





3



# Contents

<b>103</b>	<b>Part Three: Affected Environment</b>	
<b>103</b>	<b>Overview</b>	
<b>103</b>	<b>Cultural Resources</b>	
103	Cultural Landscapes	
116	Historic Buildings and Structures	
120	Archeological Resources	
121	Collections and Archives	
<b>123</b>	<b>Natural Resources</b>	
123	The Physical Setting	
124	Water Resources and Wetlands	
128	Soils and Prime Agricultural Lands	
130	Wildlife	
134	Vegetation (Plant Resources)	
<b>138</b>	<b>Visitor Use and Experience</b>	
138	Overview	
138	Visitor Use Patterns	
<b>149</b>	<b>Park Operations and Facilities</b>	
149	Operational and Support Facilities	
150	Public Use Facilities	
151	Operational Funding and Staffing	
153	Partnerships and Volunteers	
<b>154</b>	<b>Socioeconomic Environment</b>	
154	Population and Demographic Profile	
155	Transportation	
155	Housing	
155	Income and Employment	
157	Economic Impact of Roosevelt-Vanderbilt National Historic Sites	
	<b>Maps</b>	
104	3-1: FDR Home and Grounds	
106	3-2: Historic Roosevelt Family Estate	
111	3-3: Val-Kill and Top Cottage	
114	3-4: Vanderbilt Mansion National Historic Site	
115	3-5: Vanderbilt Estate	
127	3-6: Water Resources	
129	3-7: Soils	
	<b>Tables</b>	
134	3-1: Threatened and Endangered Species	
157	3-2: Visitors to Roosevelt-Vanderbilt 2007	
158	3-3: Average Spending	
158	3-4: Visits and Spending	
158	3-5: Visitor Spending by Category	
159	3-6: Economic Significance of Visitor Spending, 2007	
160	3-7: Economic Impact of Visitor Spending, 2007	

## Part Three: Affected Environment

### Overview

This section describes existing conditions in the parks and their environs to form a basis for comparison of the environmental effects that would result from the implementation of the alternatives presented in this draft plan. It is organized by cultural and natural resource “impact topics.” These topics are included because they could be affected by the proposals outlined in the alternatives. In selecting the impact topics, the planning team considered legislative requirements, information presented in the “Foundation for Planning” (Part One), and public input. The potential effects of the alternatives on these impact topics are described in Part Four: “Environmental Consequences.”

### Cultural Resources

#### Cultural Landscapes

##### HOME OF FRANKLIN D. ROOSEVELT NATIONAL HISTORIC SITE

The Home of Franklin D. Roosevelt National Historic Site preserves a significant portion of the historic Roosevelt Family Estate, including the main house (FDR Home), gardens, gravesite of Franklin and Eleanor Roosevelt, river view, woodlands, forest plantations, former farm lands, and Top Cottage and its views. The property also encompasses portions of the adjoining estate of J. R. Roosevelt, FDR’s half-brother. In addition, the park includes land at Bellefield and Crum Elbow Point that was not historically owned by the Roosevelt family.

The Franklin D. Roosevelt Library and Museum occupies a 16-acre parcel between the FDR Home and Bellefield that was historically part of the Roosevelt Family Estate but has been under separate federal ownership by the National Archives and Records Administration (NARA) since FDR donated land for the Library in 1939. NARA also owns the Henry A. Wallace Visitor and Education Center at the rear of Bellefield. Upon completion of the Wallace Center in 2003, the public vehicular entrance to the park was moved to a new road along the northern boundary of the Bellefield property. Visitor parking for all of the NPS and NARA facilities is provided in a new lot on NPS land adjoining the Wallace Center.

#### Landscape Surrounding the FDR Home

The area to the front of the Home presents a rural scene along the busy Post Road (Route 9) that contrasts with the commercial and residential development on the opposite side of the road. The road frontage is lined by a rubble stone wall





Map 3-1: FDR Home and Grounds

#### Legend

- Home of Franklin D. Roosevelt National Historic Site
- Main Bldgs (open to tours and/or public use)
- Park Operation Bldgs (maintenance, storage, residential, or administrative uses)
- Hyde Park Trail
- Other Trail
- P Visitor Parking
- Historic Forest Plantation
- Historic Farm Fields

and a tall screen of white pines set out by FDR in 1914. The original entrance, known as the Home Road, is a straight, tree-lined road marked by brownstone entry piers with iron gates relocated from Mount Hope, the Roosevelt family's previous residence in Hyde Park. With the opening of the Library in 1941, a new public entrance drive was created along the north edge of the property, marked by a stone gatehouse. Both drives, now closed to the public, pass through the North and South Avenue Lots, which the Roosevelts maintained as agricultural fields. At the west end of the fields, the Home Road turns south to the FDR Home, situated along the edge of the terrace overlooking lowlands that extend to the Hudson River. The house faces east toward the Post Road, across a shaded lawn. From the southwest end of the house, FDR enjoyed a panoramic view down the Hudson Valley, with the river, Shawangunk Ridge, and the Poughkeepsie bridges in the distance. This view has been obscured in recent years through forest growth.

To the north of the house are the formal gardens, which were redesigned in 1912 and include a hemlock hedge-lined perimeter, two garden rooms, rose and annual beds, the gravesite of FDR and Eleanor Roosevelt, and a greenhouse built in 1906. West of the formal gardens, along the edge of the terrace, are several outbuildings, the largest of which is the Stable. North of the formal garden is the land FDR knew as the Home Garden, which contained large and small vegetable gardens and a tree nursery. Much of this area was used for the visitor parking lot, which was built by the NPS in 1948 and largely removed as part of the Wallace Center project.

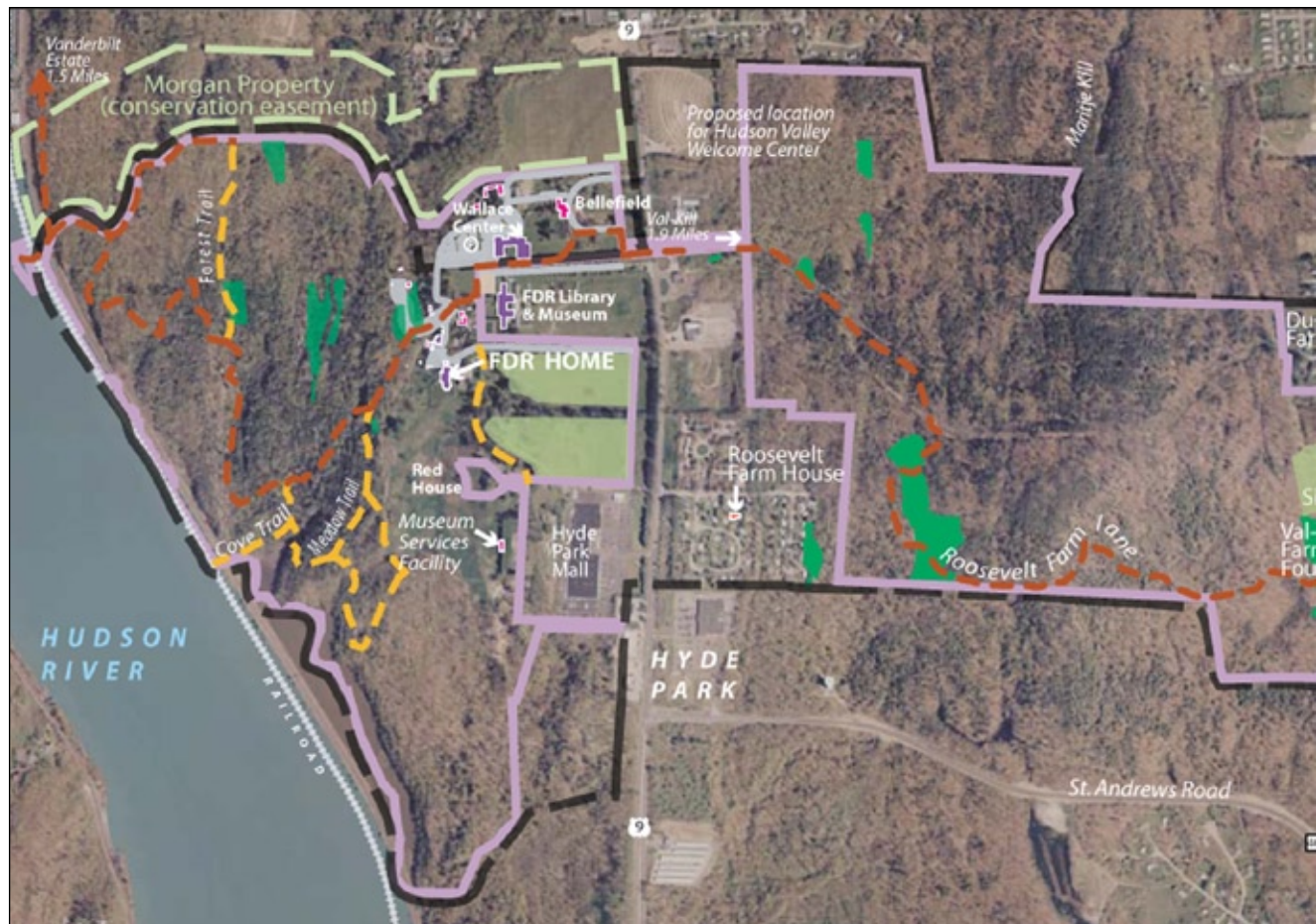
On the lowlands west of the main house are woods that are accessed by the River Road, which crosses the lower part of the J. R. Roosevelt Place to reach the riverfront. This road now forms part of the Hyde Park Trail. With its native oak woods, river frontage, and varied topography, these lower woods were traditionally used by the family as a pleasure ground. There were bridle paths, a swimming pond in the creek that runs through the area, and a network of roads built through the woods by FDR. He also established his first forest plantations on several small old fields and gravel pits here, beginning in 1912. Remnants of these plantations of white and red pine remain along the creek, along with several others set out through the 1910s. Although carefully managed during FDR's day, the NPS largely ceased management after 1945 and allowed the plantations to naturalize.

North of the lower woods is the 53-acre Rogers Land, which FDR purchased in 1935. It contains a white pine plantation set out by FDR in 1936. The northern boundary of this land is formed by Stone Cottage Road, which extends west across a steel truss bridge over the railroad to Crum Elbow Point. FDR had a right-of-way over this road from the Post Road to the river, but a public right-of-way is not currently recognized over the eastern half of the road.

#### **J. R. Roosevelt Place Landscape**

The NPS owns approximately one-half of the J. R. Roosevelt Place as it existed at the time of FDR's death. The lower portion of the property along River Road and in the viewshed of the FDR Home contains roads and trails used by the













public. The J. R. Roosevelt Place layout is largely a mirror-image of the Home property. The straight, tree-lined main entrance drive from the Post Road, today a public road, historically passed through open fields, the southern one occupied by the Hyde Park Mall, and the northern one owned by the NPS. At the terminus of the drive is the Red House, owned by the Franklin and Eleanor Roosevelt Institute (FERI). To the south of the Red House on the river terrace were formal gardens, now the site of the park museum services facility, screened by the gardens' hemlock hedge. Beyond the gardens was a tree-lined trotting course. Although the outbuildings originally stood alongside (north of) the house, the Roosevelt family later moved them to a location off the south side of the main entrance drive. Half of this complex was demolished for the Hyde Park Mall, leaving two former staff residences that survive under private ownership.

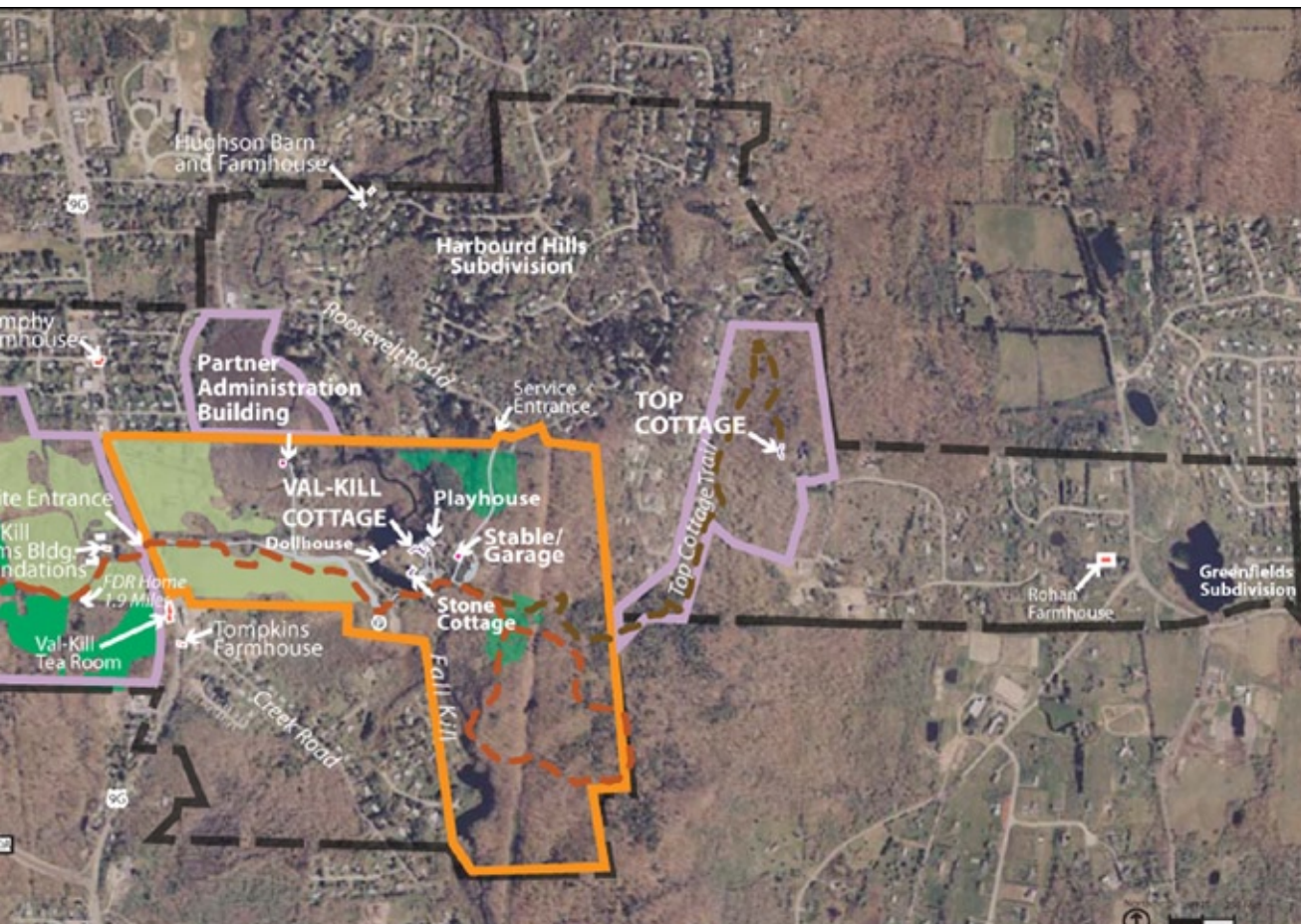


Map 3-2: Historic Roosevelt Family Estate



### Legend

-  Historic Roosevelt Family Estate Boundary (NPS acquisition boundary)
-  Home of Franklin D. Roosevelt National Historic Site
-  Eleanor Roosevelt National Historic Site
-  Main Bldgs (open to tours and/or public use)
-  Park Operation Bldgs (maintenance, storage, residential, or administrative uses)
-  Outlying Historic Bldgs
-  Top Cottage Trail
-  Hyde Park Trail
-  Other Trail
-  Visitor Parking
-  Historic Forest Plantation
-  Historic Farm Fields





#### **Lands between Route 9 and Route 9G**

The land between Route 9 and Route 9G, acquired by the NPS in 2007 and comprising 334 acres, includes the “Home Farm” (established by James Roosevelt) and the western portions of farms acquired by FDR in 1911, 1925, and 1937. Aside from old-field succession on the fields that lined Route 9G and the loss of one farmhouse and barns, this parcel retains much of the character that FDR knew. Notable historic features include the native oak forest, managed by FDR for timber production; numerous conifer plantations, including several early examples FDR set out in the 1910s and 1920s; remnants of his first Christmas tree plantation set out in 1926; and demonstration and experimental plantations established by the New York State College of Forestry between 1930 and 1933. Together, these plantations represent the full spectrum of FDR’s forestry program. They have suffered from lack of management since FDR’s death, but remain largely intact. The property is traversed by a network of roads used by FDR to go to Val-Kill and Top Cottage from the Home and to access his plantations. A portion of this network was recently rehabilitated as Roosevelt Farm Lane. Numerous stone walls date to the early history of the property. Only one building remains standing: a concrete-block dairy barn erected by Elliott Roosevelt as part of Val-Kill Farms in 1947. There are also building and structural remnants of the former farmsteads.

