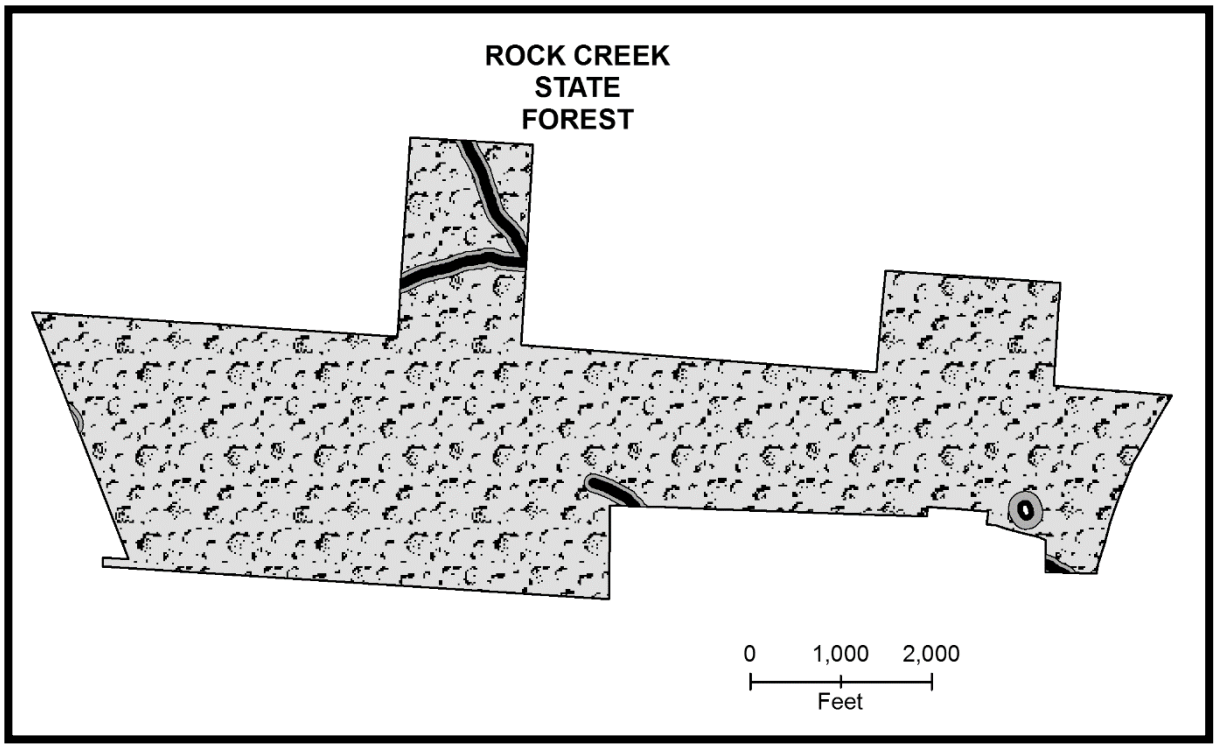

CANACADEA
STATE
FOREST
0
1,000
2,000
Feet

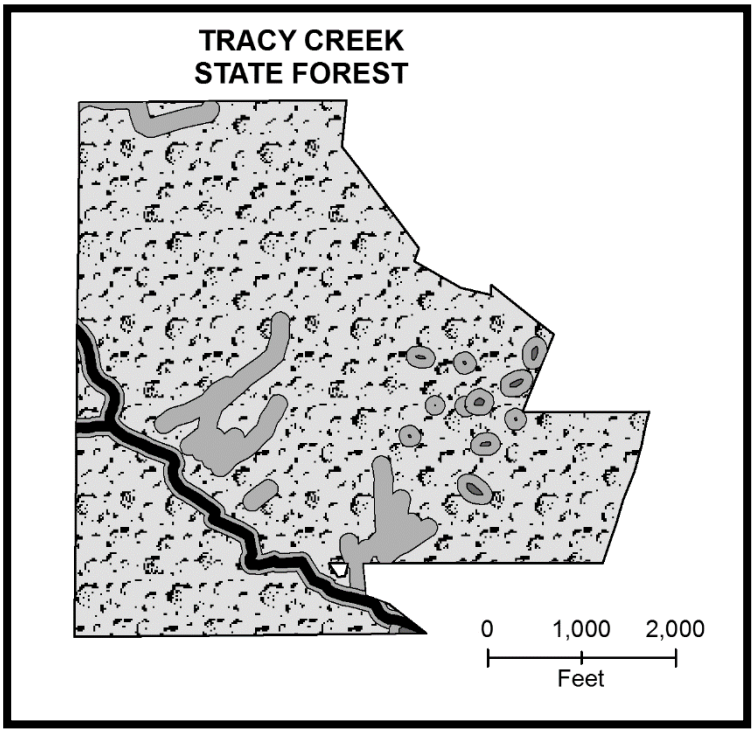

HELMER
CREEK WMA
0
1,000
2,000
Feet

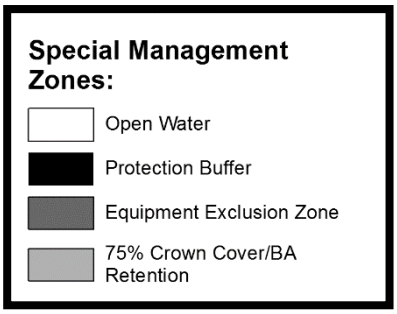

Special Management
Zones:
Open Water
Protection Buffer
Equipment Exclusion Zone
75% Crown Cover/BA
Retention

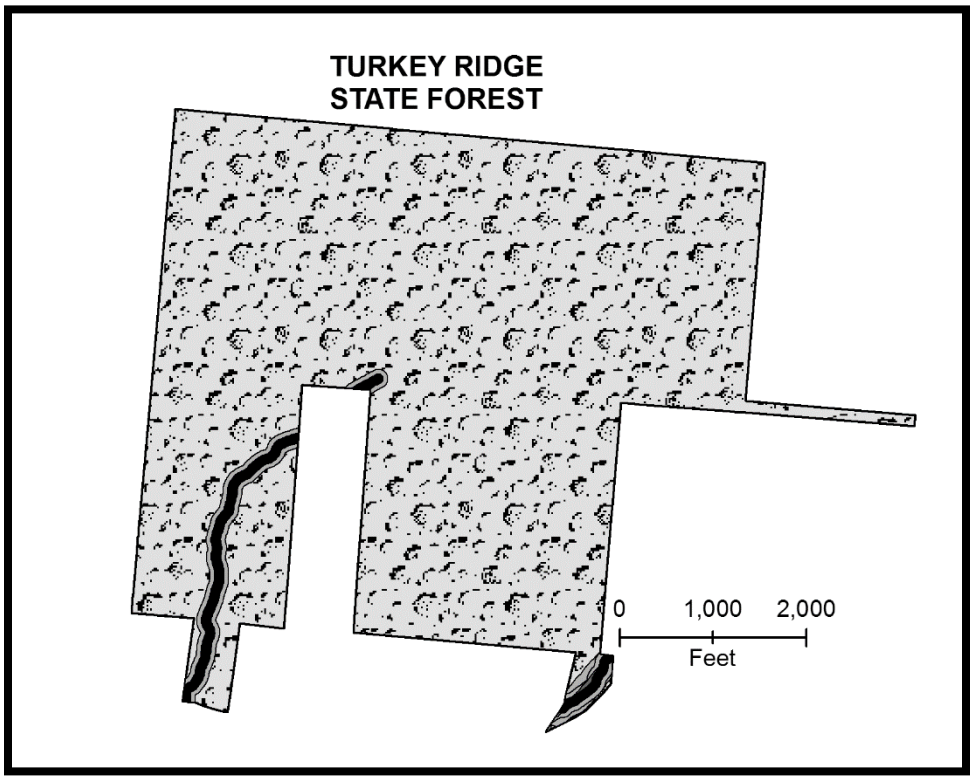

WEST
CAMERON
WMA
0
1,000
2,000
Feet


GREENWOOD
STATE
FOREST
Special Management Zones:
Open Water
Protection Buffer
Equipment Exclusion Zone
75% Crown Cover/BA Retention
0
1,000
2,000
Feet