The Home Farm has lost most of its rural character along its most prominent side facing the Home, due to commercial strip development along Route 9. Remnants of the open fields that historically lined the highway are found in three parcels of largely undeveloped land, encompassing some 50 acres now owned by Scenic Hudson, Inc. These include the 29-acre Hyde Park Drive-in parcel, which retains the open character of the northernmost field, with stone walls and aged sycamores lining the road; a 15-acre parcel south of the Roosevelt Theater, now characterized by old-field succession; and an adjacent land-locked 4-acre parcel. Contiguous with the NPS property to the southwest is an approximately 13-acre parcel that is privately owned. Two other substantial parcels of former Roosevelt estate lands remain: a 13-acre and a 24-acre parcel, each with a residence, adjacent to the southern boundary of Val-Kill.

The remaining property historically part of the Roosevelt Family Estate was developed for residential and commercial purposes after 1945. Some of these lands retain landscape features that existed in FDR’s lifetime, including farmhouses associated with upland farms he purchased. A large number of mature evergreens, remnants of the forest and Christmas-tree plantations FDR established during the 1930s and 1940s, dominate the landscape of the Harboured Hills development north of Val-Kill.

#### **Top Cottage Landscape**

Top Cottage preserves 40 acres of FDR’s hilltop retreat, located on the highest point in the Roosevelt estate. It consists of a mostly wooded landscape surrounding the cottage. Much of its rural setting has been lost to suburban development. The NPS boundaries reflect mostly post-1945 subdivision lines, and the NPS also owns three undeveloped lots along Val-Kill Drive, which are covered with

woody succession growth. Due east and northeast of the property, the land remains forested and undeveloped. The southeastern end of the NPS property lies outside the historic estate boundary and was acquired to provide a right-of-way for a trail connection with Val-Kill.

From the porch of Top Cottage there are panoramic views through the forest understory across the Hudson Valley to the Catskill Mountains. Historically, the view to the Hudson Highlands to the southwest was open but is now obscured by vegetation. In 1999-2000 the Franklin and Eleanor Roosevelt Institute returned the landscape to the naturalistic, forested character that FDR had intended, removing several post-1945 structures and restoring the original entrance drive loop on the east side of the house. To the north of Top Cottage is a road (now part of the trail to Val-Kill) that FDR laid out c. 1935 as his first access to the site.

### **Bellefield Landscape**

Bellefield is a 24-acre property north of the Home that historically formed the core of the Newbold-Morgan estate. The property extends from the Post Road to the edge of the river terrace, excluding the Wallace Center. North of the NPS property is a large field along the Post Road that was also owned by the Morgan family and remains in private ownership, but is protected from development by a conservation easement. Bellefield was connected to the FDR Home by a drive that ran north-south from the Home Road along the east side of the Rose Garden. Portions of this road remain as a pedestrian path, but most of it was removed for construction of the Wallace Center. Stone Cottage Road, the historic Bellefield river road, originally followed the north property boundary but has been replaced in part by the new visitor entrance road.

The centerpiece of Bellefield is the mansion. Unlike the FDR Home and the Red House, it is positioned in the middle of the river terrace closer to the Post Road. The land in front of the house is occupied by a broad lawn and a tree-lined U-shaped entry drive built prior to 1867. The landscape is set apart from the Post Road by a clipped hemlock hedge, ashlar masonry walls, and a mature white-pine screen that is an extension of the one planted by FDR at his home. Extending off the south side of the house is a formal garden built c. 1912 and designed by Beatrix Farrand, considered one of the finest landscape architects of the early 20th Century. This garden consists of three sections enclosed by rustic stone walls and hemlock hedges, and fronting on a raised brick terrace along the mansion. While plantings have changed over time, the walks and spatial character of the garden remain intact. Farrand also purportedly designed a “wild garden,” characterized by naturalistic plantings, in an area outside of the garden. Few remains of the wild garden are visible, although evidence of it may remain below ground as archeological resources.

West of the mansion is the rear lawn with specimen trees, and beyond that is land historically used as flower and vegetable gardens and now occupied by the Wallace Center and parking lot. Northwest of the Wallace Center is the 50-square-foot Crooke Family burial ground, partially enclosed by a stone wall and containing three visible headstones, the earliest dating to 1772. Along one



side of the burial ground, hidden by mature trees, is a water tower and pump house. To the north of the burial ground is the estate's complex of service buildings, erected between 1905 and 1917.

#### **Eleanor Roosevelt National Historic Site (Val-Kill)**

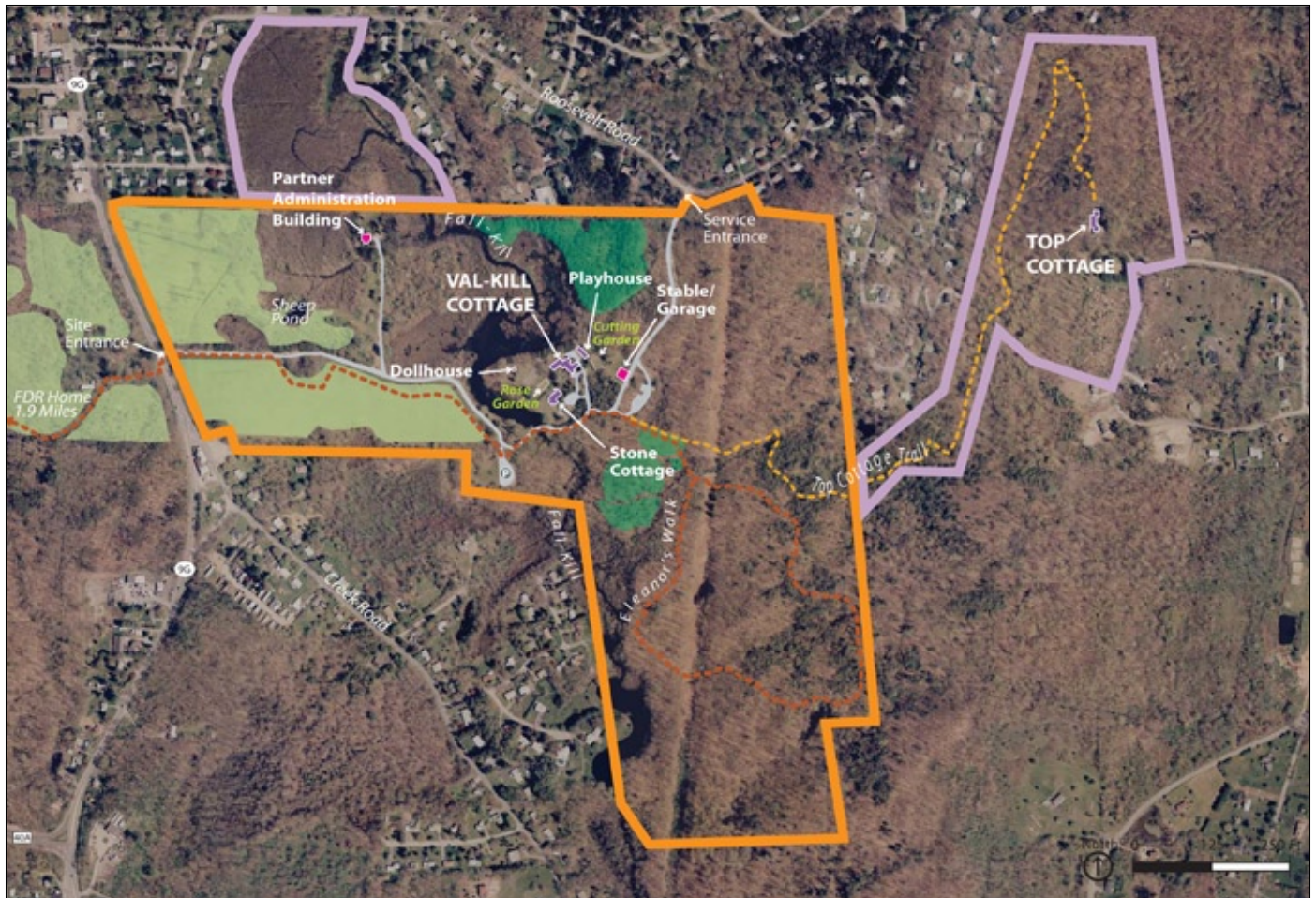
Eleanor Roosevelt National Historic Site is a 181-acre property containing Val-Kill, a complex of buildings that served as Eleanor Roosevelt's country retreat and experimental business beginning in 1924, and as her home from 1945 until her death in 1962. The park comprises all of the land historically associated with Val-Kill at the time of Eleanor Roosevelt's death, including the original property acquired by the NPS in 1978 and a small lot on Roosevelt Road acquired in 1980. (An 18-acre parcel located along the Fall Kill north of the site, acquired in 2002, is administered as part of Home of FDR NHS, as is the Top Cottage land to the east).

The park is located along the east side of Route 9G (Violet Avenue), a two-lane highway. The approach to the park from both directions has a suburban character, dominated by tracts of single-family houses, but the park itself preserves the rural character of the Roosevelt era. Most of the suburban development occurred during the last ten years of Eleanor Roosevelt's life, and so she witnessed the dramatic change in the landscape.

The entrance to the park from Route 9G is a narrow lane, originally a farm road predating the construction of Val-Kill. The lane divides the property roughly in half, bordering a broad, maintained hayfield to the south and areas of successional field, wetlands, and woods to the north. A minor road extends off the north side of the entry lane toward the former caretaker's house, built after Eleanor's death.

Toward the east end of the hayfield, the entry lane turns south along the southeastern side of Val-Kill Pond, a section of the Fall Kill dammed by the Roosevelts in 1925. On the approach from the entry lane, the pond opens to a view of the core of Val-Kill. To the northeast, a large white pine plantation set out by FDR in 1914 frames the view. The entry lane reaches the historic core over a plank bridge and stone dam on the Fall Kill. Public vehicular access to the core is restricted, and visitors park in a small lot built by the NPS within an orchard. A side road, now maintained as part of the Hyde Park Trail, extends in a loop through the lower section of the park. This south part of the park is primarily oak forest, except for the remnants of several white cedar, tulip tree, and Scotch pine plantations set out as experimental plots by the New York State College of Forestry in 1930-31.

The core of Val-Kill is anchored by two primary buildings and several outbuildings, set mostly in a wooded landscape with open lawn bordering the pond. The earliest building is Stone Cottage. Eleanor Roosevelt's friend, Nancy Cook, maintained extensive flower gardens at the back and south side of the house during her residency from 1924 to 1947, but most of these gardens were not maintained in the later years of Eleanor Roosevelt's life. To the rear of Stone Cottage is Val-Kill Cottage.



Map 3-3: Val-Kill and Top Cottage

**Legend**

- Eleanor Roosevelt National Historic Site
- Home of Franklin D. Roosevelt National Historic Site
- Main Bldgs  
(open to tours and/or public use)
- Park Operation Bldgs  
(maintenance, storage, residential, or administrative uses)
- Top Cottage Trail
- Hyde Park Trail
- P Visitor Parking
- Historic Forest Plantation
- Historic Farm Fields



Vanderbilt Mansion National Historic Site preserves the park or western half of the Vanderbilt Estate, “Hyde Park,” including the mansion, formal gardens, service buildings, entrance gates, riverfront, and river views. The property is bounded by U.S. Route 9 (Albany Post Road) on the east; Market Street and Hyde Park hamlet to the south; a railroad and the Hudson River to the west; and private property to the north. The only portion of the former Vanderbilt property west of Route 9 that is not owned by the NPS is the privately owned Wales House at the southeast corner of the estate.

The front of the estate on Route 9 and Market Street is lined by an ashlar masonry wall, with a tall screen of white pines behind it along Route 9. The primary visitor entrance to the site is through the Vanderbilts’ main entrance at the south gate, built in 1898 and matching the river gate near the end of Market Street. The grounds reflect the general organization of the picturesque landscape designed by Andre Parmentier in 1829-1830 in the idealized rural style of English landscape gardening then coming into fashion in America. This style is most evident in the naturalistic alignment of the main drive, the setting of the Mansion amid expansive lawns, and the river views.

Past the south gate, the main drive descends to a dammed section of Crum Elbow Creek, which it crosses via the White Bridge. The drive then ascends the creek bank and turns north at the corner of the formal gardens toward the oval, a broad expanse of open lawn along the east front of the Mansion encircled by the main drive as realigned in 1910. To either side of the oval stretch the north and south lawns, which are framed by woods and contain numerous specimen trees, notably a ginkgo that may have been planted by Samuel Bard in 1797. North of the oval, the main drive continues along the edge of the river terrace, bordering the north lawn, the location of the visitor parking lot added by the NPS. An overlook along the far side of the drive provides a dramatic view up the Hudson Valley, with the Catskill Mountains in the distance. This view was made famous in numerous 19th-Century prints, beginning with Currier & Ives around 1835. Beyond the overlook, the main drive exits to Route 9 by the north gate, built in 1906.

Just before the north gate, the main drive intersects with Bard Lane, which follows the north boundary of the park to the Hudson River, passing an open field. Bard Lane crosses over the railroad on a narrow iron-girder bridge to one of the few arms of land in the area that extend beyond the railroad into the Hudson River. This land is wooded and contains a small visitor parking lot added by the NPS. The remainder of the park to the south is separated from the riverfront by the railroad. A carriage road laid out in 1898 parallels the riverfront from Bard Lane to the river gate near Market Street. This road, separated from the railroad by an iron fence with cast-stone piers erected c. 1919, originally accessed the main Vanderbilt boathouse (no longer extant). Also along the road is a small plantation of Norway spruce and a plantation of white pine along Bard Lane.

The Mansion is situated roughly in the middle of the park near the edge of the river terrace. It occupies the site of the previous houses erected by the Bard, Hosack, and Langdon families. The view is maintained through clearing

the steep bank below the house, extending nearly to the lower carriage road. The Mansion is surrounded by lawn and specimen trees and is approached from a widened area of the main drive. In 1923, evergreen foundation plantings were added, but they were removed by the NPS in the 1970s. To the north of the Mansion is the Pavilion.

South of the Mansion, at the far end of the south lawn, are formal gardens, the only part of the landscape that deviates from a picturesque, naturalistic style. Between 1901 and 1934, the Vanderbilts redesigned and enlarged the gardens and rebuilt the greenhouses, retaining much of the earlier organization and some of the built features, continuing the use of red brick for walls and buildings. This maintained the character of the gardens as a discrete landscape feature, without formal relationship to the Mansion and accessed from it only by an inconspicuous footpath bordering the edge of the river terrace.

The formal gardens consist of a series of garden rooms that form a square with an extension to the east. To the north are the matching brick Tool House and Gardener's Cottage. Between the two structures was the Carnation House, removed in the 1950s. To the north are two raised terraces where the Vanderbilt greenhouses stood. These were erected between 1897 and 1908 and were removed by the NPS in the 1940s and 1950s. Below the greenhouse sites are two terraces with raised beds, and below them, the Italian Garden, the primary garden room. It features perimeter brick walls, an axial walk, terminal pergolas, and a pool, and was initially built in 1902-1904 according to the design of James L. Greenleaf. In 1910, a new garden room enclosed by brick walls and including a Renaissance Revival-style pavilion was built off the east side of the Italian Garden according to the design of the Philadelphia nurserymen and landscape architects Thomas Meehan and Sons. In 1916, this extension, now known as the Rose Garden, was replanted with roses. The formal gardens reflect significant efforts by the park and The Frederick W. Vanderbilt Garden Association that began in the late 1970s to address the abandonment that had begun during World War II. To date, the garden landscape has been reestablished, with the exception of the greenhouses.

Below the formal gardens is the Crum Elbow Creek valley, a naturalistic landscape that forms the southern end of the park. Paralleling the creek with its ponds and waterfalls is a gently winding drive lined by specimen trees and grass shoulders. The drive extends from the main drive at the White Bridge to the river gate off Market Street and provides access to the Coach House. Between the White Bridge and the Coach House is situated the Power House, which used waterpower to generate electricity for the estate. The access road to the Coach House, which connects with Market Street, crosses Crum Elbow creek over a rustic stone-faced arched bridge built in 1897.

The Vanderbilt farm—the portion of the Vanderbilt estate east of the Post Road—consisted of approximately 459 acres during Vanderbilt ownership, aligning with the north and south boundaries of the National Historic Site and extending east approximately a third of a mile. This area is now privately owned, and much of it has been subdivided for residential development. South of the farm complex is a tunnel beneath Route 9, known as the Subway and constructed in 1906 to facilitate access between the farm and the park sections of the estate.



- Legend**
-  Vanderbilt Mansion National Historic Site
  -  Main Bldgs  
(open to tours and/or public use)
  -  Park Operation Bldgs  
(maintenance, storage, residential,  
or administrative uses)
  -  Hyde Park Trail
  -  Visitor Parking



Map 3-4: Vanderbilt Mansion National Historic Site



Map 3-5: Vanderbilt Estate

#### Legend

- Historic Vanderbilt Estate Boundary
- Vanderbilt Mansion National Historic Site
- Main Bldgs  
(open to tours and/or public use)
- Park Operation Bldgs  
(maintenance, storage, residential, or administrative uses)
- ✱ Historic Vanderbilt Farm Bldgs
- Hyde Park Trail
- P Visitor Parking



## Historic Buildings and Structures

There are some 40 historic buildings and over 90 other historic structures at Roosevelt-Vanderbilt National Historic Sites. The primary historic structures are the FDR Home, Val-Kill Cottage, Stone Cottage, Top Cottage, the Roosevelt Gravesite, the Vanderbilt Mansion, and the various outbuildings associated with the main residences. Other historic structures include bridges, roads, dams, gardens, stone and masonry walls, and statuary.

The buildings at the three sites are important not only as architectural specimens, but for what they reveal about the lives of the families who lived there. For example, when horses were required for transportation, some form of shelter was necessary, but the scale and embellishment of stables and coach houses suggest their importance to the owners. Similarly, a greenhouse is not absolutely essential but informs us about the family's tastes and values.

According to the parks' Facility Condition Index (a system of ranking the condition of park resources) the conditions of these structures park-wide can be generalized as one-quarter in good/fair condition, one-half in poor condition, and one-quarter in serious condition. Because of personnel and funding constraints, deterioration of structures is almost exclusively due to deferred preventive and cyclic maintenance.

## Roosevelt Estate

### Home of Franklin D. Roosevelt National Historic Site

#### FRANKLIN D. ROOSEVELT HOME

Like other rural estates in the vicinity, the FDR Home was oriented toward the Albany Post Road, but set well back from it. FDR's father James purchased the house and surrounding land in 1867 and named his estate "Springwood". The original main house on the property dates to c. 1800 and was altered over the years, most notably by Josiah Wheeler, who added a three-story tower on the south end and a servants' wing on the north. Additional changes were made under James Roosevelt's ownership. The house was substantially rebuilt by FDR and his mother Sara Delano Roosevelt in a neoclassical style according to the design of Francis W. Hoppin in 1915–1916. This alteration, which gave the house its present appearance, generally succeeded in imposing dignified unity on the piecemeal construction. A fire in 1982 did considerable damage, particularly to the third floor, and the NPS restored the structure to its previous condition.

The importance of this house in FDR's life can scarcely be exaggerated. Looking out at the Hudson from his window formed his perception of the world, and thereafter the house gave him a sense of continuity and security that were central in his life. After its modernization, it figured prominently in his political career as a setting for meetings, workplace, and housing for important guests.

#### STABLE

The Queen Anne-style Stable was built in 1886 according to the design of noted Hudson Valley architect Frederick C. Withers to supplant the structure that existed when James Roosevelt bought the property. There were no major structural changes until a sleeping porch was added in 1924. Raising trotting horses

was important to James Roosevelt, and FDR began riding when he was four years old, accompanying his father on inspections of the estate. FDR's body was drawn in a caisson by horses from this stable on its final journey from the railroad siding to his gravesite.

#### GARAGE

After the larger stable was completed in 1886, the original stable Josiah Wheeler built c.1850 housed only work animals. It was modified for automobile use in 1910, and Sara gave FDR his first auto in 1911. The NPS rebuilt this structure in 1974 after a fire in 1971.

#### GREENHOUSE

Sara ordered a new greenhouse built in 1906. Fresh flowers, especially roses, were important in the lives of the Roosevelts. Their surname is derived from roses, and the family crest contains three roses. The NPS continued planting roses, though not the same varieties; and the greenhouse may be the only structure used as it was in FDR's time. The NPS performed an extensive rehab of the structure 1989-90.

#### LARGE ICE HOUSE

James Roosevelt built this saltbox-style structure in 1899 to supplement a small ice house that existed when he purchased the property. FDR believed that home-grown ice made drinks taste better, and ice cut on the pond below the house may have been used as late as 1940.

#### OTHER STRUCTURES

Also on the property are a utilitarian equipment shed built in 1911 to replace an earlier one that was torn down; a laundry, dating to c.1850, where laundry was done by traditional methods until an electric washer and mangle were installed in 1918; a small 19th-Century ice house; a pump house; a gothic-style Gardener's Cottage (1850s); and a duplex residence (c.1883).

#### ROOSEVELTS' GRAVESITE

The graves of Franklin D. and Eleanor Roosevelt are marked by a plain white marble monument designed by FDR and located at a site he chose in the Roosevelt rose garden.

#### TOP COTTAGE

Franklin D. Roosevelt's "Hill-top Cottage" was built in 1938-39 according to the President's design, working with architect Henry Toombs. Expressing FDR's interest in the regional Dutch Colonial vernacular architecture, it is a one-story, seven-bay, fieldstone building with a broad porch along the front (west) side. Various features of the building were designed to enhance accessibility for FDR's wheelchair. The president made some modifications to Top Cottage in his lifetime, but alterations made after his death were removed during a restoration in 1999-2000 by the Franklin and Eleanor Roosevelt Institute. FDR's personality



is perhaps even more strikingly evident at this cottage than at the main house. Whereas the main house shaped his character, Top Cottage was designed to express the ideas and values formed during his life. Top Cottage was listed as a National Historic Landmark in 1997.

#### **Bellefield Estate**

This property, also known as the Newbold-Morgan Estate, was acquired by the NPS in 1974 and 1975. The historic centerpiece of Bellefield is the mansion, originally built c. 1795 and reconstructed in a neoclassical style by McKim, Mead, and White for Thomas Newbold in 1909–11. Newbold had purchased the mansion and its immediate surroundings in 1885. A prominent Democrat, he became a friend and adviser of young FDR. His remodeling of the mansion may have inspired FDR to follow suit, and Newbold expanded his estate by taking up adjacent farms, as FDR also began doing. Newbold also erected all the outbuildings except the Yellow Barn. Forming the north side of the courtyard, this barn may have been built with the original mansion house before 1800, with board-and-batten siding most likely added in the mid-19th Century. On the east side fronting on the new entrance drive is the fieldstone Colonial Revival-style Stone Garage, designed by McKim, Mead, and White and erected in 1916–17. To the rear, forming the west side of the courtyard, is the Block Garage, an early example of concrete block construction, built in 1905 and later. Southwest of these buildings, facing the Wallace Center parking lot, is the Stone House, the former superintendent's quarters, built in 1905. The last building in the Bellefield service complex is the privately owned Morgan House, located on the north side of Stone Cottage Road just outside the park boundary.

#### **Eleanor Roosevelt National Historic Site (Val-Kill)**

##### **VAL-KILL COTTAGE**

Eleanor Roosevelt referred to this building as “the furniture factory,” “the factory,” and “the shop.” She began calling it Val-Kill Cottage after converting it to her home. It was built in 1926 by Poughkeepsie general contractor John Eylers as a furniture factory for Eleanor Roosevelt and her friends Marion Dickerman and Nancy Cook. With additions in 1928 and 1929, it operated as a furniture factory until 1936. Eleanor Roosevelt converted it to serve as her residence in 1936–37, using local labor to add wings and modify the interior. It became her year-round home in 1945 but was converted to four apartments after her death in 1962.

##### **STONE COTTAGE**

Construction of The Stone Cottage was begun in 1925 and completed the following year. It was designed by Henry Toombs of McKim, Mead, and White, influenced by FDR's interest in the Dutch Colonial-Revival style. It is an L-shaped 1.5-story structure with gabled roofs and a fieldstone end chimney. When Eleanor made Val-Kill Cottage her home, Marion Dickerman and Nancy Cook continued living in Stone Cottage and added to it in 1936–37.

#### STABLE-GARAGE

This is a utilitarian two-story unpainted concrete-block structure east of Val-Kill Cottage, built in 1937.

#### DOLLHOUSE

In 1935 Sara Roosevelt had this small frame building added for her grandchildren near the Roosevelt Main House and known there as Swan Cottage. Eleanor Roosevelt moved it to Val-Kill in 1945 for use by her grandchildren, and it was remodeled into a studio apartment after her death in 1962.

#### PLAYHOUSE

A one-story frame building behind Val-Kill Cottage, it was built in several phases, beginning in 1928. Originally a garage/tool shed, it was adapted to a forge and metal-working shop for Val-Kill Industries in the 1930s. It was converted to a recreation room and small apartment in 1941 and made into a single apartment in 1962.

#### MISCELLANEOUS STRUCTURES

Miscellaneous structures from the Eleanor Roosevelt period include the swimming pool, completed in 1935 and repaired and stabilized by the NPS in 1981; the picnic fireplace; the tennis court, and a flagpole.

#### Vanderbilt Estate

##### VANDERBILT MANSION

The Mansion, a monumental Beaux-Arts neoclassical-style house designed by Charles F. McKim of McKim, Mead, and White and built in 1896–1899, is situated in the approximate middle of the park near the edge of the river terrace. Supported by steel girders and faced with Indiana limestone, the three-story mansion (plus basement) was built by the Norcross Brothers. It contains more than 50 rooms, including servants' quarters, and the interior spaces used by the Vanderbilt family are lavishly decorated.

##### THE PAVILION

To the north of the Mansion is the Pavilion, a neoclassical-style guest house designed by McKim, Mead, and White and built by Norcross Brothers in 1895. It was used by the Vanderbilts as their residence while the mansion was being constructed and furnished.

##### COACH HOUSE

The Coach House was built in 1897 to the design of architect Robert H. Robertson. It is a two-story brick structure in Queen Anne style. The architect altered the building in 1910 to adapt it as a garage for automobiles. It contained a fully equipped machine shop and living quarters.

#### POWER HOUSE

Located on the south side of Crum Elbow Creek, the Power House is a one-story cobblestone building built in 1897 in a rustic style. It produced electricity by water power until 1938.

#### TOOL HOUSE AND GARDENER'S COTTAGE

These matching buildings are the only two remaining that pre-date Vanderbilt occupancy. Two-story brick structures in a style suggesting an Italian Villa, they were built in 1875 by Walter Langdon to a design of Boston architects John H. Sturgis and Charles Brigham.

#### GATE HOUSES

The Main Gate House and Lower Gate House were both built by Norcross Brothers to McKim, Mead, and White designs in 1898. Both echo the classical Beaux-Arts styling of the mansion.

#### MISCELLANEOUS STRUCTURES

Numerous structures were erected to support and enhance the estate's vast gardening operation and embellish the designed landscape. The National Register nomination for the site specifically notes the Pool House (1903), the Loggia (Garden House, 1910), Pergola (1903), White Bridge (1897), Rustic Bridge, Lower Dam, Power House Dam, White Bridge Dam, Railroad Bridge, Albany Post Road Bridge, Italian Gardens, and stone walls and gates. The White Bridge, designed by the firm of W.T. Hiscox & Co. and built in 1897, was one of the first steel and concrete bridges in the U.S.

#### **Archeological Resources**

The archeological resources at the parks are physically and historically associated with the nationally significant historic structures and cultural landscapes. This archeological evidence provides an additional set of information about the parks and those who historically lived and worked on these lands. This evidence can also shed various perspectives on the major interpretive themes for the parks.

While not fully documented, an array of historic and a lesser amount of prehistoric archeological resources are contained in the parks. The NPS began conducting archeological surveys of the parks in the 1970s, relying on historical documentation and visual observation. An Archeological Overview and Assessment was completed for the Home of FDR National Historic Site in 2008 and one is underway for Vanderbilt Mansion National Historic Site. A preliminary assessment of archeological resource potential was conducted at Val-Kill in 1979. More detailed archeological work has generally been done as compliance in conjunction with individual construction projects rather than as a systematic investigation.

#### HOME OF FRANKLIN D. ROOSEVELT NATIONAL HISTORIC SITE

Franklin D. Roosevelt's interest in his estate extended to its archeological resources, both prehistoric and historic. He noted prehistoric artifacts, which he

called arrowheads, turned up by plowing and speculated on the location of buildings that were no longer extant. These surmises were often acknowledged in later studies. An Archeological Overview and Assessment was completed in 2008, but was limited to park lands west of Route 9. The study discusses 17 previous archeological projects and interventions, beginning in the 1970s, and describes 27 sites or resource locations. It lists more than 70 entries for the NPS Archeological Sites Management Information System (ASMIS), of which about 10% are prehistoric. East of Route 9, an archeological survey conducted to accompany the Roosevelt Farm Lane rehabilitation project in 2007 confirmed the presence of more than 30 sites, with the possibility of several others.

#### ELEANOR ROOSEVELT NATIONAL HISTORIC SITE (VAL-KILL)

A 1979 survey located the sites of most former structures from the Eleanor Roosevelt period, as well as an earlier farmhouse site and a dump site from the Roosevelt period. The site is stable, but the NPS has covered it with brush and wood. It is not known whether this site dates from before or after the historic period (1962). The area has little potential for disturbance.

#### VANDERBILT MANSION NATIONAL HISTORIC SITE

A 1973 survey located several sites relating to previous owners of the property, remains of the Sexton Estate purchased by Frederick Vanderbilt, as well as several trash dumps. A planned highway rehab in 1995 prompted archeological surveys that located previously unknown historic features. An Archeological Overview and Assessment is in progress.

### Collections and Archives

#### HOME OF FRANKLIN D. ROOSEVELT NATIONAL HISTORIC SITE

Collections at this site include materials associated with the Roosevelt property as well as with Bellefield. The park's museum collection includes primarily historic material (approximately 10,000 items) and archeologically recovered objects (77,000 items and associated field records). Like the site as a whole, the significance of the collection is based on its close association with FDR and other members of the Roosevelt family. The core of the collection is comprised of the furnishings of the main house, most of which were received by the NPS along with the house itself from the Roosevelt family in 1946. Other items original to the house have been returned through donation, purchase, and loan from family members and others.