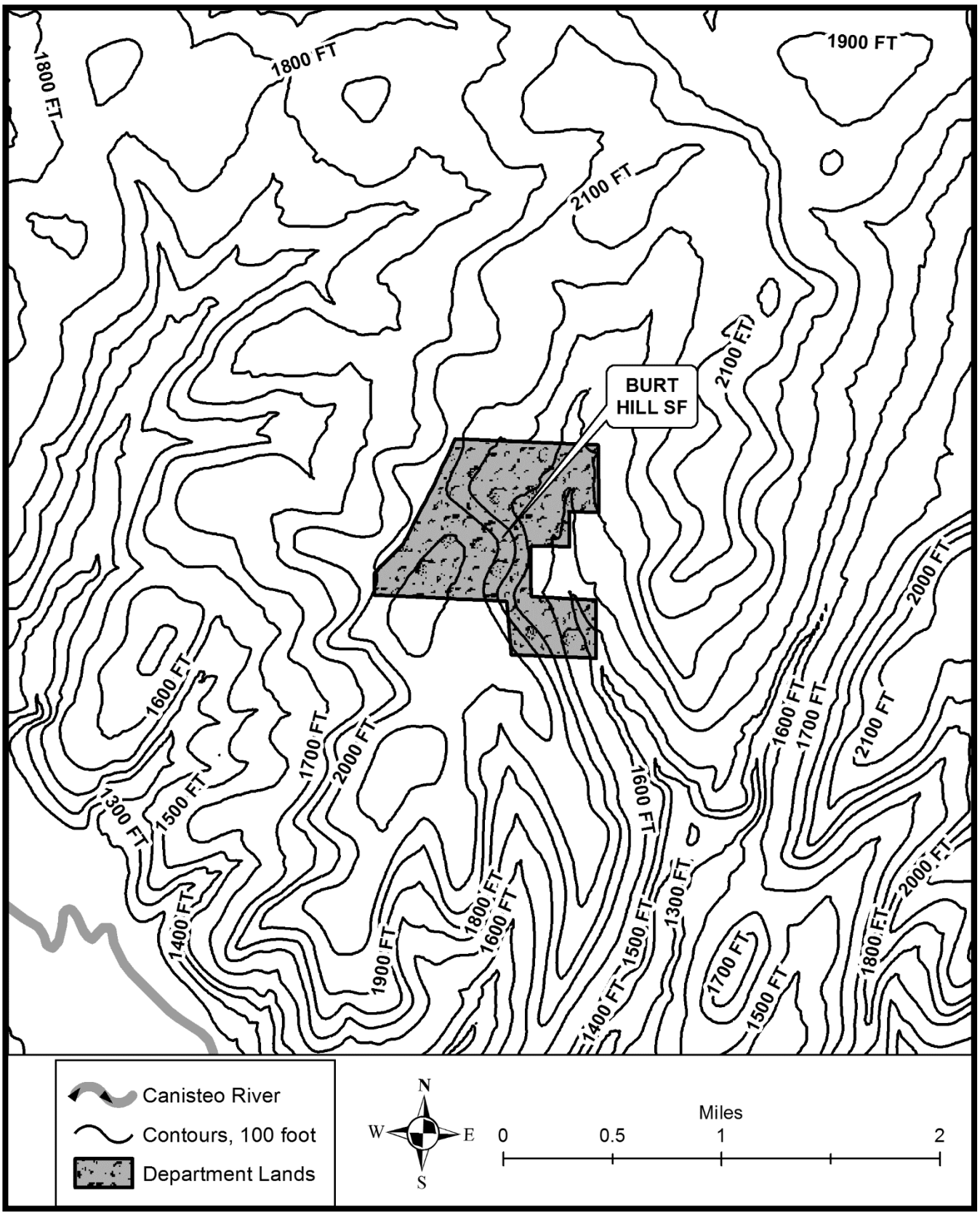

ROCK CREEK
STATE
FOREST
0
1,000
2,000
Feet

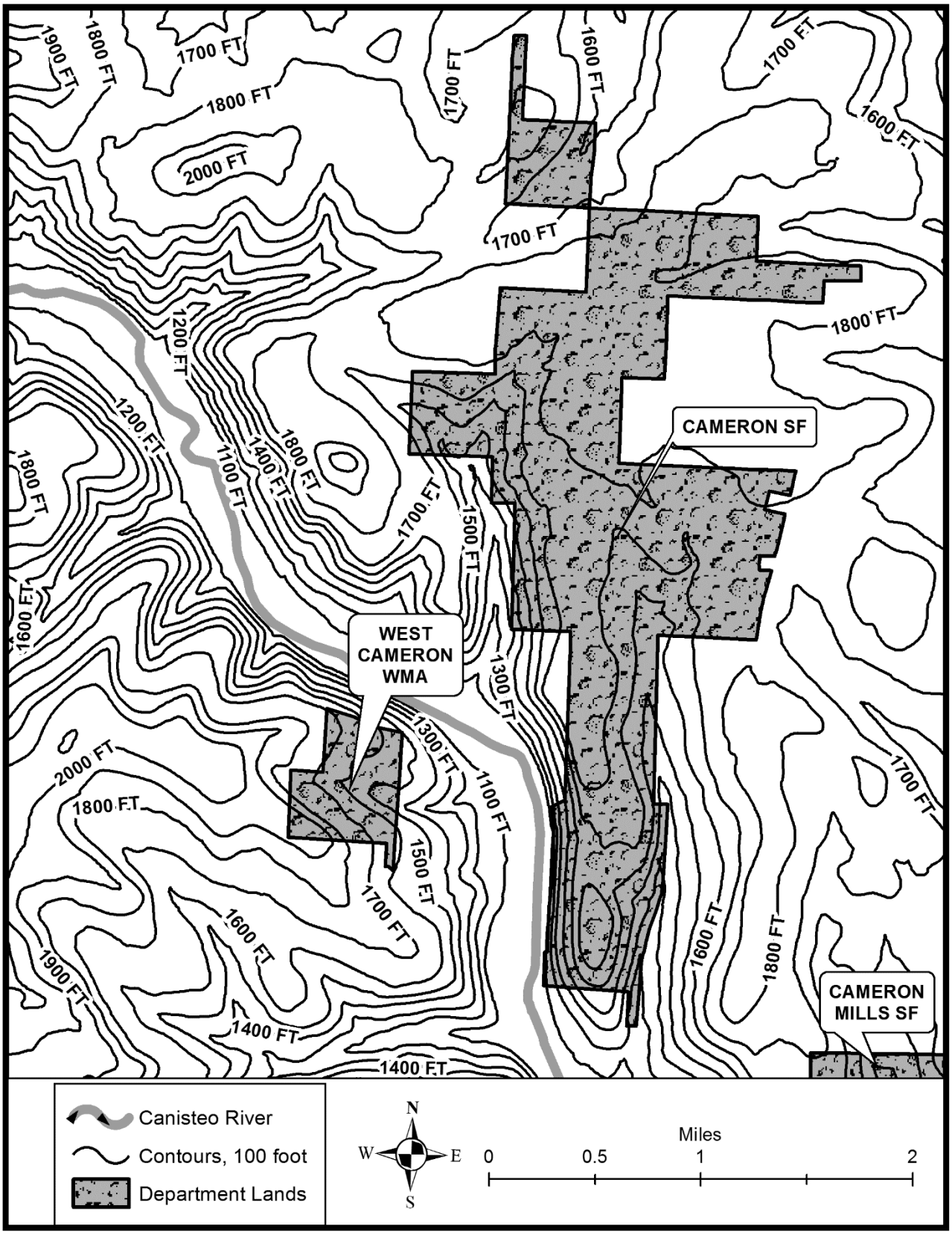

TRACY CREEK
STATE FOREST
0
1,000
2,000
Feet

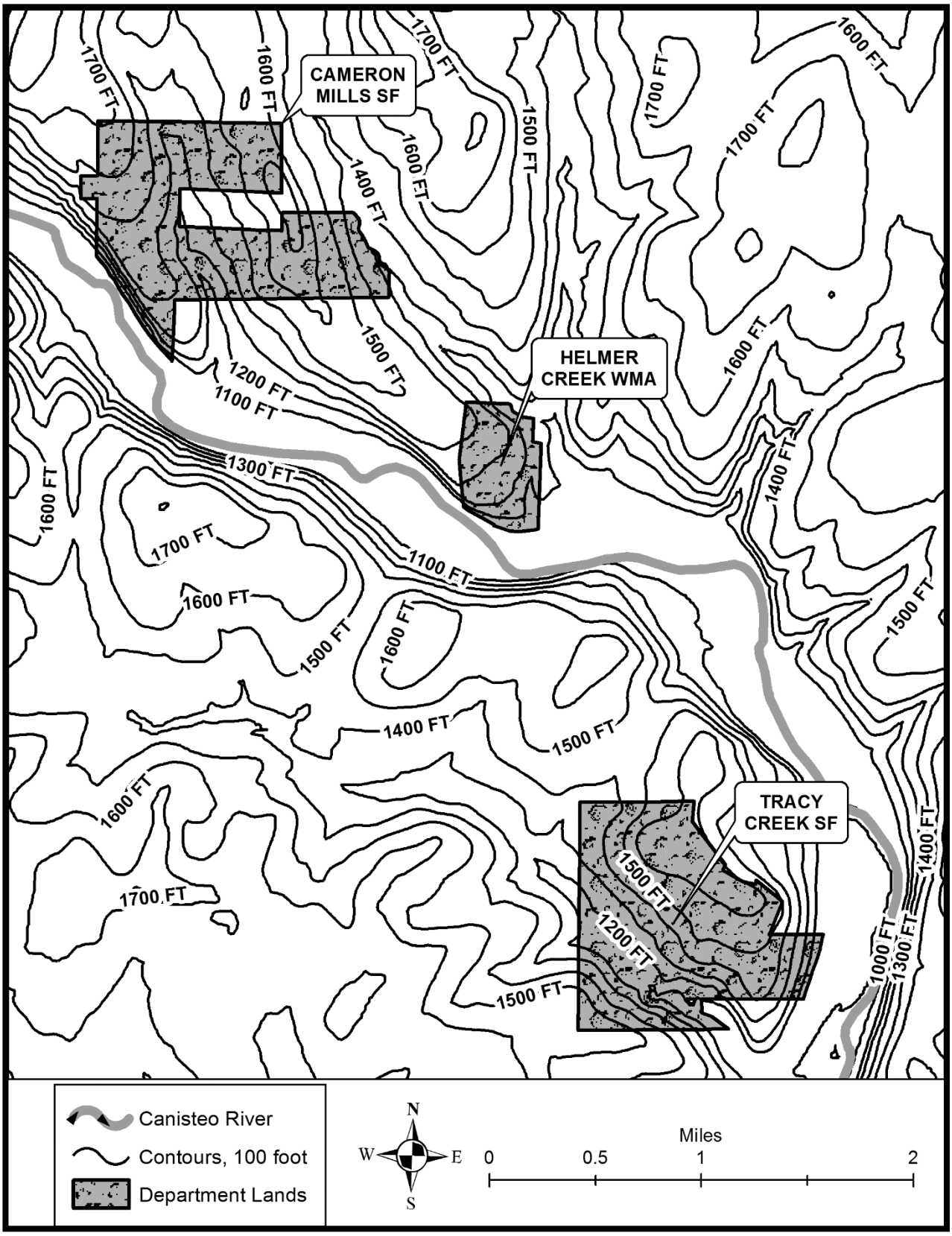

Special Management Zones:
Open Water
Protection Buffer
Equipment Exclusion Zone
75% Crown Cover/BA Retention