Family portraits and snapshots, along with autographed photographs of royal guests and world leaders, present a compelling depiction of Roosevelt family life. FDR's collecting interests and hobbies are represented through his personal library, maritime prints and paintings, ship models, and bird and coin collections. The fine Chinese porcelain and lacquer ware are reminders of the Delano family's involvement in the China trade. Among the most evocative artifacts in the collection are the President's top hat, personally designed wheelchair, and telephone, once connected directly to the White House. The significance of the collections also derives from their integrity. Despite the fact that family



members removed some personal items, the collection remains much as it was at the time of FDR's death. As he intended, the house, despite an imposing exterior, conveys a comfortable impression that invites the visitor into the lives of its occupants.

The park's natural history collection is comprised primarily of herbarium samples generated during the Historic Plant Inventory conducted in 1996. Collections resulting from archeological research on park lands are by law part of the park holdings. The park holds limited archival collections associated with the site during the historic period, including a collection of daybooks of the estate gardener William Plog, photographs received as part of the furnishings in 1946, and a small photograph series of the Roosevelt and Newbold/Morgan properties. Remaining archival collections are comprised primarily of NPS management records, plans, studies, oral history interviews, and photographs created during the course of research, preservation work, and site management since 1946.

Outside of the Home of FDR, the largest Roosevelt collection is held at the adjacent Franklin D. Roosevelt Presidential Library and Museum. Operated by the National Archives and Records Administration, the Library holds the primary collection of presidential and personal papers associated with FDR, Eleanor Roosevelt, and numerous associates, as well as large collections of historical objects associated with both Franklin and Eleanor Roosevelt.

#### ELEANOR ROOSEVELT NATIONAL HISTORIC SITE (VAL-KILL)

Following Eleanor Roosevelt's death, the furnishings and personal possessions either passed to family and friends or were sold, primarily in two major auctions. Collections at the site include materials associated with Val-Kill and the historic use of the property and comprise mainly historical material (about 4,000 items). The bulk of the collection includes objects necessary to maintain the historic appearance of Mrs. Roosevelt's cottage. A primary objective of the park's collection is to illustrate Roosevelt family life, Eleanor Roosevelt's activities at Val-Kill, and her influence as a world leader. Significant items include handcrafted furniture produced by the Val-Kill company, family photographs, personal memorabilia, and gifts valued for their associations. Collection-based interpretation is facilitated through furnished historic interiors and small thematic exhibits throughout the park. The collection is expected to grow substantially as the NPS continues to acquire original objects related to Mrs. Roosevelt's life and work at Val-Kill.

In addition to objects associated with the historic site, the collection includes approximately 15 linear feet of documents, photographs, and movie film, primarily comprised of the Cook-Dickerman collection dating from the 1920s–1940s; and shop drawings, tools, and equipment associated with Val-Kill Industries and the Arthurdale project; and Mrs. Roosevelt's friendship and business association with Nancy Cook and Marion Dickerman.

#### VANDERBILT MANSION NATIONAL HISTORIC SITE

The museum collection associated with the Vanderbilt Mansion includes over 6,500 historic objects, of which approximately 4,000 are on exhibit in the mansion; about ten linear feet of historic archival material associated with the estate;

and a small collection of site-associated archeological artifacts. The significance of the collection is based on its integrity as a single collection from one owner representing late 19th- and early 20th-Century tastes in architectural, landscape, and interior design. Approximately 90% of the original furnishings for the mansion survive in the collection. The interior furnishings of the mansion, which represent the largest percentage of the collection, demonstrate the Euro-centric styles preferred during the American Renaissance. In addition to the objects displayed in the public rooms of the mansion, the collection includes equipment and furnishings associated with the kitchen, laundry, other domestic work areas and offices, and the servants' bedrooms. The family's carriages and automobiles are also part of the collection. The overall impact of the furnishings conveys the opulence of their era, replete with symbols of wealth and power.

Two highly important subcollections are the 19th-Century French decorative arts and the surviving original textiles. Furniture, ceramics, clocks, and bronzes represent the work of highly skilled and popular 19th-Century French artisans. The textiles are among the finest examples of the period in any collection, and represent the highest standard of quality and craftsmanship. The collection also includes important antiques ranging from Greek and Roman garden ornaments to exceptionally rare and important objects acquired by Stanford White for the house. Highlights of this collection are the pair of 18th-Century grand orreries by George Adams of London and the four-century-old Isfahan audience carpet in the Dining Room—one of the largest of its type in existence.

Historic archival material includes a remarkably complete resource on Vanderbilt estate management. The collection of original estate records, ledgers, account books, diaries, and photographs allow for a year-by-year reconstruction of estate management and staffing by department, providing insight into the operation of the farm, the park and formal gardens, as well as the mansion, pavilion, and coach house.

## **Natural Resources**

*The following section is adapted from Sheila Colwell, "Roosevelt-Vanderbilt Natural Resource Assessment" (draft, 2007).*

### **The Physical Setting**

Hyde Park is located in the mid-Hudson Valley, and its geography is strongly influenced by the great river. The river here is still tidal, so that the Native Americans reportedly described it as flowing both ways. The valley in this region is bounded—and the watershed is defined—by the Catskill Mountains to the west and the Taconic Range to the east. The Catskills provide a magnificent vista from several points in the park and help define the grandeur of the Hudson Valley that inspired early artists.

The origins of the Hudson River may go back to the Cretaceous Period, some 75 million years ago, but the current landforms were strongly affected by the Laurentide ice sheet. During the last glacial period—called the Wisconsin (10,000–20,000 years ago)—ice sheets covered almost all of Canada and extended as far south as New York harbor, where the farthest reach of the glaciers is marked

by a terminal moraine. As the ice sheet advanced towards the south, it eroded soils, sediments, and bedrock; and as the glaciers retreated, they deposited layers of glacial till.

When the glacier began to retreat, its disruption of previous drainage patterns created temporary glacial lakes, long bodies of frigid water that survived for several thousand years until the rivers recovered their former channels. Glacial Lake Albany once extended as far north as Glens Falls and accounts for the clay deposits that are important in portions of the Hudson Valley. The passing of the glaciers is visible in the area's rounded hills, altered drainage patterns, and deposits of glacial till, which consists of a heterogeneous mixture of poorly sorted rock materials. The western half of Home of FDR NHS consists of till, but the Eleanor Roosevelt NHS has only a small portion. The thickness of the glacial till over bedrock ranges from 0 to 20 feet on hilltops and from 20 to 40 feet on the slopes. Kettles formed when large blocks of ice and sediment left behind by the glacier created depressions that became small ponds or lakes. Kame terraces, found in the vicinity of the parks, are deposits that often slope down-valley more steeply than the valley floor and were formed where a glacial stream flowed along the margin of the glacier.

There are five types of bedrock in Dutchess County; however, all three national historic sites overlie the Middle Ordovician-aged Austin Glen Graywacke member of the Normanskill formation. This formation was deposited approximately 430 to 470 million years ago on an unstable continental shelf. Sediments were shed from a rapidly rising landmass to the east during the orogeny that formed the Taconic Highlands. The prevailing configuration of the land, which has guided human occupancy, consists of steep bluffs 100 to 200 feet high overlooking the Hudson River, which is less than 10 feet above sea level. Vanderbilt Mansion is situated approximately 175 feet above sea level, and the Home of FDR NHS reaches a height of about 180 feet at its northern boundary along Route 9. Moving inland, the surface of Val-Kill Pond lies at an elevation of 217 feet, and Eleanor Roosevelt NHS reaches a maximum elevation of nearly 400 feet at its extreme southeast corner. Top Cottage, as its name implies, is situated on a hill about 450 feet high. It is likely the highest elevation on the FDR property, but is by no means the highest point in Dutchess County, as stated in the National Register nomination.

### **Water Resources and Wetlands**

The Water Resources Management Plan produced for the sites in 1997 provides the most comprehensive review of water resources and potential threats to date, though it does not cover lands subsequently acquired by the NPS. The plan notes that while water quality appears to be good, the knowledge base for all water resources is limited.<sup>1</sup> Estimates of water resources for the three sites include 7.1 km (4.4 mi) of streams, 8.4 ha (20.8 acres) of ponds, 18.7 ha (46.2 acres) of known freshwater wetlands, and 10.1 ha (25 acres) of tidal and freshwater wetlands. Additional wetland habitats, such as vernal pools and wet meadows, have been identified but need to be systematically delineated, mapped, and inventoried.

Primary water resources at Home of FDR NHS include perennial and non-perennial streams and an impounded pond. A perennial stream enters from Morgan Ice Pond on the adjacent property and empties into a freshwater tidal cove on the Hudson River. Two intermittent streams in the northern section of the park total about 1.6 km (1 mi). Roosevelt Ice Pond, once used for ice harvesting and swimming by the Roosevelt family, is an impounded pond of about 0.3 ha (0.7 acres). Siltation is an issue, and a 1985 sedimentation study of the pond yielded a crude approximation of another 100 years before the water retention capacity would be reduced to 20%. Adjacent to the southwest boundary of the park is Roosevelt Cove, a 10.1-ha (25-acre) freshwater tidal marsh owned by the State of New York but under the stewardship of the NPS. (The tidal marsh is described in greater detail in the “Important Natural Communities” section.) The cove represents a rare wetland habitat type in the lower Hudson River basin and provides important habitat for waterfowl, shorebirds, and raptors.

The hydrography of Eleanor Roosevelt NHS is more extensive than the other sites, and more is known about the ponds and wetlands due to the work by Klemens et al. on reptiles.<sup>2</sup> The main fluvial system at the site is the Fall Kill and its perennial and ephemeral tributaries. A wet meadow of approximately 3.2 ha (8 acres) drains into the Fall Kill near the northern edge of the park boundary. Five permanent ponds are on the site: Middle Woodland, Boundary, Hayfield, Curnan House, and Loosestrife. The North Woodland Pond and Buttonbush Pond are ephemeral. Impounded ponds include the Upper and Lower Val-Kill and South Woodland Pond.

Upper Val-Kill, the largest of the three impoundments at about 2.8 ha (7 acres), was created by the Roosevelt family in 1925 by damming the Fall Kill. It serves as the cornerstone of the cultural landscape of the park, though the open character of the pond has been difficult to retain due to silting and invading emergent plants.<sup>3</sup> The results of a recent hydrographic and sediment survey of the pond show that the surface water area has been reduced to approximately 1.6 ha (4 acres), and sediment thickness in the majority of the pond is between 1.8 and 2.4 m (6 and 8 feet). The NPS is currently proposing to restore the pond to more closely reflect its historic conditions by removing accumulated sediment from the open water portion and dredging/clearing emergent vegetation along the edges.

The wetlands at Eleanor Roosevelt NHS comprise part of the Dutchess County Wetlands Complex described by the United States Fish and Wildlife Service (USFWS).<sup>4</sup> This complex provides significant habitat for Blanding’s turtles and other wildlife species. Wetlands include a shrub swamp west of Upper Val-Kill Pond, a wooded swamp and marsh habitats southwest of Lower Val-Kill Pond, a sphagnum shrub swamp near Buttonbush Pond, and a wet meadow near the main entrance.

At Vanderbilt Mansion NHS, there are two perennial streams, Crum Elbow Creek and Bard Rock Creek, and one ephemeral stream. Crum Elbow Creek originates in Rhinebeck and travels 21.4 km (13.3 mi) before entering the eastern edge of the park and emptying into the Hudson River. Bard Rock Creek, 2.4 km (1.5 mi) in total length, originates in Hyde Park and forms a portion of the site’s northern boundary before emptying into the Hudson River. One intermittent



stream drains the hillside below the Visitors Center. In addition, three permanent ponds are impoundments of Crum Elbow Creek: Upper (White Bridge) Pond, Middle (Power House) Pond, and Lower (Lower Dam) Pond. Significant sedimentation has been noted in all three ponds.<sup>5</sup> Known wetlands include four small, non-tidal marshes that total about 0.4 ha (1 acre) and a non-tidal freshwater swamp along the western boundary.

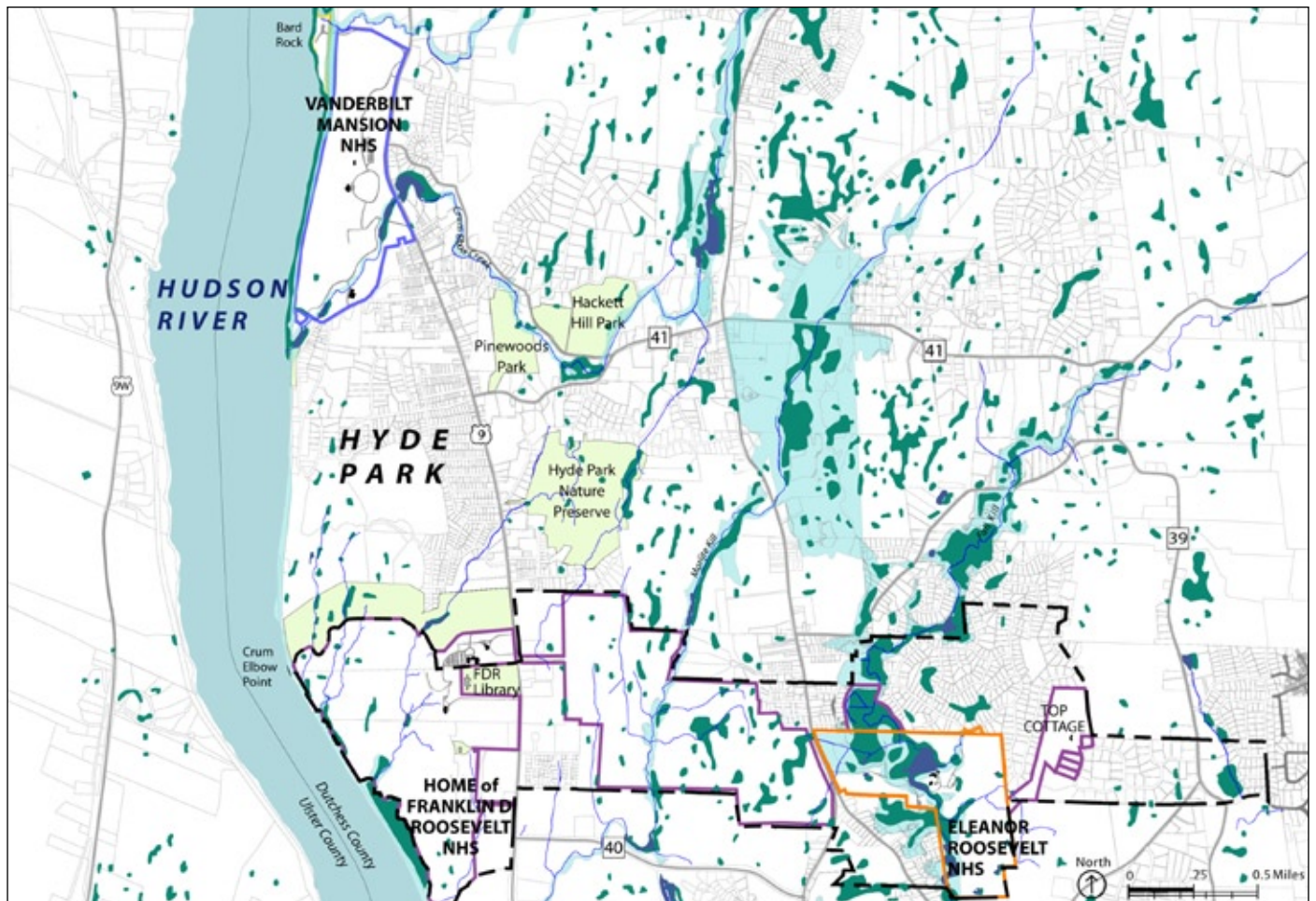
Other than the Hudson River, no fluvial systems within or adjacent to Roosevelt-Vanderbilt have consistently been monitored for discharge. The nearest U.S. Geological Survey Hydro-Climatic Data Network (HCDN) station most representative of streamflow conditions in the park is Wappinger Creek, about 15 miles south of Hyde Park. Data from this station indicate an increase in discharge from October through March and declines from April through September. Flow levels in the parks are considered adequate to preserve natural processes and cultural features, and there are no known flow reductions by upstream landowners.

All waters at Roosevelt-Vanderbilt have been classified under New York State law as Class C (suitable for fish propagation and fishing) or Class D (suitable for fishing). Crum Elbow Creek, currently rated as Class D, was contaminated with alum by an upstream municipal treatment plant prior to its closing in 1978. Alum concentrations in the water column have remained minimal or below detection levels since that time. Crum Elbow Creek and all other Class D streams in the park have been proposed for upgrading to Class C.

Surface water quality is considered good, based on sampling at 11 stations from 1994-1996. Parameters measured included temperature, salinity, conductivity, pH, dissolved oxygen, alkalinity, nitrate, phosphate, chloride, and turbidity. During the 1994-1996 sample period, only five pH measurements from the parks equaled or exceeded EPA criteria. Episodic occurrences of low dissolved oxygen were evident on the Fall Kill, which was likely due to decomposition of organic matter. This was especially evident in Upper Val-Kill Pond. The major potential polluters of park waters are the Hyde Park municipal water treatment plant on Crum Elbow Creek, septic discharges from nearby homes, salt used in road maintenance, agricultural runoff, and the release of toxic material from industrial or commercial facilities.

The NPS Northeast Temperate Inventory & Monitoring Network began water quality monitoring at the sites in 2006 as part of its vital signs monitoring program. Measures of water chemistry (pH, dissolved oxygen, temperature, specific conductance, acid neutralizing capacity, color, and turbidity), nutrient enrichment (algal biomass, total and dissolved phosphorus and nitrogen, and water clarity), stream flow, and invasive species are being conducted as part of this program.

Ground water quality has not been measured within the park, and knowledge is limited to either proximate areas or basin-wide assessments of the Hudson River drainage. Nutrient enrichment of ground waters and wetlands adjacent to Eleanor Roosevelt NHS has occurred due to increased residential development. Nutrients are then transported to Upper Val-Kill Pond, where they have contributed to vegetative growth, resulting in a loss of open water habitat.



Map 3-6: Water Resources

#### Legend

- Historic Roosevelt Family Estate (NPS acquisition boundary)
- Vanderbilt Mansion National Historic Site
- Home of Franklin D. Roosevelt National Historic Site
- Eleanor Roosevelt National Historic Site
- Parks and Protected Land
- Floodplain
- Wetland
- Water

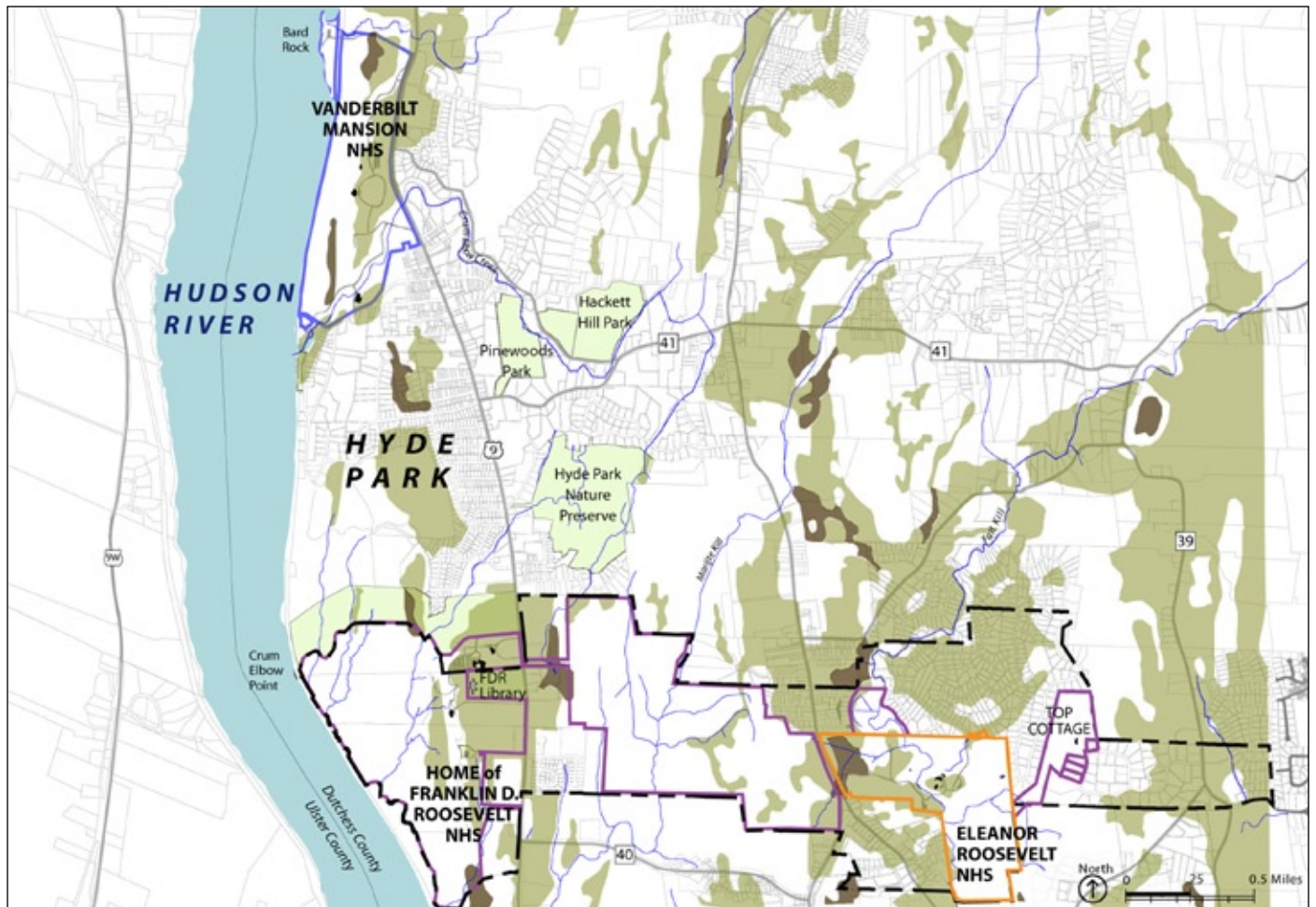
### **Soils and Prime Agricultural Lands**

Dutchess County soils are derived primarily from glacial till and outwash, organic matter, and lacustrine (lake deposits) and alluvial sediments.<sup>6</sup> Major soil types at Vanderbilt Mansion NHS are Colonie fine sandy loam and Hoosic gravelly loam. The majority of the physical development at this site is on the nearly level phase of Hoosic gravelly loam; the steep phase of Hoosic gravelly loam occurs below the physical development along the floodplain of the Hudson River. Smaller amounts of the following soils also occur: Staatsburg gravelly loam and Nassau Cossayuna gravelly loams. The latter occurs in the Bard Rock area and along the southwestern boundary in the Hudson River floodplain.

At Home of FDR NHS, the major soil types include Hoosic gravelly loam, Colonie fine sandy loam, Steep ledgy land (Wassaic and Staatsburg soil materials), and Staatsburg gravelly loam. All physical development and landscaped areas are on Hoosic gravelly loam and Colonie fine sandy loam. Small areas of Rhinebeck silt loam (indicative of a former lake plain terrace) and tidal marsh, freshwater phase (north end of tidal cove), are also present. Major soil types at the Eleanor Roosevelt NHS include Hoosic gravelly loam and Saco silty clay loam. Minor soil types include Staatsburg gravelly loam, Hoosic gravelly sandy loam, and muck.

Prime farmland soils, as defined by the U.S. Department of Agriculture, are soils best suited to producing food, forage, fiber, and oilseed crops. Prime farmland soils produce the highest yields with minimal inputs of energy and economic resources, and farming these soils results in the least damage to the environment. Two categories of prime agricultural lands are recognized: prime farmland soils and soils of state significance. The Dutchess County Soil and Water Conservation District has identified several soil types that qualify for such recognition in the vicinity of the park. Within each park unit, the extent of such soils is: Home of FDR, 1/10 acre prime farmland soil and six acres of statewide significance; Eleanor Roosevelt, one acre prime farmland soil and six acres statewide significance; Vanderbilt Mansion, two acres prime farmland soil and three acres statewide significance.





Map 3-7: Soils

#### Legend

- Historic Roosevelt Family Estate (NPS acquisition boundary)
- Vanderbilt Mansion National Historic Site
- Home of Franklin D. Roosevelt National Historic Site
- Eleanor Roosevelt National Historic Site
- Parks and Protected Land
- Soil: Prime Farmland  
Prime farmland soils, as defined by the U.S. Department of Agriculture, are soils that are best suited to producing crops and produce the highest yields with minimal inputs of energy and economic resources.
- Soil: Farmland of Statewide Importance  
Although these soils do not produce the high yields of prime farmland, they will produce fair to good crop yields when managed properly.

## Wildlife

### MAMMALS

Currently, 23 species of mammals have been documented at Roosevelt-Vanderbilt.<sup>7</sup> Although additional species likely occur in the parks, they have not been formally recorded. The inventory conducted by Gilbert et al. in 2004, though not exhaustive, provides the most up-to-date information for the parks, with 18 species noted. The most common mid-size mammal identified across all habitat types in that survey is raccoon (*Procyon lotor*). Virginia opossum (*Didelphis virginiana*), domestic cat (*Felis sylvestris*), and striped skunk (*Mephitis mephitis*) are also detected frequently. Common and widely distributed small mammals include white-footed mice (*Peromyscus leucopus*) and short-tailed shrews (*Blarina brevicauda*). Anecdotal reports indicate that a population of fisher (*Martes pennanti*) is using the lands between Route 9 and Route 9G. Based on the 2004 surveys, no part of the park is clearly more species-rich. Wetland habitat is slightly more diverse than riparian and conifer habitats, followed by field habitat.

A large and conspicuous white-tailed deer (*Odocoileus virginianus*) herd exists at all three sites, with no apparent overpopulation problem. Though deer browsing on cultural plantings continues to be a time-consuming and expensive problem for the park's horticultural operations, deer do not yet appear to be having a negative impact on natural vegetation.

While no federal or state-listed species have been detected, it is possible some occur at the parks. The Indiana bat (*Myotis sodalis*) is a historic species at the park. It is listed as endangered in the state, is known to occur in eastern New York, and wintering hibernacula have been found across the Hudson River in Ulster County. No formal bat surveys have been conducted in the park. New England cottontail rabbit (*Sylvilagus transitionalis*), a New York State species of special concern, has been identified in Dutchess County.

Domestic cats are exotic species to North America and are recognized as a widespread and serious threat to the integrity of wildlife populations and natural ecosystems. Roads dissect wildlife habitat, movement corridors, and feeding areas, which can result in vehicle-animal collisions. In addition, they introduce pollutants into the landscape from exhaust, pavement de-icers, and oil. Loss of adjacent habitat and habitat fragmentation can have a deleterious effect on mammals and other wildlife.

### BIRD COMMUNITIES

The Roosevelt-Vanderbilt National Historic Sites Bird Checklist identifies 159 species of birds that have been detected within the three parks. Of these species, 51 are confirmed as breeding in the parks. Amassed through Christmas bird counts, New York State Breeding Bird Atlas surveys, and other local birding club efforts over the past 50 years, the checklist is considered an accurate assessment. Franklin Roosevelt's mounted bird collection, all of which was collected by the future president from the Roosevelt estate, is a valuable source of historical data.

A more quantitative analysis of birds was done by Trocki and Paton (2003), who examined spatial distribution and abundance of birds during the 2002 and 2003 breeding seasons.<sup>8</sup> Variable point count surveys detected 62 species

during the breeding season, of which 42 species were determined to be breeding in the parks. Tufted titmice (*Parus bicolor*), red-eyed vireos (*Vireo olivaceus*), and American crows (*Corvus brachyrhynchos*) were the most abundant breeding species. Most of the species were detected in managed landscapes. In addition, freshwater and forested wetlands were heavily used habitats.

Nine of the species in park records with confirmed breeding status are listed by Partners in Flight (PIF) as conservation priorities for the Northern Ridge and Valley Physiographic Area. Wood thrush (*Hylocichla mustelina*) and worm-eating warbler (*Helminthos vermivorus*) are listed as high continental conservation priority. Baltimore oriole (*Icterus galbula*), eastern wood-pewee (*Myiochanes virens*), scarlet tanager (*Piranga olivacea*), Louisiana waterthrush (*Seiurus motacilla*), and wood duck (*Aix sponsa*) are high priorities for regional conservation. Both the gray catbird (*Dumetella carolinensis*) and mute swan (*Cygnus olor*) appear on the U.S. National Watch List. An additional eight species observed at Roosevelt-Vanderbilt NHS are PIF conservation priorities, although they are not confirmed breeders on site. Blue-winged warbler (*Vermivora pinus*), prairie warbler (*Dendroica discolor*), cerulean warbler (*Dendroica cerulea*), American woodcock (*Philohela minor*), American black duck (*Anas rubripes*), and Canada warbler (*Wilsonia canadensis*) are continental conservation priorities. The field sparrow (*Spizella pusilla*) is a high regional priority.

Other species of conservation interest that have been recorded at Roosevelt-Vanderbilt NHS include bald eagle (*Haliaeetus leucocephalus*) and pied-billed grebe (*Podilymbus podiceps*), which are state-listed as threatened. (The bald eagle is no longer federally listed as endangered.) Osprey (*Pandion haliaetus*), Cooper's hawk (*Accipiter cooperii*), red-shouldered hawk (*Buteo lineatus*), common nighthawk (*Chordeiles minor*), and cerulean warbler (*Dendroica cerulea*) are species of special concern in New York State.

Many of the threats facing bird populations are the same as those described for mammals, including feral cats and fragmentation and loss of adjacent habitat. Invasive plant species have altered the composition of the forest understory, which likely has affected habitat quality for breeding birds. As vegetation composition continues to change and structural complexity is reduced, avian community composition will also change, likely reducing species richness. The abrupt edges between the forest and lawn habitat could be a source of cowbird parasitism or increased predation.

#### REPTILES AND AMPHIBIANS

A total of 15 reptile species have been recorded at Roosevelt-Vanderbilt national historic sites (Klemens et al. 1992)<sup>9</sup>. Eleanor Roosevelt NHS (11 species) and Home of FDR (ten species) have shown greater diversity in reptiles than Vanderbilt Mansion (seven species). Of conservation interest is Blanding's turtle (*Emydoidea blandingii*) a New York State threatened species. This species is losing habitat in the area due to land development and resultant filling/drainage of wetlands. Several other turtle species—spotted turtle (*Clemmys guttata*), wood turtle (*Clemmys insculpta*), and eastern box turtle (*Terrapene c. carolina*)—have been identified as species of special concern in New York State. The bog turtle

(*Clemmys muhlenbergii*), a historic species at the park, has a federal status, “Species Threatened by Similarity of Appearance,” which means that, because the bog turtle so closely resembles another endangered or threatened species, it is treated as a threatened species as well.

In New York State, there are two disjunct distributions of Blanding’s turtles, one in the St. Lawrence River drainage and the other in Dutchess County. Eleanor Roosevelt NHS lands form part of what has been identified as the Dutchess County Wetlands Complex, a significant habitat complex that supports Blanding’s turtles and other species of special emphasis.<sup>10</sup> Blanding’s turtles have been documented at three sites in the park: Middle Woodland Pond, Upper Val-Kill Shrub Swamp, and Buttonbush Pond.<sup>11</sup> While the population in the park is relatively small, the park can be considered a regionally significant site for this species.