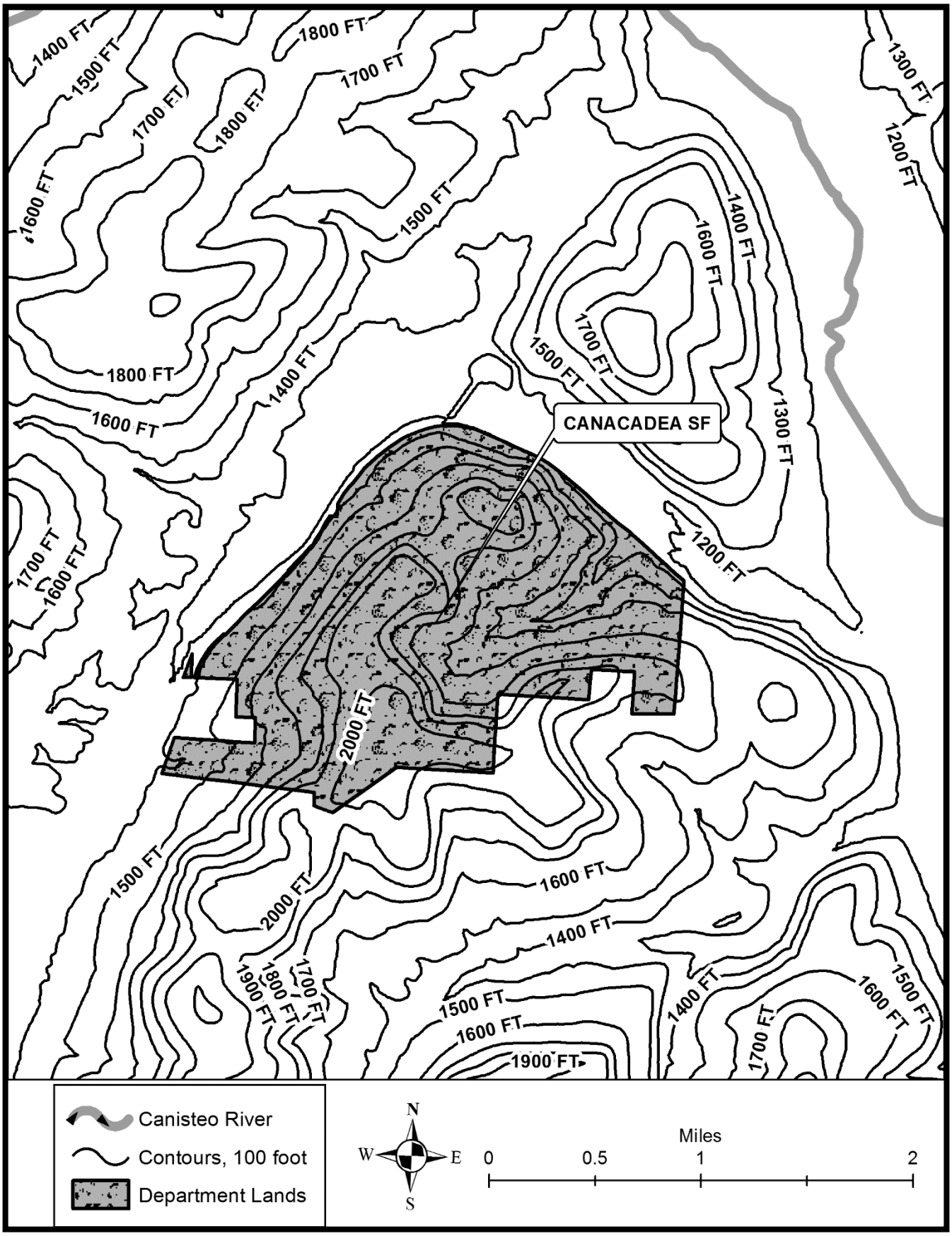

TURKEY RIDGE
STATE FOREST
0
1,000
2,000
Feet

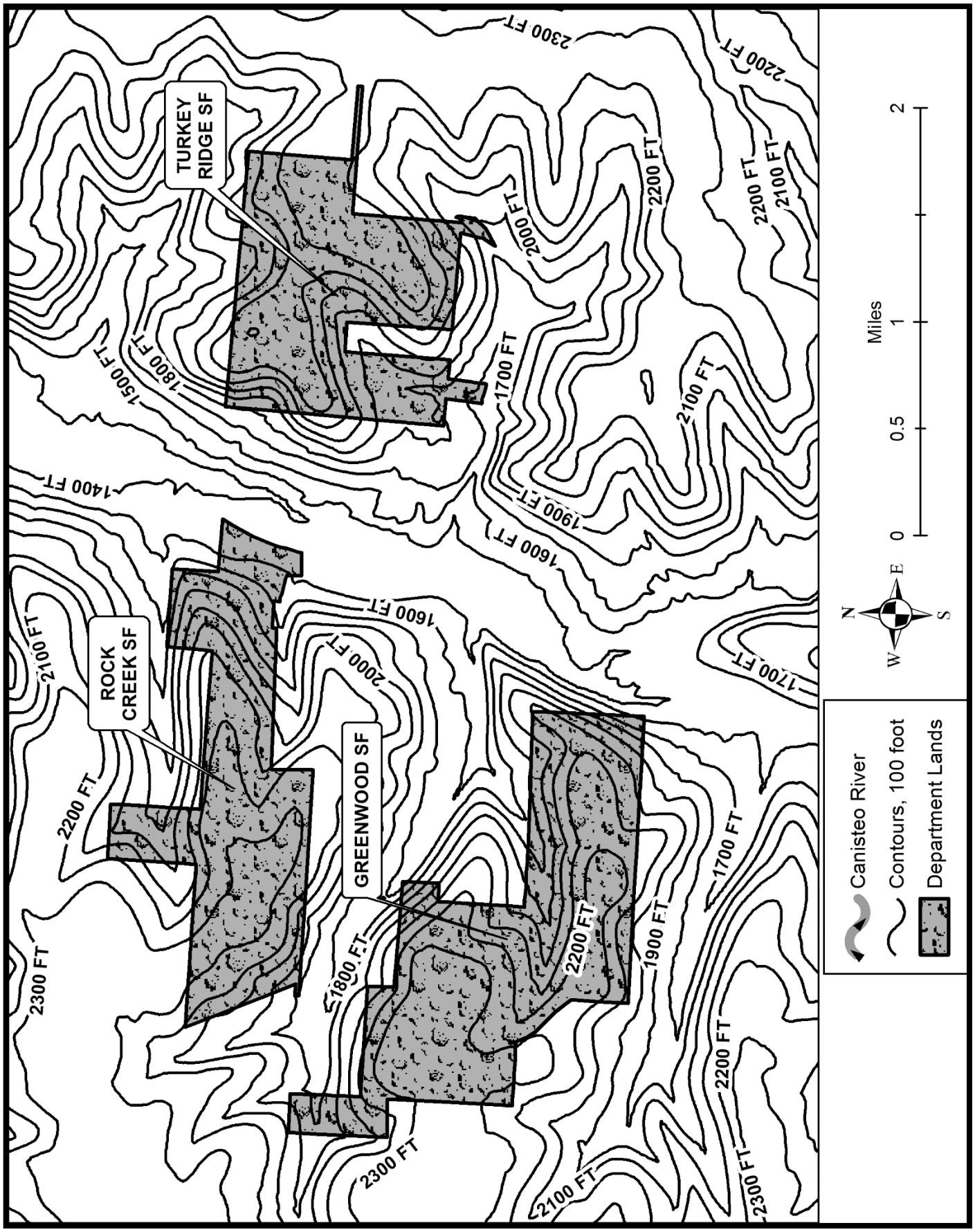
Contour Lines




1900 FT
1800 FT
1700 FT
1800 FT
2000 FT
1700 FT
1600 FT
1700 FT
1700 FT
1600 FT
1800 FT
1200 FT
1200 FT
1800 FT
1400 FT
1100 FT
1800 FT
1700 FT
1500 FT
CAMERON SF
1600 FT
WEST CAMERON WMA
1300 FT
1300 FT
1100 FT
2000 FT
1800 FT
1500 FT
1700 FT
1600 FT
1900 FT
1400 FT
1400 FT
1700 FT
1600 FT
1800 FT
CAMERON MILLS SF
Canisteo River
Contours, 100 foot
Department Lands
N
W
E
S
Miles
0
0.5
1
2

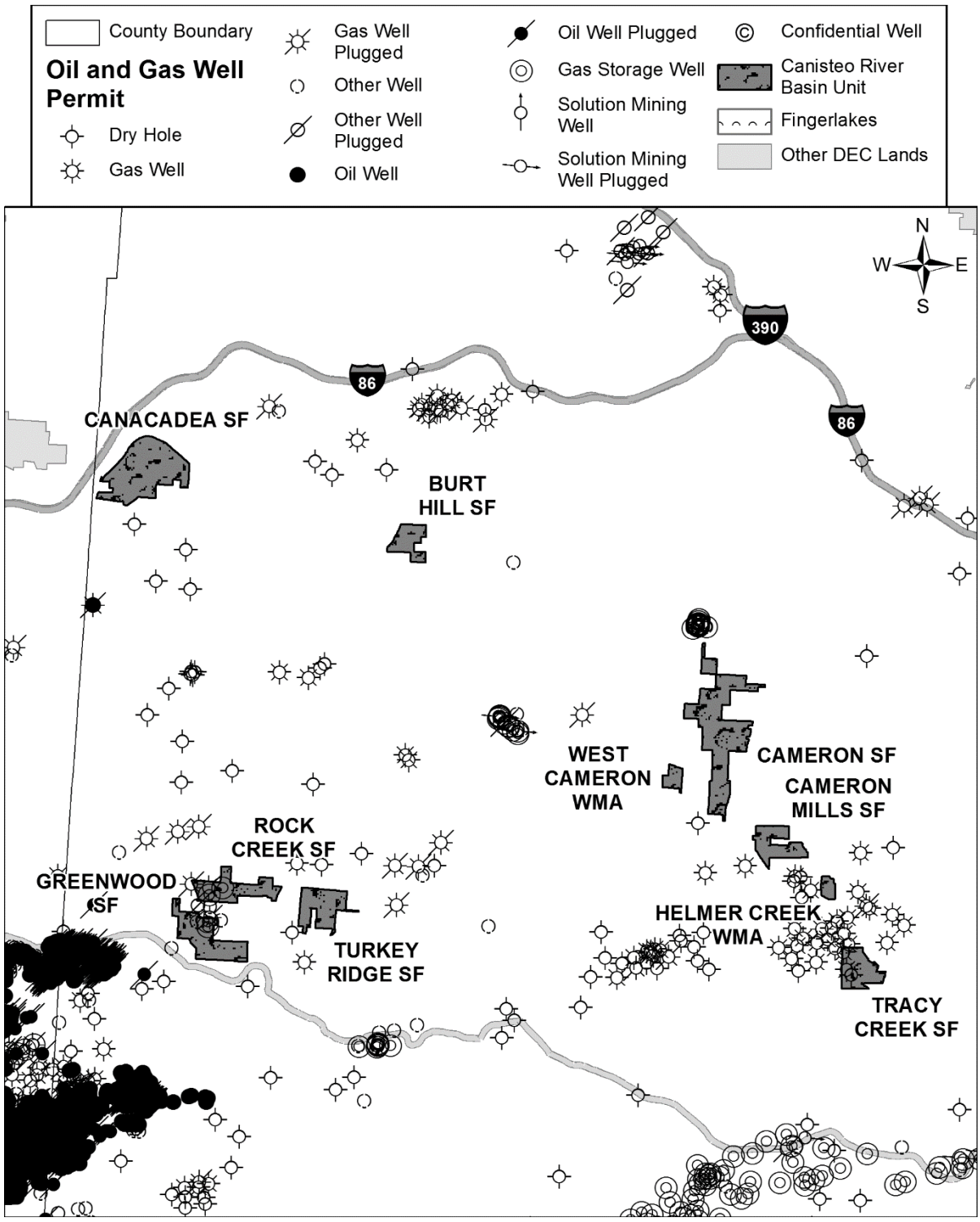

CAMERON MILLS SF
HELMER CREEK WMA
TRACY CREEK SF
1700 FT
1600 FT
1500 FT
1400 FT
1300 FT
1200 FT
1100 FT
1000 FT
Canisteo River
Contours, 100 foot
Department Lands
N
W
E
S
Miles
0
0.5
1
2


CANACADEA SF
1400 FT
1500 FT
1800 FT
1700 FT
1600 FT
1300 FT
1200 FT
2000 FT
1900 FT
Canisteo River
Contours, 100 foot
Department Lands
N
W
E
S
Miles
0
0.5
1
2


TURKEY RIDGE SF
ROCK CREEK SF
GREENWOOD SF
2300 FT
2200 FT
2100 FT
2000 FT
1900 FT
1800 FT
1700 FT
1600 FT
1500 FT
1400 FT
Canisteo River
Contours, 100 foot
Department Lands
Miles
0
0.5
1
2
N
E
S
W