Fifteen amphibian species have been recorded at Roosevelt-Vanderbilt.<sup>12</sup> The extensive wetland habitats at Eleanor Roosevelt NHS support 14 of these species. Ten species have been recorded at Home of FDR NHS and six at Vanderbilt Mansion NHS. Two of the amphibians are New York State species of concern: Jefferson salamander complex (*Ambystoma jeffersonianum* x *A. laterale*) and marbled salamander (*Ambystoma opacum*). The Jefferson salamander complex includes the Jefferson salamander and the blue-spotted salamander along with a hybrid that results from interbreeding of the two. Because of the difficulty of identifying the hybrid, the three species are generally grouped into this complex. Hybrids have been documented breeding at North, Middle, and Woodland Ponds in Eleanor Roosevelt NHS. An individual belonging to the Jefferson salamander complex was also observed in a vernal pool above Roosevelt Cove at Home of FDR NHS. Marbled salamanders have been observed in vernal swales near the horticultural recycling area of this park.

The unshelled eggs and porous skin of amphibians makes them especially sensitive to environmental changes. In addition, with both aquatic and terrestrial stages in their life cycle, they are among the first to suffer from environmental threats. Adjacent habitat loss and fragmentation is likely the greatest threat facing park populations. Water quality issues, atmospheric deposition, and invasive aquatic plant species are also potentially significant threats.

#### FISH

The three sites each have a variety of aquatic habitats, including forest streams, impoundments, and a tidal freshwater marsh, that support fishes. Habitats were surveyed for freshwater fish in 1995 and again in 2000 (excluding Roosevelt Cove), resulting in the identification of 25 species from 11 families.<sup>13</sup> Mather et al. looked at relative abundance by habitat type and found mummichog (*Fundulus heteroclitus*) with the highest relative abundance in low-gradient streams and blacknose dace (*Rhinichthys atratulus*) with the highest relative abundance in moderate and high-gradient streams. Bluegill (*Lepomis macrochirus*) were most abundant in low-flow impoundments, while largemouth bass (*Micropterus salmoides*) and pumpkinseed (*Lepomis gibbosus*) were most abundant in high-flow impoundments.

A notable species found in Crum Elbow Creek and Roosevelt Cove is the American eel (*Anguilla rostrata*). This species is the only catadromous fish on the East Coast (catadromous fish spawn in the ocean but spend the majority of their lives in fresh water).

Three of the species are non-native: bluegill, rock bass (*Ambloplites rupestris*), and carp (*Cyprinus carpio*). Bluegill and rock carp have been present in many northeastern systems for over 100 years and are not considered a threat to biodiversity.<sup>14</sup> Little is known about carp in the Hudson River, although they are considered detrimental to sport and food fish populations in many areas where they are abundant.<sup>15</sup> Depletion of fishery habitat may occur through excessive sedimentation and invasive aquatic plants, such as purple loosestrife (*Lythrum salicaria*).

#### INVERTEBRATES

Information about aquatic and terrestrial invertebrates is limited. No systematic surveys have been conducted for any of the major invertebrate groups, although there have been a few focused studies. An inventory of invertebrate populations was conducted at Eleanor Roosevelt NHS.<sup>16</sup> Aquatic macroinvertebrates were sampled on lower Crum Elbow Creek in 1995 to assess water quality, and clean-water indicators were found at all sampling sites: mayflies, stoneflies, caddisflies, riffle beetles, and hellgrammites.<sup>17</sup> A 1988 study focused on aquatic invertebrates associated with two morphologically different host plants found in Roosevelt Cove, *Microphyllum* sp. and *Trapa natans*.<sup>18</sup> The presence of deer ticks (*Ixodes scapularis*) has been documented and Lyme disease is a major problem throughout the region. The invasive Chinese mitten crab (*Eriocheir sinensis*) was first detected at the Home of FDR NHS in 2008. This species has potential for causing substantial ecological change.



# SUMMARY OF THREATENED AND ENDANGERED SPECIES

The following table lists the threatened and endangered species, and species of special concern that may occur at the parks.

**Table 3-1: Threatened and Endangered Species**

SCIENTIFIC NAME	COMMON NAME	STATUS
<i>Ambystoma jeffersonianum</i>	Jefferson's salamander	State listed as Rare (Special Concern)
<i>Ambystoma laterale</i>	Blue-spotted salamander	State listed as Rare (Special Concern)
<i>Ambystoma opacum</i>	Marbled salamander	State listed as Rare (Special Concern)
<i>Accipiter cooperii</i>	Cooper's hawk	State listed as Rare (Special Concern)
<i>Accipiter gentilis</i>	Northern goshawk	State listed as Rare (Special Concern)
<i>Accipiter striatus</i>	Sharp-shinned hawk	State listed as Rare (Special Concern)
<i>Buteo lineatus</i>	Red-shouldered hawk	State listed as Rare (Special Concern)
<i>Chordeiles minor</i>	Common nighthawk	State listed as Rare (Special Concern)
<i>Haliaeetus leucocephalus</i>	Bald eagle	State listed as Threatened
<i>Podilymbus podiceps</i>	Pied-billed grebe*	State listed as Threatened
<i>Pandion haliaetus</i>	Osprey	State listed as Rare (Special Concern)
<i>Dendroica cerulea</i>	Cerulean warbler*	State listed as Rare (Special Concern)
<i>Clemmys guttata</i>	Spotted turtle	State listed as Rare (Special Concern)
<i>Clemmys insculpta</i>	Wood turtle	State listed as Rare (Special Concern)
<i>Emydoidea blandingii</i>	Blanding's turtle	State listed as Threatened
<i>Terrapene carolina</i>	Box turtle	State listed as Rare (Special Concern)

\* Present on the bird checklist as "uncommon."

## Vegetation (Plant Resources)

Detailed descriptions and maps of the vegetation at the three historic sites are currently being developed by the New York Natural Heritage Program using the National Vegetation Classification System. The products of this effort, the first vegetation mapping of the historic sites using a national classification standard, will provide information on community composition and rarity, and will update the 1998 survey on plant resources by the Brooklyn Botanic Garden described below. Please note that forest plantations at Roosevelt-Vanderbilt are discussed as cultural landscapes.

## VASCULAR PLANT SURVEY DATA

At present, the data available for Roosevelt-Vanderbilt come from 1998 vascular plant surveys by the Brooklyn Botanic Garden.<sup>19</sup> The nomenclature differs from that under development by the New York Natural Heritage Program, and the studies did not consider the lands between Routes 9 and 9G acquired by the NPS in 2007.

Dutton (1998a) identified five ecological communities at Home of FDR NHS: 1) *Cultivated*, located in the westernmost third of the site and including mowed lawns and fields, gardens, and ornamental plantings; 2) *Hemlock-*

*Northern Hardwood Forest*, the largest area, extending from the northern border to the southern border of the site; 3) *Old Field*, a centrally located mowed area; 4) *Marsh*, situated on the southwestern boundary; and 5) *Rocky Outcrop*, found in the extreme northwest corner of the site between the Hudson River and the railroad. Dutton identified 362 plant species representing 90 plant families at the NHS. Of those, eight species are on the New York Natural Heritage Program active/watch rare plant inventory lists: smooth bur-marigold (*Bidens laevis*), yellow harlequin (*Corydalis flavula*), field-dodder (*Cuscuta pentagona*), spring avens (*Geum vernum*), false lettuce (*Lactuca floridana*), gypsy-wort (*Lycopus rubellus*), winged monkeyflower (*Mimulus alatus*), and swamp buttercup (*Ranunculus hispidus* var. *nitidum*).

Dutton (1998b) divided Eleanor Roosevelt NHS into four ecological communities: 1) *Cultivated*, located in the center of the site, including mowed lawns, gardens, parking lot plantings, and ornamental plantings; 2) *Hemlock-Northern Hardwood Forest*, representing the largest area and extending from the northern to the southern boundaries of the eastern half of the site; 3) *Old Field*, which is periodically mowed and is located on the western side of the site; and 4) *Marsh*, which is primarily found west and north of the large pond in the center of the property. The site contains 307 plant species representing 86 plant families. None of the species are on the New York Natural Heritage active/watch inventory lists.

Glenn described four ecological communities within Vanderbilt Mansion NHS. These include: *Cultivated areas*, *Hemlock-Northern Hardwood Forest*, *Old Fields*, and *Bard Rock*. The Cultivated areas consist of turf, gardens, and ornamental plantings and are located on the terrace surrounding the mansion. The Hemlock-Northern Hardwood Forest parallels the Hudson River. The Old Field community type is seasonally mowed and is located on the west terrace slopes between the cultivated areas and the mixed hardwoods and on the extreme southern end of the property. Bard Rock is a unique community found on a rocky outcrop on the Hudson River. Glenn's inventories have identified 385 plant species representing 98 plant families at Vanderbilt. Six of these species are on the New York Natural Heritage Program active/watch rare plant inventory lists. Flat sedge (*Cyperus odoratus*) and rough goldenrod (*Solidago rugosa* ssp. *aspera*) were found in the old fields. Field dodder (*Cuscuta pentagona*) and Hill's pondweed (*Potamogeton hillii*) were located in the hemlock-hardwood forest. Bush clover (*Lespedeza violaceae*) and bugleweed (*Lycopus rubellus*) were found at Bard Rock.

#### IMPORTANT NATURAL COMMUNITIES IDENTIFIED BY NEW YORK STATE HERITAGE PROGRAM

The New York Natural Heritage Program has identified several natural communities within the parks that are rare and/or significant within New York State, although they are not considered outstanding examples.

##### **Red Cedar Rocky Summit**

There are several good, mid-size examples of red cedar rocky summit forest type to the west of the FDR Home. This community type is characterized by dry upland ridges with low areas, shallow soils, and prickly-pear cactus and is dependent upon

periodic fires. These communities are limited in distribution, being essentially a mid-Hudson Valley type, with about 20 documented in the state.

#### **Fresh Water Tidal Marsh**

A shrub swamp/freshwater tidal marsh lies at Roosevelt Cove, within the boundary of Home of FDR NHS. This small freshwater tidal marsh is connected to a larger tidal marsh by a collapsed culvert under the Cove Trail. (The main area of the tidal marsh is located outside the park boundary, which is demarcated by the high-water mark, and under NYS jurisdiction.) This feature was created by the railroad embankment in the 19th Century and is largely dependent upon the flushing action of the tidal flows under the embankment. Over the years, the flushing action in the tidal marsh has diminished. Improved flushing action would enhance this community and could enable it to become a freshwater tidal swamp.

#### **Mature Oak/Tulip Tree Forest**

There is a mature oak/tulip tree forest community totaling 63 acres at Vanderbilt Mansion NHS, with a 40-acre core of very mature trees. This community is defined by large oaks, beeches, and tulip trees, with at least 24 oaks averaging 1 meter DBH (diameter at breast height) and is an impressive example of a mature forest. Embedded within this community is a Norway spruce plantation. There is a quick transition from forest to open field at the perimeter of this community, a condition that does not afford as much protection to the mature forest as would a more gradual transition with a wider buffer of shrub layer.

#### **Hemlock-Northern Hardwood Forest**

The lands between Route 9 and Route 9G contain the most intact forest areas in the parks. A hemlock-northern hardwood forest, running in a north-south direction, remains relatively intact with very few exotic species. This community extends into the undeveloped lands to the north and south of the park. It totals some 375 acres, with 90 acres on NPS lands. This community may be significant for the region and the state, due to its quality as a habitat corridor and its excellent condition.

#### **Vernal Pools and Seeps**

All park properties contain clusters of vernal pools. The Vanderbilt lands contain a series of seeps in the slopes that drain into the Hudson in the mature forest areas. The seeps have naturalized magnolias and add diversity to the forest. On the lands between Route 9 and Route 9G there are some 20 healthy vernal pools of varying size and clusters that are well-buffered within the hemlock forest, which provide “stepping stones” for amphibians.

#### **Other Communities of Interest**

The property between Route 9 and Route 9G also contains rich beech-maple mesic areas with basswood and white ash trees and ephemeral spring flowers located on its northwest portion, along with well-buffered red maple-black gum swamps, hemlock-hardwood swamps, and red maple-hardwood swamps.

## THREATS

### Invasive Plants

Several species of invasive plants have become established in the park, some of which pose a significant threat to native plant populations or cultural landscapes, significantly increasing the maintenance workload. In addition to damaging natural resources directly, ATVs and mountain bikes provide corridors for invasive species, especially Japanese stilt-grass. An invasive plant inventory and assessment identified 58 non-native invasive plants in both the cultivated and natural areas.<sup>20</sup> Of these, 31 were cultivated components of the landscape or gardens during the historical period at each site. The most common invasive plants of management concern are Japanese knotweed (*Polygonum cuspidatum*), black swallow-wort (*Vincetoxicum nigrum*), Japanese stilt-grass (*Microstegium vimineum*), tree-of-heaven (*Ailanthus altissima*), garlic-mustard (*Alliaria petiolata*), and Norway maple (*Acer platanoides*). Of these, perhaps the greatest threat is Japanese stilt-grass, which does well under a shaded forest canopy and through allelopathy changes the soil chemistry to suppress competitors.

Tree-of-heaven becomes established along edges and in disturbed areas, and can form the dominant forest canopy for its life span of 30-40 years. Norway maple is found throughout the park, usually in edge habitats, although sprouts and saplings are sometimes evident in the forest. Japanese barberry is widely scattered, with birds spreading seed throughout forested habitats. Forest understory and edges have seen the establishment of garlic-mustard and Japanese stilt-grass, both of which are allelopathic.

Wetlands are often invaded by purple loosestrife (*Lythrum salicaria*), which dominates the open space of the Fall Kill reservoir, and common reed (*Phragmites australis*). In some areas Japanese knotweed has become established, although this species is actively controlled and several populations have been eliminated.

In open fields and woodland edges, oriental bittersweet (*Celastrus orbiculatus*) and various honeysuckle species (*Lonicera* spp.) have become established. Maintaining areas as open field becomes much more difficult when these species are present, especially on steep slopes.

## OZONE

The risk of foliar ozone injury to plants within the historic sites is high.<sup>21</sup> High ozone exposure results in impaired physiological processes, including a reduction in photosynthesis and transpiration and perturbed carbon dynamics.

### Disease and Pests

Pathogens and insect pests that may affect forested habitats within the historic sites include gypsy moth (*Lymantria dispar*), beech bark disease, and hemlock woolly adelgid (*Adelges tsugae*). Hemlock woolly adelgid is the most serious threat, given the large amount of hemlock vegetation, and this pest has caused significant mortality in some sections of the forest. The park has treated hemlocks in landscaped areas since 1989, but control measures in native forests are infeasible. Gypsy Moth has caused little defoliation in the park; however, this pest has the potential to become a serious problem, especially to old specimen trees, which have little capacity to recover from repeated defoliation. Additional

regional threats not yet present in the mid-Hudson Valley include Asian longhorn beetle (*Anoplophora glabripennis*), emerald ash borer (*Agrilus planipennis*), and the sirex woodwasp (*Sirex noctilio*).

## **Visitor Use and Experience**

### **Overview**

Visitors to the Roosevelt-Vanderbilt National Historic Sites find opportunities for commemoration, contemplation, and appreciation of the lives of the influential Americans who resided there. The sites offer opportunities for enjoying the scenic beauty of the Hudson River and the fields, forests, and historic trails and roads.

Visitors can experience the sites through guided tours of the historic homes, enjoying the trails, and special events, programs, and exhibitions. Access to the primary historic residences is by guided tour only. A hallmark of these ranger-led tours is their unscripted quality—interpreters proudly state that while the tours are based on solid research, they are “not canned.” The grounds of the three sites are open to the public and offer opportunities for enjoyment of the setting and landscape, which is in keeping with the historic residents’ use of the properties.