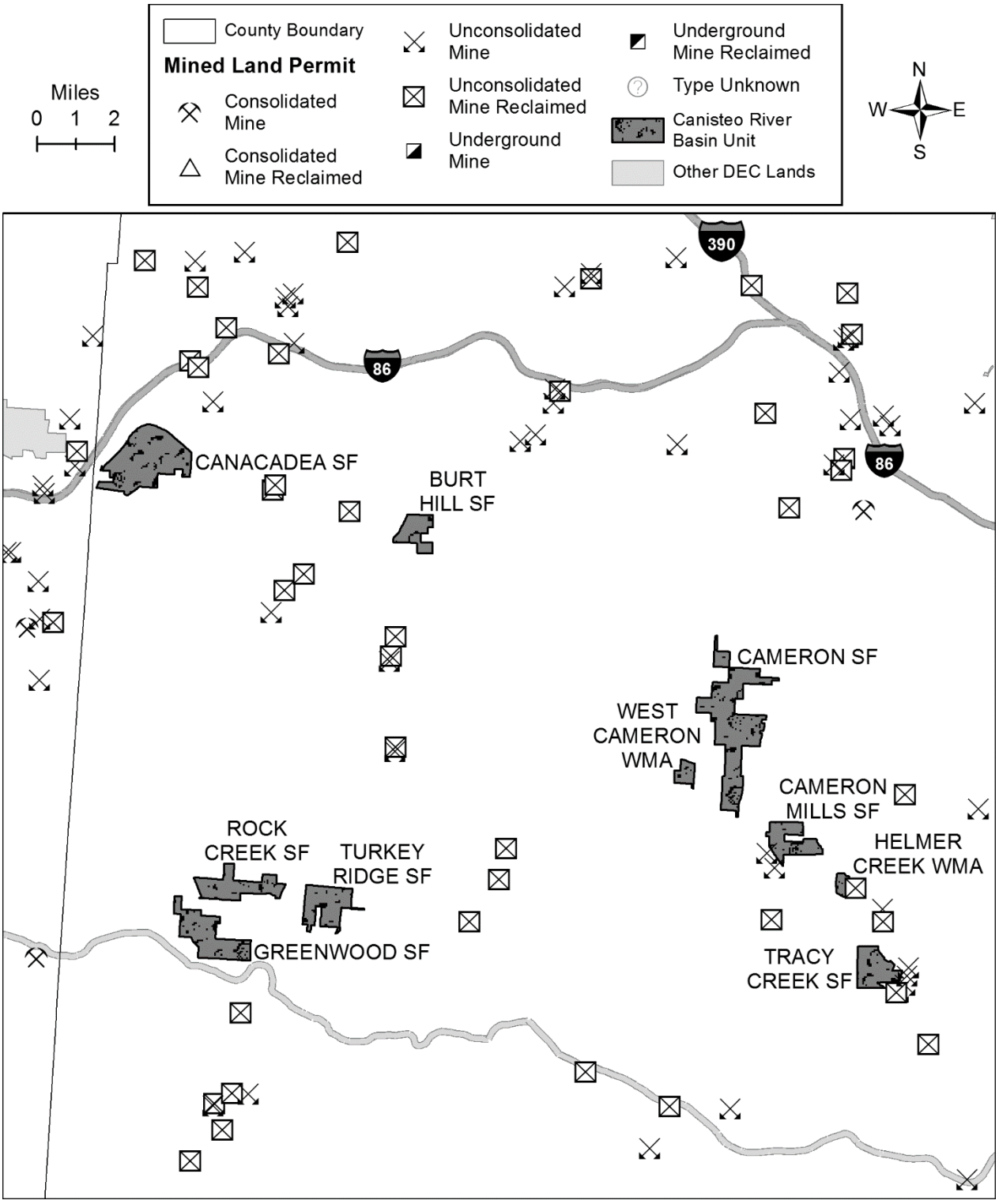
Geology – Oil, Gas, and Solution Mining Map

See also Mineral Resources (pg. 36) and Mineral Resource Management (pg. 114).



Geology - Sand, Gravel and Other Mine Locations

See also Mineral Resources (pg. 36) and Mineral Resource Management (pg. 114).



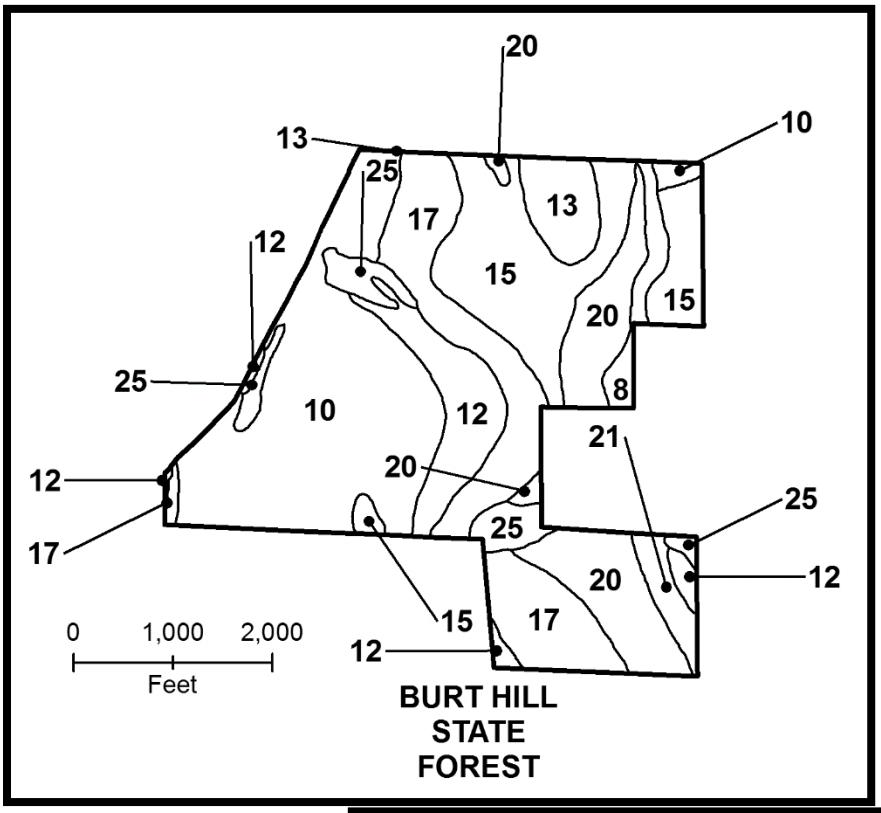
Soil Maps

To make these maps easier to read, the following soil type maps have been greatly simplified. For greater detail and information please look online at https://websoilsurvey.nrcs.usda.gov/app/ or contact the Steuben NRCS offices. See also Soils (pg. 31) and Table 5: Soils (pg. 31).

Table M1: Soil Type Key

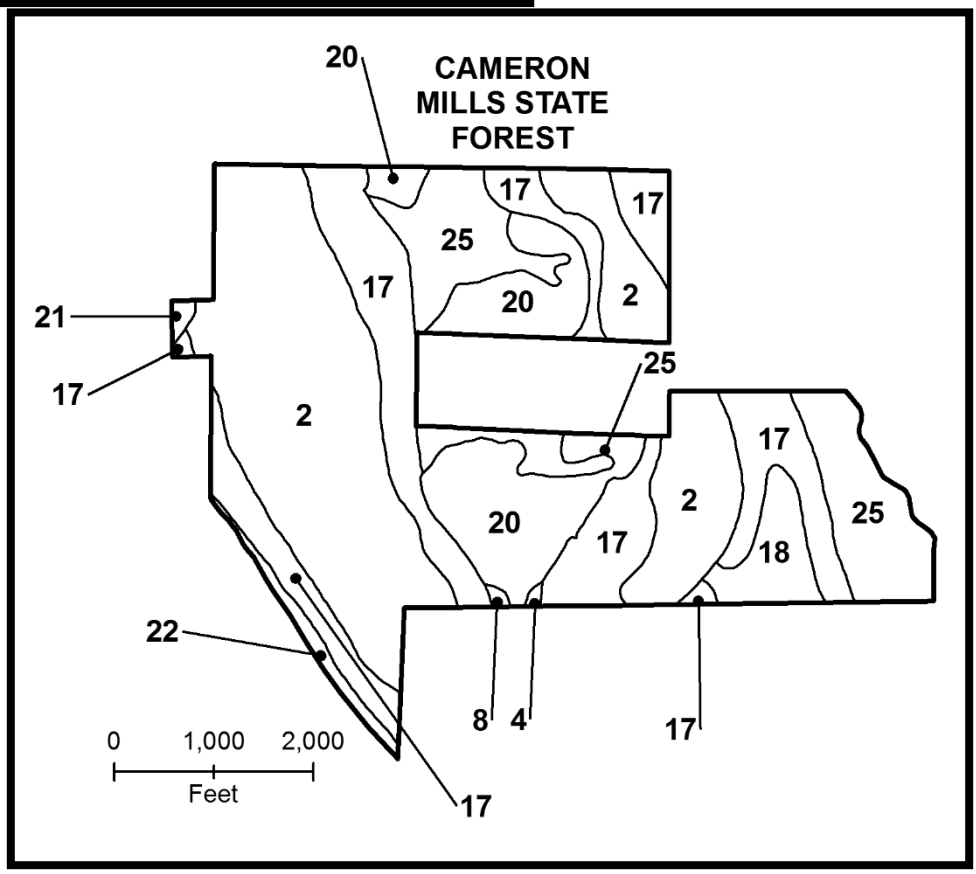
Key No.	Soil Type	Acres	Percent
1	Alton gravelly fine sandy loam	6	0.1%
2	Arnot channery silt loam	739	9.6%
3	Bath channery silt loam	19	0.2%
4	Bath soils	194	2.5%
5	Carlisle muck	11	0.1%
6	Chenango channery silt loam, fan	10	0.1%
7	Chippewa channery silt loam	25	0.3%
8	Fluvaquents and Ochrepts	86	1.1%
9	Fremont silt loam	188	2.4%
10	Hornell-Fremont silt loams	624	8.1%
12	Hornell and Fremont silt loams	909	11.8%
13	Hornell and Fremont silty clay loams	16	0.2%
14	Howard-Madrid complex	48	0.6%
15	Kanona silty clay loam	343	4.5%
16	Lackawanna channery silt loam	48	0.6%
18	Lordstown channery silt loam	170	2.2%
17	Lordstown-Arnot association	1543	20.0%
20	Mardin channery silt loam	1371	17.8%
19	Mardin and Volusia channery silt loams, silty substratum	49	0.6%
21	Ochrepts and Orthents	154	2.0%
22	Tioga silt loam	9	0.1%
23	Tuller channery silt loam	10	0.1%
24	Unadilla silt loam	2	0.0%
25	Volusia channery silt loam	1100	14.3%
26	Water	31	0.4%