### **Visitor Use Patterns**

The Home of FDR and Vanderbilt Mansion are open year-round, seven days a week, except Thanksgiving, Christmas, and New Year’s Day. Buildings are open from 9:00 a.m. to 5:00 p.m. Grounds are free and open dawn to dusk. Top Cottage is open daily from May to October, and closed November through April. Val-Kill is open daily May through October, closed Tuesday and Wednesday from November through April. The sites are used year-round, with the majority of visitors in the months of August and October, Thanksgiving weekend, winter holidays, and special events.

Most visitors are familiar with the historical figures commemorated at the sites. Park neighbors and local and regional residents tend to be repeat visitors, often accompanying out-of-town relatives and friends. Local visitors take advantage of the parks’ recreational opportunities, utilize the walking and hiking trails, attend special programs, and view exhibits at the FDR Library and Museum. Many visitors see several of the park sites in one visit. For example, of 120 parties interviewed who toured the Home of FDR, 36 also toured Eleanor Roosevelt NHS, 58 also toured Vanderbilt Mansion, and 15 also toured Top Cottage.<sup>22</sup>

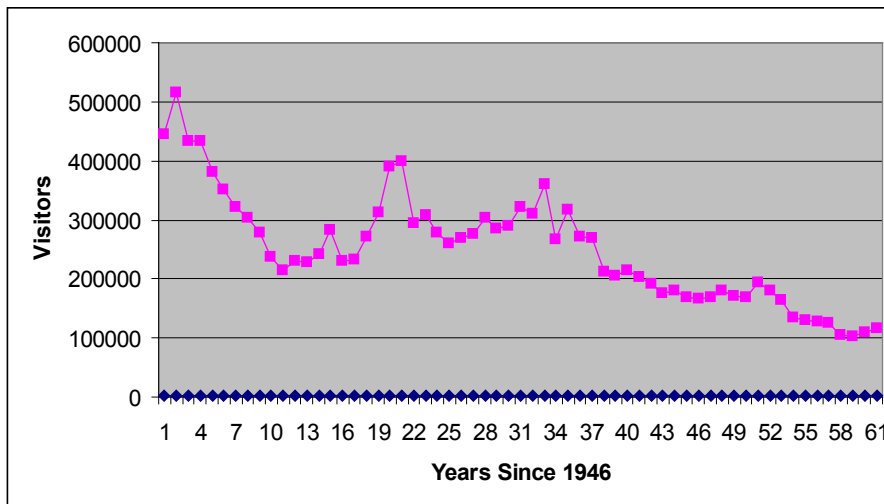
### **CURRENT VISITATION**

The parks receive a total of more than 500,000 visits each year. During the summer season an average of 12,000 to 15,000 visitors per month arrive at the Henry A. Wallace Visitor and Education Center. Tours sell out during peak season and on holiday weekends. A visitor survey in 2004 found that 40% of visitors to the Roosevelt-Vanderbilt sites came from New York State. Many of the regional visitors are from Dutchess County (36%), with Westchester County accounting for the next largest visitor origin (nearly 17%). The other states with



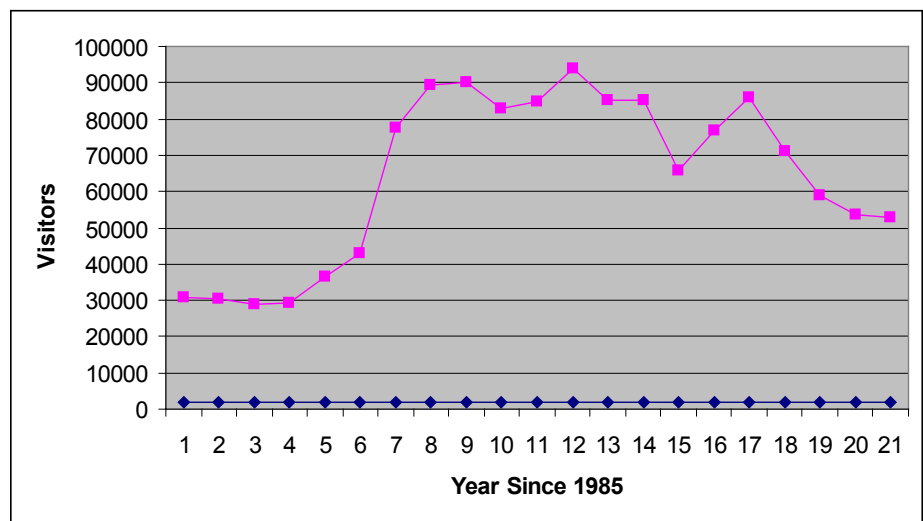
the highest number of visitor parties were New Jersey, Massachusetts, Connecticut, and Pennsylvania. Three percent or more of the parties were from distant locations, including Texas, California, Florida, and Virginia, and some visitors came from Canada and Denmark. The survey also found that visitors to the Roosevelt-Vanderbilt sites tend to be older. Over 44% of visitors are between the ages of 40 and 64, and nearly 36% are above age 65. Visitor income is relatively high, with 55% of respondents earning more than \$75,000 per year. Educational levels are also high—nearly two-thirds of the visitors have at least a college degree. The reasons motivating people to visit the parks are diverse. Over 32% visited the parks because of a special event or program, and over 24% visited out of professional interest. Regional visitors are more likely to have a historic interest or hobby motivating the visit, whereas special events draw a larger proportion of visitors from outside the region.<sup>23</sup>

As is the case with many historic sites across the country, visitation to the Roosevelt-Vanderbilt sites is trending downward. Combined visitation to the three sites has declined by 14% since the mid 1990s. The greatest declines are felt at the Home of FDR and Val-Kill, with visitation since 1996 down by 40% and 44%, respectively. Vanderbilt visitation, although not at its peak, has leveled off. The highest level of visitation to the Home was reached in 1947 with 516,000 visitors. In 2007, visitation was 114,195. The highest level of visitation to Val-Kill, in 1996, was nearly 94,000. In 2007, it was 59,846. At Vanderbilt, a sharp spike in visitation was recorded in 1990, when nearly 724,000 visited the property, with 1989 also high, at over 573,000 visitors. In 2007, visitation was 398,125. It is worth noting that 2007 visitation to the Home of FDR was up about 9% over 2004 levels, after the launch of a grant-supported marketing effort by NARA, FERI, ERVK, and NPS. The following graphs show visitation figures for the parks since they opened to the public.



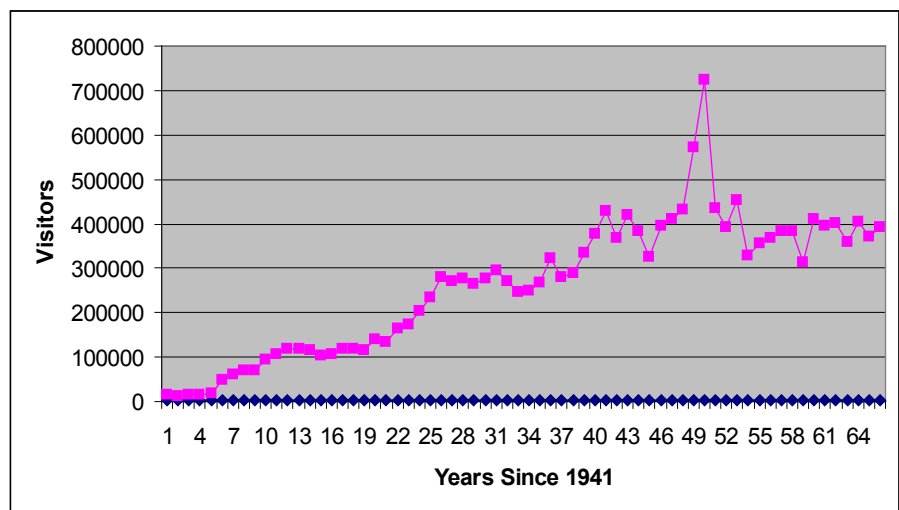
Visitation since the Home opened to the public in 1946 (Source: NPS Visitor Use Statistics)

Visitation figures for the Home of FDR NHS are derived by counting the number of people taking a tour of the FDR Home and adding 25% of all those who enter the FDR Library as an estimate of the number of visitors who use the grounds only.



Visitation since Val-Kill opened to the public in 1985 (Source: NPS Visitor Use Statistics)

Visitor numbers are derived from an actual count of visitors taking a tour of Val-Kill Cottage, plus an estimate for those using the grounds only. The increase in visitation shown in year eight (1993) was due to changing the park from a seasonal to year-round operation.



Visitation since Vanderbilt opened to the public in 1941 (Source: NPS Visitor Use Statistics)

Visitors to Vanderbilt Mansion NHS are counted by means of a traffic counter, using a standard figure of 2.6 people per vehicle. An estimate for non-reportable vehicles (employees, service vehicles, etc.) is subtracted, and tour bus and school bus passengers are counted individually. It is estimated that 412,270 people used the Vanderbilt site in 2007, of whom 65,489 purchased tour tickets. This suggests that 346,781 visitors used the grounds only.

#### PRE-ARRIVAL AND ACCESS

Several web-based resources are readily available for people who want to plan their park visit or to learn about nearby services and attractions. A variety of regional organizations offer basic information about the parks, including the Hudson River Valley National Heritage Area, Historic Hyde Park, and Honoring Eleanor Roosevelt. Dutchess County Tourism and the Hyde Park Chamber of Commerce provide free guides for businesses, shopping, lodging, and dining. Web sites for the individual national historic sites can be accessed directly or through the National Park Service site. They provide directions, maps, operating hours, fees and reservation instructions, special events, accessibility information, nearby attractions, and links to park partners, including Historic Hyde Park. At present, there is no single physical location for visitors to receive comprehensive information about regional events and attractions.

Over 84% of visitors rely on private vehicles to get to the parks. Although the Metro North commuter rail and Amtrak provide frequent service from New York City to Poughkeepsie, and visitors from the New York City metro area compose a significant percentage of park visitors, there are no reliable transit links to the train, which limits access for those who do not own cars (with the exception of the NPS field test of the shuttle system, the Roosevelt Ride).

For visitors arriving by car, numerous standard brown-and-white signs along Route 9 direct visitors to the FDR Home and Library and the Vanderbilt mansion. Once at the entrance to the Home, however, a lack of directional signage to the Wallace Center leaves many visitors uncertain about where to begin their visit, and the Center's title sign can become hidden by plantings. Visitors traveling to Roosevelt-Vanderbilt experience traffic conflicts, delays, and risk of vehicular collision at park entries due to congestion on Routes 9 and 9G. Traffic volumes average nearly 20,000 daily on Route 9 near the Home and over 14,000 daily on Route 9G near Val-Kill. Exiting the sites onto Route 9 can be dangerous, as drivers are compelled to accelerate rapidly from the park exits into narrow gaps in traffic.

#### TICKETING

Tickets are required for tours of the historic homes, and visitors are assigned specific tour times. Tickets for the Home of Franklin D. Roosevelt are available at the Wallace Center. These tickets are two-day passes (\$14) that include a one-hour guided tour of the Roosevelt Home and admission to the FDR Presidential Library and Museum. Admission to Top Cottage, although part of the Home of FDR site, requires a separate ticket (\$8), also sold at the Wallace Center. Tickets for Eleanor Roosevelt NHS and Vanderbilt Mansion, sold at those sites, include

45-minute guided tours of Val-Kill Cottage (\$8) and the Mansion (\$8). Individuals and groups can make advance reservations for all three sites on the reservation system used by the NPS, "Reserve America." Groups of ten or more are required to make reservations. The parks honor all NPS and interagency passes according to the provisions of the pass. An annual pass, which allows entry for one person to all three sites, is available for \$40.

While a single ticket covering all sites would be ideal, the current ticketing software cannot accommodate multi-site reservations. Previous attempts to issue single passes for multiple sites required staff to book each tour individually to ensure availability, a process that was time-consuming and required much explanation.

One combination package, the "Roosevelt Experience," was instituted as a pilot program beginning in 2006. It includes tours of the Roosevelt Home and Library, Val-Kill, and Top Cottage, shuttle bus transportation among the sites and the Wallace Center, and the Poughkeepsie train station. Visitors must make advance reservations for the "Experience" and purchase their tickets at the individual sites. However, the total cost is only \$22.

#### ORIENTATION

Each of the sites has a dedicated visitor welcome and orientation space. Visits to the Home of Franklin D. Roosevelt and Top Cottage begin at the Wallace Center, administered by the National Archives and Records Administration, which provides a comprehensive introduction to the three sites. The Wallace Center offers ticketing, visitor information about programs and activities, a new high-definition orientation film, a museum store, café, and opportunities to meet and talk with park staff. It provides public restrooms and conference rooms for meetings, school groups, and special programs. At Eleanor Roosevelt NHS, orientation takes place in the apartment wing of Val-Kill Cottage and in the Playhouse. New orientation exhibits, totaling some 700 square feet, were installed in 2008. Orientation to the Vanderbilt property takes place at the Vanderbilt Pavilion.

A variety of publications, maps, and signs help to answer visitor questions at the historic sites. Publications include "Official Map and Guide" brochures for each site and brochures describing the designed landscapes and the buildings of the Hudson River Valley National Heritage Area. Little specific information, however, is given in either signage or brochures about the parks' gardens or grounds. An 8½ x 11-inch map of the Hyde Park Trail system is displayed at the ticket counter, and copies are available upon request. A text panel and a regional map displayed near the information desk describe the Hudson River Valley National Heritage Area, and a rack displays a limited number of free brochures with information on nearby attractions. Though most visitors seeking information want to know how to plan their visit, staff members can provide only limited information due to time constraints.

The orientation media in the Wallace Center include stand-alone exhibit kiosks in the lobby, which provide information about the historic sites and the FDR Library and Museum. A separate wall panel is dedicated to Henry A. Wallace,

for whom the center is named. The 22-minute film titled “A Rendezvous with History: The Roosevelts of Hyde Park,” introduces visitors to the lives of Franklin and Eleanor Roosevelt and their connection to the sites. Shown every 30 minutes in the Center’s 140-seat theater, the film presents a narrated history illustrated with newsreel footage and reminiscences of some of the Roosevelt grandchildren. Ranger-led tours of the FDR Home begin at a large mosaic floor map based on a 1929 illustration. The map provides orientation to the parks within the context of the Hudson River Valley.

The Wallace Center is a significant improvement over previous visitor orientation, with more unified programming and better outreach to the community. It is able to hold large groups and to accommodate visitors during inclement weather. Nevertheless, the cafeteria can be overwhelmed by school groups at busy times, and the conference rooms do not provide appropriate facilities for “messy” science and agriculture-based or children’s programs.

#### OTHER VISITOR AMENITIES

Mrs. Nesbitt’s Café, named for the Roosevelt’s Hyde Park neighbor and cook at the White House during the FDR administration, serves breakfast and lunch at the Wallace Center from 10 a.m. to 4 p.m. daily April through October. Three shops operate at Roosevelt-Vanderbilt, selling educational and souvenir items related to park themes, including books, maps, posters, slides, videotapes, CD-ROMs, and gift items. The FDR Presidential Library and Museum manages the largest shop, in the Wallace Center lobby. The Roosevelt-Vanderbilt Historical Association runs the sales areas at Vanderbilt Mansion and Eleanor Roosevelt NHS and presents interpretive messages with the displays of merchandise.

#### UNIVERSAL ACCESSIBILITY

An internal circulator, or tram, operates seasonally at both Roosevelt sites for people who have ambulatory difficulties. The shuttle, tram, and all sites are wheelchair-accessible, although some spaces within the historic homes cannot accommodate wheelchairs. Accessible restrooms are available at all sites and at the FDR Library and Museum. Handicapped parking is also available at all sites. Sign language interpretation or other special accommodations may be possible by advance arrangement. There are plans to make closed captioning available for the orientation films at both the Wallace Center and Val-Kill, as well as to provide audio descriptions for the visually impaired.