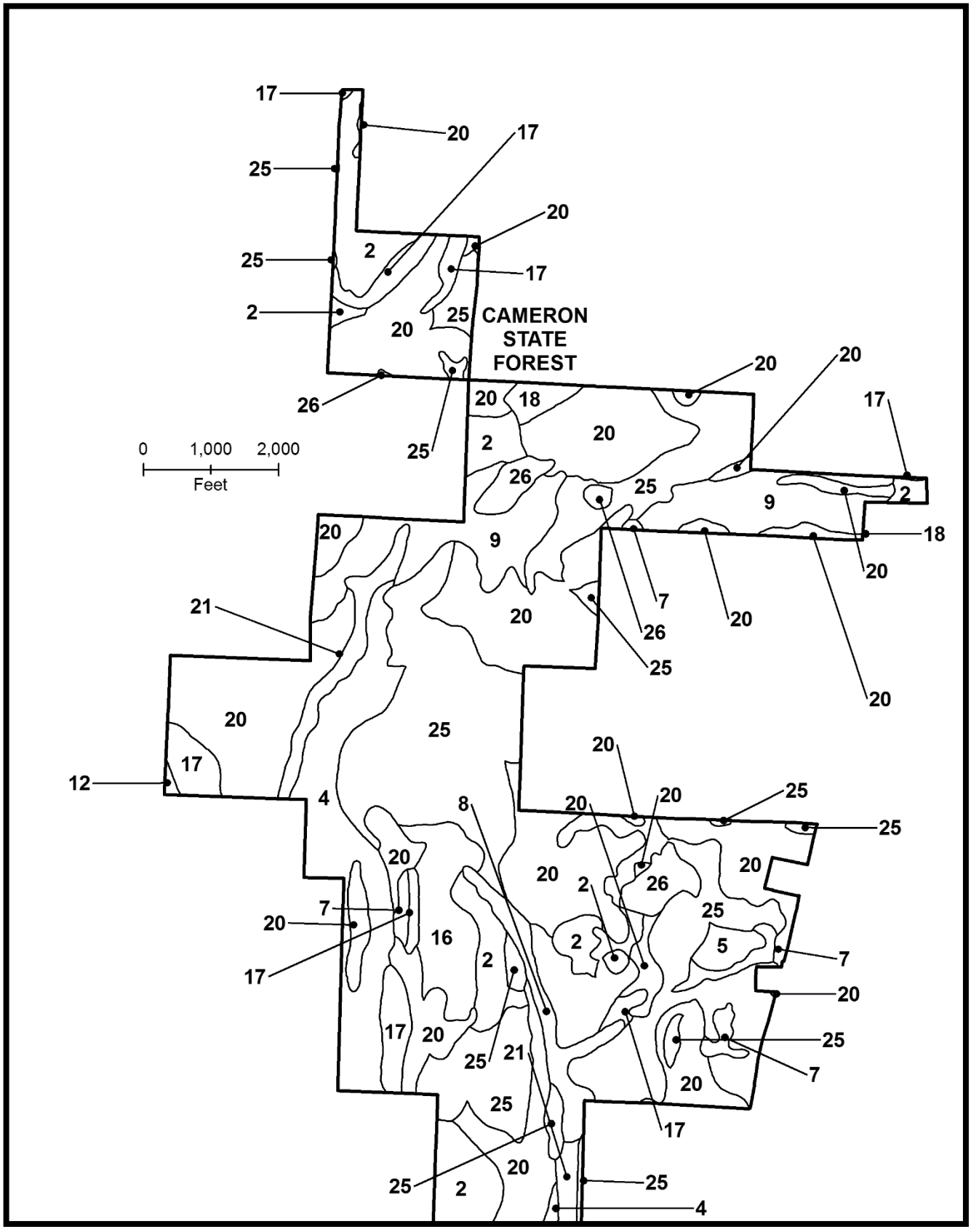
To make these maps easier to read, the following soil type maps have been greatly simplified. For greater detail and information please look online at http://soildatamart.nrcs.usda.gov or contact the Steuben NRCS offices.



See also Soils (pg. 31) and Table 5: Soils (pg. 31).

Table M1: Soil Type Key is on page 252.




CAMERON
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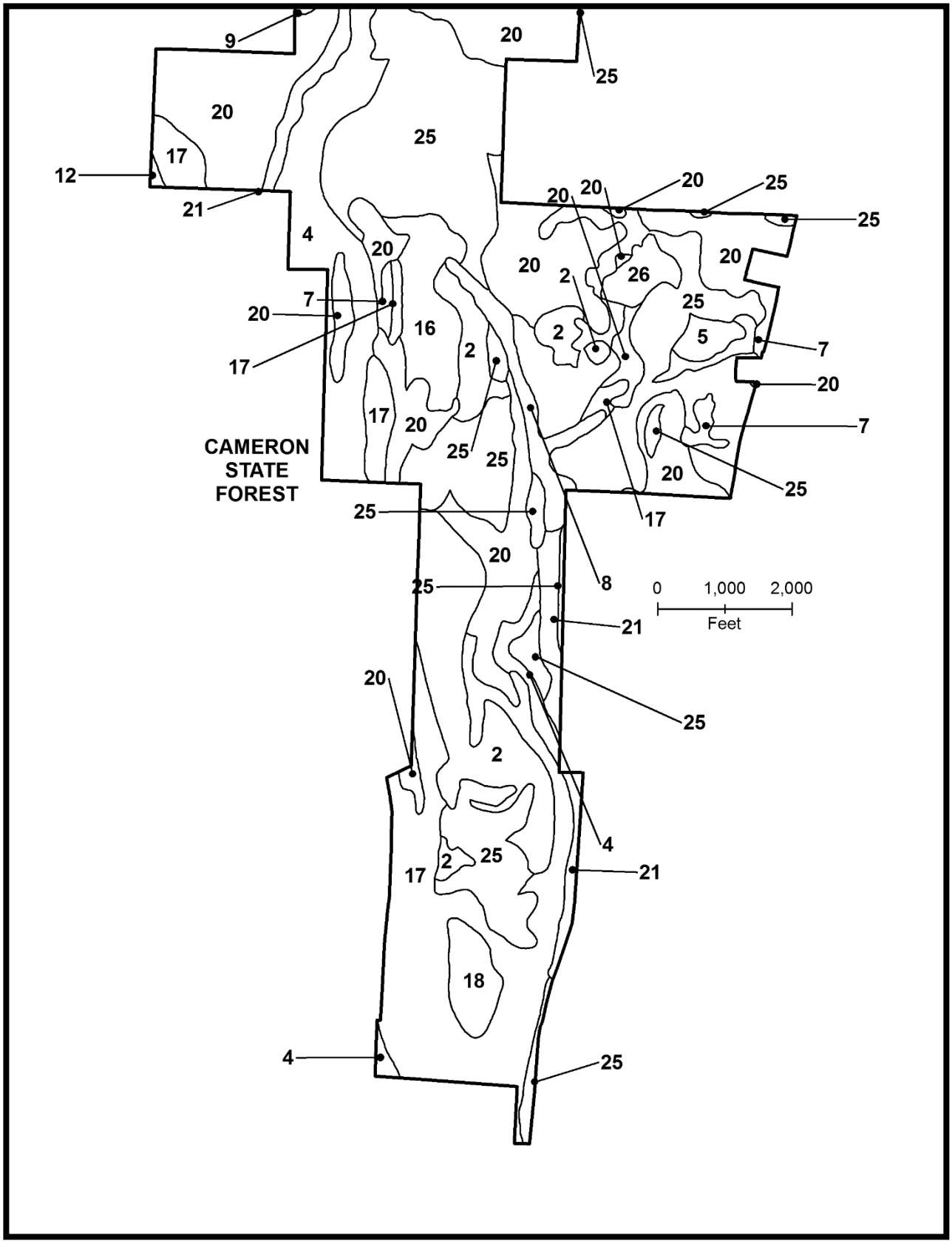
Feet


9
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CAMERON
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FOREST
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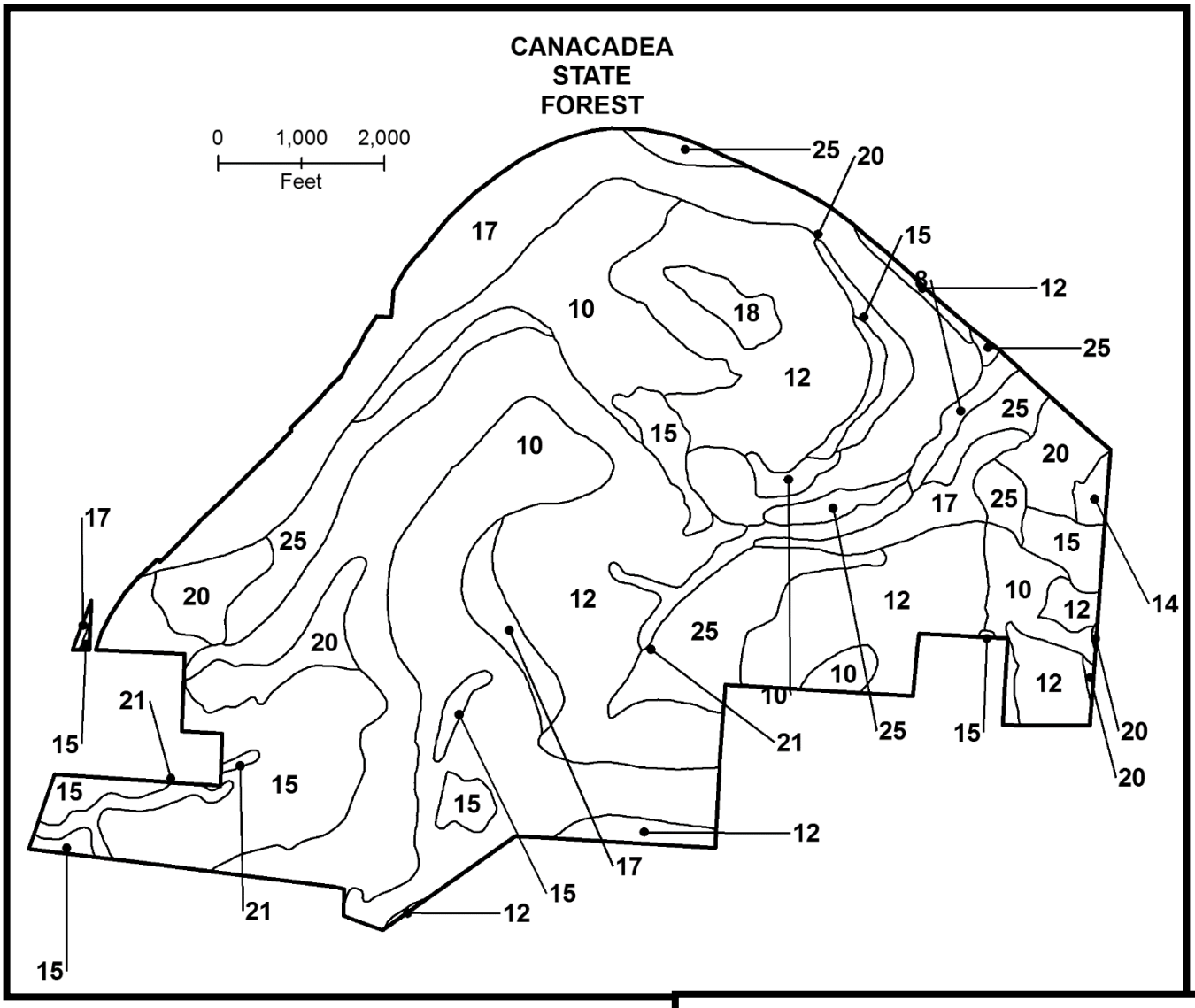
CANACADEA
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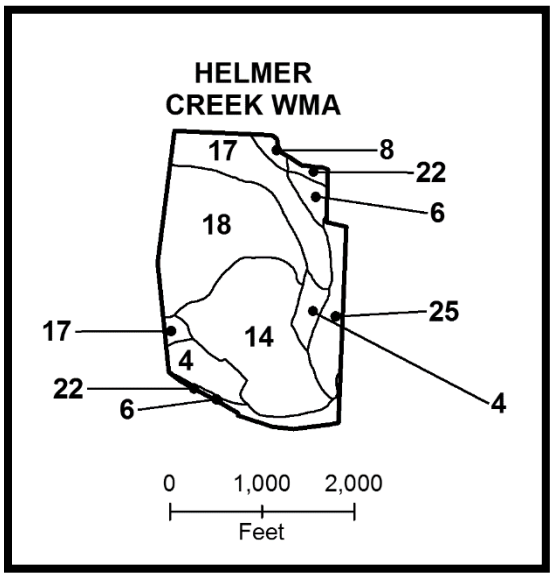
HELMER
CREEK WMA
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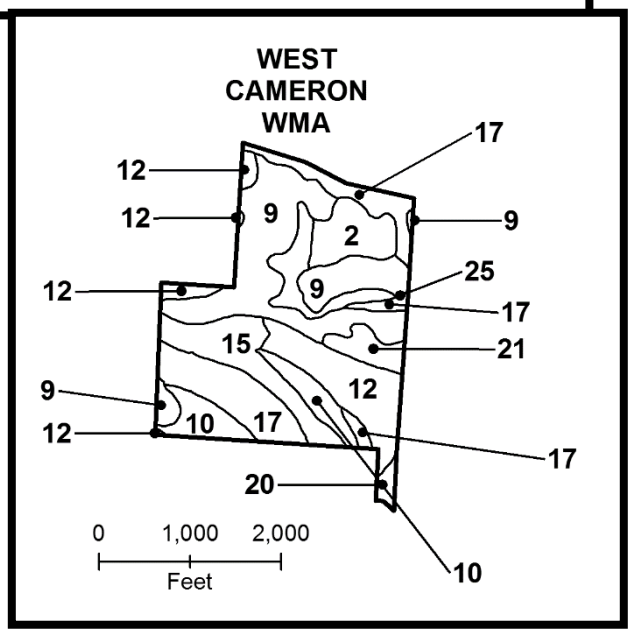
WEST
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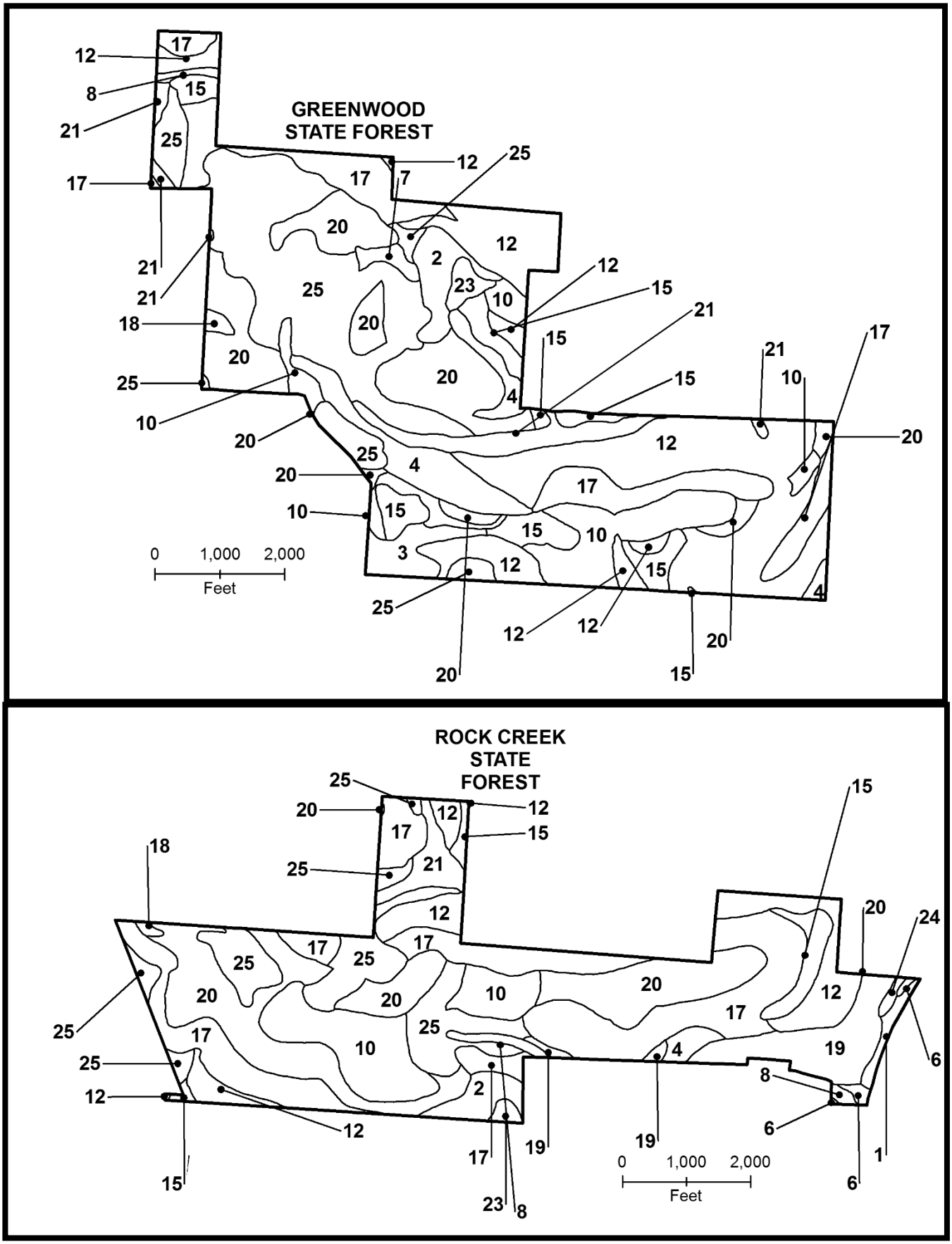
GREENWOOD
STATE FOREST
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Feet
ROCK CREEK
STATE
FOREST
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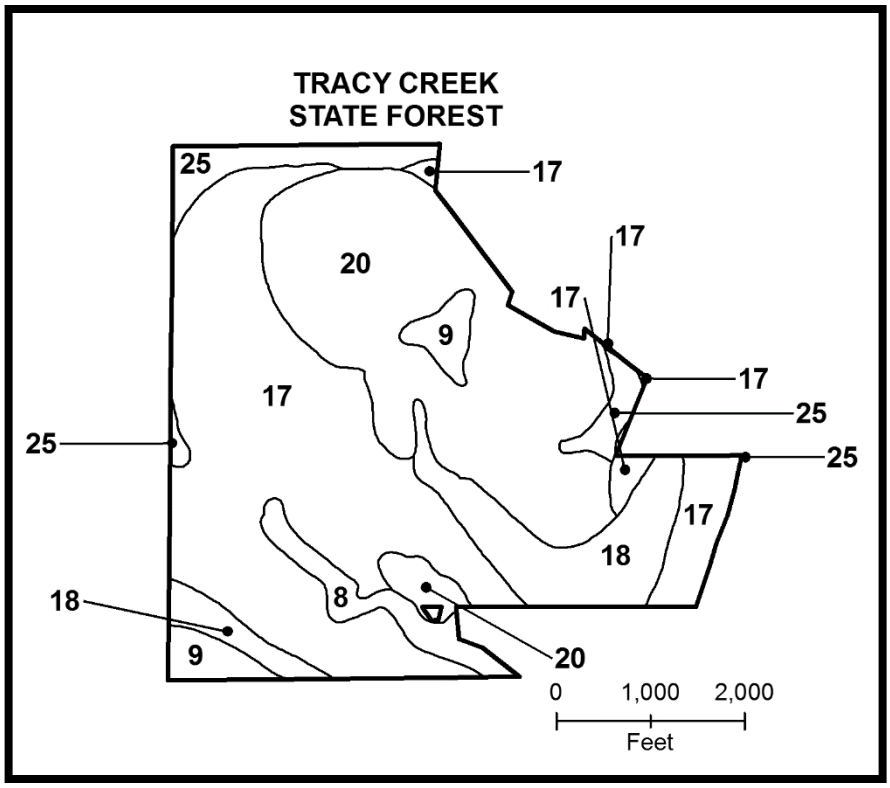
Feet


TRACY CREEK
STATE FOREST
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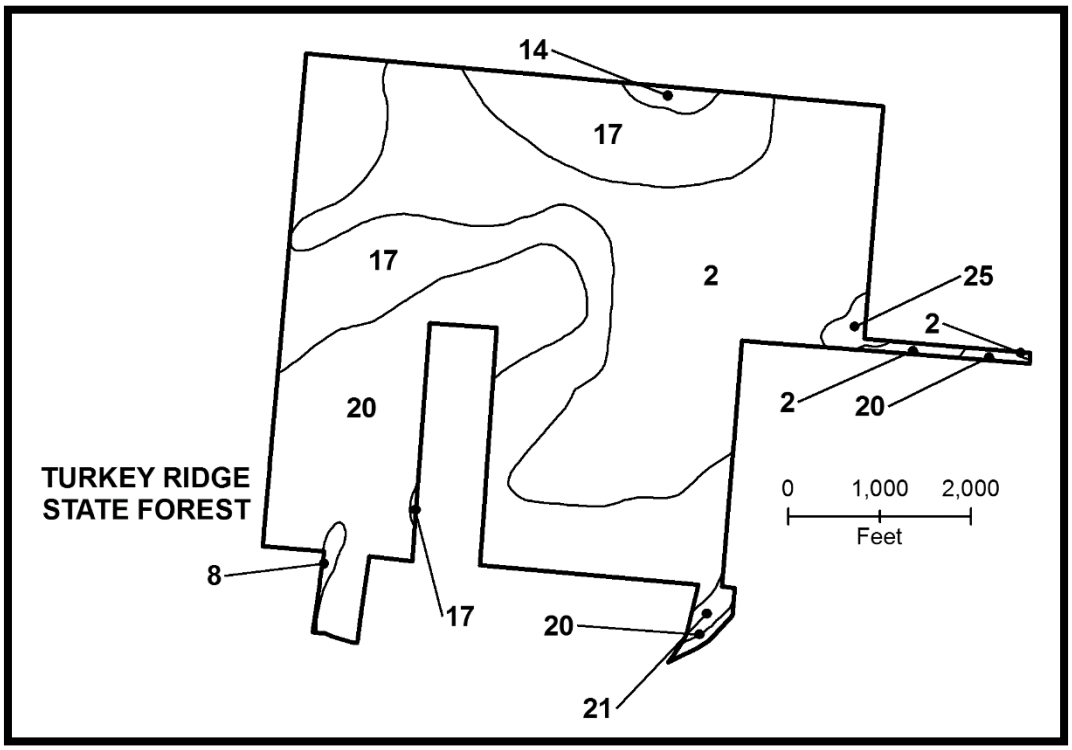
14
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20
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TURKEY RIDGE
STATE FOREST
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Feet
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17
20
21

For additional information contact:

NYS DEC
Forest Resource Management
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Bath, NY 14810

607-776-2165

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R8.UMP@dec.ny.gov
This plan will be located at: www.dec.ny.gov/lands/42067.html