#### INTERPRETATION

The historic residences are presented as fully furnished historic house museums. Visitors can also view forest plantations, historic trails and walking paths, gardens, and designed landscapes. Overall, however, interpretation—whether guided tours or publications—places little emphasis on the historically significant landscape.

#### Ranger-led Tours

Guided tours of the historic homes are offered daily from 9:00 a.m. to 5:00 p.m., with the last tour at 4:00 p.m. The frequency of tours is determined by demand



and staffing capacity, ranging from once every half hour during the high season to as few as four times daily during slower periods. Tours of Top Cottage take place daily from May to October at 11:30 a.m., and 2:00 and 3:30 p.m.

Guided tours of the Roosevelt Home and Top Cottage begin at the Wallace Center. Val-Kill tours begin at the front entrance to Val-Kill Cottage. Visitors go directly to the visitor center at the Vanderbilt Pavilion for tours of the Vanderbilt Mansion. Despite the physical and thematic separations, park personnel attempt to connect the Roosevelt and Vanderbilt sites by noting FDR's role in creating Vanderbilt Mansion NHS, discussing the different social classes between the two families, and through the use of the mosaic map at the Wallace Center, which shows the sites as "neighbors."

Rangers follow approved outlines for tour content, but the information conveyed and the quality of interpretation depend on the interests and ability of the ranger and the interests and engagement level of the group. Tours are designed to be non-political and encourage visitors to do further research and to form their own conclusions.

#### **Tour of the FDR Home**

The ranger-led tour of the Home covers the first floor and second floor in one hour. Tour groups are limited to 50 people. At busy times, such large groups can crowd the intimate interior spaces and can make it difficult for visitors to fully engage in the experience. The 2004 visitor survey indicated that nearly 22% of respondents felt that there were too many people in their tour group. The interpretive goal is for visitors to understand why this was a special place to FDR. This concept is conveyed formally through the rangers' narrative and informally by viewing the home's furnishings and artifacts, FDR's collections, and the natural setting. Interpretation is based in thematic and chronologic organization.

The home's third floor (former servants' quarters) is off-limits to visitors, but a text panel near the stairs shows the floor layout, with photographs. Other signs provide detail about the rooms. These signs need refreshing to create a more cohesive presentation. At the tour's end, visitors exit the home onto a back porch facing the Hudson River, views of which are partially obscured. The lack of transition creates an abrupt ending to the indoor experience and misses an opportunity to interpret the landscape.

Outside, visible through exterior windows on the ground floor, but generally inaccessible to the public, are the kitchen, laundry, and FDR's small study, each containing exhibits. The furnished study is open to small groups in the off-season, but the majority of visitors never see this important space.

#### **Tour of Top Cottage**

Top Cottage is open to the public on a seasonal basis, with access limited to shuttle, as public parking is prohibited. Group size is limited to 24, though the optimal tour size is closer to ten, due to the intimate scale of the building. Visitors are invited inside the building and encouraged to explore at their leisure. Rangers point out elements that highlight the site's special character and the design features that accommodated FDR's wheelchair. Furniture and artifacts have been

chosen to represent those that would have been present in FDR's day, although none are original to the cottage. The main interpretive program usually takes place (weather permitting) on the open front porch, where the public is invited to sit in rocking chairs and wicker sofas and enjoy the view that FDR so loved. From here, rangers initiate free-form discussions, which tend toward anecdotes and ideas for contemplation. A sole text panel describes a visit by the Duke of York in 2002 commemorating a 1939 picnic for the king and queen of England. Smaller ground-floor rooms are used for meetings and occasionally for temporary exhibitions.

#### **Tour of Val-Kill Cottage**

The apartment wing of Val-Kill Cottage is the main focus of guided tours. Half-hour ranger-led tours, limited to 15 people, take visitors through Eleanor Roosevelt's private residence and portray her as a humanitarian and defender of democracy. Due to space constraints, the second floor of the apartment can be accessed only by small groups (eight or fewer people). Visitors see furnished interiors as Eleanor Roosevelt decorated and used them, including her bedroom, furnished with a simple, single bed. The design and decoration reflect Eleanor Roosevelt's humility and approachability. These characteristics are further conveyed through rangers' anecdotes and in the recollections of many visitors themselves. At the same time, she is presented as a political force and influential leader.

#### **Tour of Vanderbilt Mansion**

Rangers lead tours through the Mansion's first and second floors and parts of the basement. Sixty-minute tours begin every half hour at the Pavilion during peak times and every hour in slower periods. The interpretive goal is for visitors to recognize the mansion as a premier example of a gilded-age country place and to understand its significance within the social and economic context of the post-Civil War period. Aside from interpreters' commentary, the tours are informal: visitors can explore each floor at their own pace and ask questions. Tour groups are limited to 50 people. However, as with the tour of the FDR Home, this large size can make it difficult for visitors to fully engage in the tour.

Attention is directed to the former dairy farm across Route 9 to demonstrate the previous extent of the property and the estate's functions. The connection to Franklin D. Roosevelt, who established the Vanderbilt Estate as a National Historic Site, is also noted by the interpreter. Whenever possible, the historical context is presented outdoors, so that once inside, the group can focus on the interior details. Tours also visit portions of the service areas to give a sense of the support required to maintain the grand home.

#### **Interpretation of Other Buildings and Grounds**

##### **HOME OF FRANKLIN D. ROOSEVELT NATIONAL HISTORIC SITE**

At present, the park has two interpretive waysides at the Home of FDR. One is located at the gravesite and describes the President's burial. The other is located near the Gardener's Cottage and directs visitors to the Cottage (which is not

interpreted) and to the Hyde Park Trail. Four tabletop maps provide orientation at the site. Six new wayside exhibits are scheduled for installation in 2009.

The Stable is interpreted with an audio program indicated by a faded marker that reads simply “Mrs. Roosevelt.” It plays a three-minute excerpt of Eleanor Roosevelt reminiscing about riding at the estate. Without accompanying signage, the audio is difficult to comprehend. Visitors can access the Garage independently of the ranger-led tour. Inside the Garage are temporary exhibitions, public restrooms, and the Roosevelt Education Discovery Center for family activities.

#### ELEANOR ROOSEVELT NATIONAL HISTORIC SITE

Soon to be part of the standard tour is Stone Cottage, the original residence at Val-Kill. The Cottage contains a small interpretive display comprised of furnished sitting rooms, Roosevelt photos, and books. Visitors may explore the grounds independently and are also invited to walk the Val-Kill loop trail through the site’s wooded areas. The site includes one of the most complete extant examples of Franklin Roosevelt’s demonstration forests. Interpretive waysides are to be installed at key sites throughout the grounds.

#### VANDERBILT MANSION NATIONAL HISTORIC SITE

Visitors can take in views of the Hudson River, stroll through the formal gardens, walk historic carriage trails through the Romantic-era landscape, picnic at the Overlook, or access the Hudson River at Bard Rock.

#### Changing Exhibits

Changing exhibits at the Presidential Library are major attractions. The NPS curatorial staff prepares temporary exhibits in a small gallery space at Val-Kill and at the Vanderbilt Pavilion. Exhibits are sometimes installed at the FDR Garage and Top Cottage. Though the exhibits are of high quality, they are changed infrequently, as limited funding and staffing permit.

#### EDUCATION PROGRAMS

The park offers educational programs at each site, as well as in area schools. School groups come to the park through a reservation system operated jointly by the FDR Library and the NPS. The programs are presented to grades two through twelve. The school programs are curriculum-based (NYS and National Standards) and cover themes related to the parks’ interpretive goals.

The curriculum-based programs at the Home of FDR NHS are given in tandem with the FDR Library and Museum, with each agency leading a 45-minute portion of the complete one-and-a-half-hour program. The students’ tours of the FDR Home are not necessarily coordinated with the Library programs. The two agencies also distribute a joint publication listing the education program offerings.

While there is a range of NPS curriculum-based programs available for students (12 were offered in FY08), the overwhelming majority of students take house tours, not the NPS curriculum-based programs. The majority of the tours/programs serve the Home of FDR, with fewer given at Val-Kill and Vanderbilt.

In FY 2008, a total of 17,634 students, or about 3% of the total visitation to the parks, participated in the tours/programs (including those conducted off site). Park staff gave a total of 623 tours/programs, of which 556 were house tours and 67 were programs. Of the 17,634 students served, 15,766 (over 89%) took house tours and 1,868 (over 11%) took educational programs. Of the total number of students taking house tours, nearly 67% toured the FDR Home; about 5% toured Val-Kill Cottage; and some 28% toured the Vanderbilt Mansion. Of the total number of students taking programs, 79% took programs related to the Home of FDR NHS; about 16% took programs related to Vanderbilt Mansion NHS; and just 5% participated in Val-Kill-based programs. (The Val-Kill programs were off-site. No on-site Val-Kill programs were offered in FY 2008).

The three parks have one full-time education staff person, who visits teachers in area schools to introduce programs, create focus groups, and run workshops. Teacher workshops are also available at Top Cottage once or twice each year. Depending upon their availability, volunteers, teachers, Student Conservation Association (SCA) interns, and rangers assist with the programs under the direction of the education specialist. Typically, the program assistants are untrained in children's education. In FY 2008, the vast majority of the educational programs (66%) were given by park rangers and seasonal park guides. Indoor programs are held in the Wallace Center conference rooms, which have adequate space but are not equipped for hands-on, "messier" types of programs. The Wallace Center cafeteria accommodates groups of 50 students, but can become overcrowded and overwhelming to other visitors when school groups are present. School groups also use a tent outside the Wallace Center for lunch, weather permitting.

In conjunction with the Hudson River Valley National Heritage Area and the Hudson River Valley Greenway, the NPS manages an education initiative entitled "Teaching the Hudson Valley" (THV). This program aims to cultivate an appreciation for the Valley's culture, ecology, and history. THV provides grants, holds summer institutes for teachers, and helps disseminate teaching materials developed by grantees. THV also operates a website as a clearinghouse for teaching materials related to Hudson Valley sites.

Drop-in family activities are offered at the Roosevelt Education Discovery Center at the Home of FDR Garage. Media and exhibits in the 240-square-foot center are meant to convey FDR's boyhood interests and his experiences on the estate. The center features books, activities, interactive exhibits, natural specimens, and other media, some created by volunteers. However, many visitors find it only by chance when looking for nearby restrooms.

Beyond its own programs, the park offers a special version of the NPS Junior Ranger program, the "Junior Secret Service," for children visiting the Home of FDR outside of school groups. Park web sites direct interested children through a "For Kids" link to the Junior Ranger page.

#### SPECIAL EVENTS

Park staff, volunteers, and partners coordinate and support a variety of special

programs and activities, depending upon the availability of resources. For example, at the FDR site annual special events commemorate FDR's birthday (January 30), the anniversary of his death (April 12), Memorial Day in May, and Eleanor Roosevelt's birthday (October 11). The United States Military Academy at West Point provides an honor guard and color guard for the birthday commemoration. All events include guest speakers and the presentation of wreaths by community organizations.

At Val-Kill, ERVK organizes an annual Medals Ceremony to honor outstanding humanitarians (October). ERK also runs several sessions of a Girls Leadership Workshop (July-August) for high-school students from across the nation (even the world).

Working with the Town of Hyde Park and community organizations, Vanderbilt Mansion hosts a summer Music in the Parks lawn concert series. Other special events at Vanderbilt may be organized by the Frederick W. Vanderbilt Garden Association.

The Beatrix Farrand Garden Association co-sponsors the Bellefield Design Lecture Series. Large crowds have come to see the historic homes decorated for the holidays at open houses.

#### RECREATIONAL USE

The Roosevelts and Vanderbilts used their Hyde Park estates for environmental pursuits and outdoor recreation. Comments indicate that many visitors value the parks for their natural settings and designed landscapes. Depending on the season, park trails are used by hikers, joggers, birders, cross-country skiers, and snowshoers, and sometimes by all-terrain vehicles, though this last activity is prohibited. Bicycle use is restricted to paved routes and Roosevelt Farm Lane. There are no trails for equestrians. Visitors to the Vanderbilt Mansion take more advantage of its landscape and setting for walking and picnicking than do visitors at the other sites. Bard Rock, located within the Vanderbilt Mansion NHS, is the only place in the parks that affords direct access to the Hudson River. It is a popular location for picnicking and provides informal river access for car-top boats.

There are five sections of the Hyde Park Trail on the three sites that can be hiked together or separately: the Vanderbilt Loop (2.4 miles), the Riverside Trail (1.0 miles), the Roosevelt Trail (1.8 miles), the Roosevelt Farm Lane (1.8 miles), and the Top Cottage Trail (1.0 miles). The trail is marked by white-and-green markers with a tulip-tree leaf emblem. New wooden kiosks have also been installed throughout the Hyde Park Trail system. The Hyde Park Trail is managed by a partnership among NPS, the Scenic Hudson Land Trust, Inc., Winnakee Land Trust, Inc., and the Town of Hyde Park. It is also designated as part of the Hudson River Valley Greenway Trail and in 2006 received designation by the Department of the Interior as a national recreation trail.

Side trails follow historic carriage or farm roads. They are identified by colored blazes and include the Val-Kill Loop (0.8 miles) and, at the Home of FDR, the Forest Trail, Meadow Trail, and Cove Trail. The trail system, though extensive, is generally under-utilized. To encourage active and appropriate use, NPS



and its trail partners, together with the Dutchess County Health Department, created Hyde Park Healthy Trails, improving trail markers, providing trail maps and a brochure, and hosting occasional guided hikes. The “Healthy Trails Walk-about” provides incentives to complete five of eight trail sections.

#### **Permitted Uses**

Park management makes decisions regarding use of the park for recreation based on potential conflict with the park’s primary mission of preserving and commemorating the historic landscape. The park permits passive and low-impact day-use activities. Hiking and walking, jogging, cycling, snowshoeing, and cross-country skiing are accepted activities when they do not conflict with the primary mission. There are two designated picnic areas, one by the Vanderbilt parking lot and one at the Val-Kill Stable-Garage.

#### **Prohibited Uses**

Per the Code of Federal Regulations (36 CFR), the park does not allow metal detecting or in-line skating (or similar sports using wheeled devices) because of potential adverse impacts to resources, visitor safety, and visitor experience. Sledding/tobogganing, ice skating, and use of all-terrain vehicles are prohibited at all sites.

#### **Special Uses**

The park grants permission on a case-by-case basis for a limited number of organized activities conducted by others, such as wedding photography.

### **Park Operations and Facilities**

#### **Operational and Support Facilities**

A single staff administers the three national historic sites. The park infrastructure includes facilities necessary for the support of operational activities, which are conducted from the following locations:

- The majority of the administration and management team is located in the historic Bellefield Mansion, which was acquired primarily to serve as the park headquarters. The size of the structure is sufficient for this use, but the layout and the large rooms of its original configuration as a mansion result in inefficient use of the space. All building systems require upgrading to serve the administrative uses.
- One office for the fee supervisor is located in the Wallace Center.
- Historic outbuildings throughout the parks are used by the administrative and management staff. At the Home of FDR, the Gardener’s Cottage is used for interpretive offices. The Chauffeur’s House on the former J.R. Roosevelt property is intermittently used as office space on a temporary basis, usually for personnel working on preservation projects. The Stone Garage at Bellefield is used as office space for the Visitor and Resource Protection Division. At Val-Kill, one office space is located on the second floor of Val-Kill Cottage. At Vanderbilt Mansion, the Pavilion is used for office space for interpretive and curatorial staff and as an office for the

Roosevelt-Vanderbilt Historical Association. The Natural Resource Division operates out of the Vanderbilt Coach House. The education specialist is located in the Home of FDR Garage.

- The Museum Services Division has offices in the new museum services facility, and retains an office in Bellefield and in the Vanderbilt Pavilion.
- The Area Services (maintenance) Division uses two main locations: the Vanderbilt Coach House (Roads & Grounds) and the Bellefield outbuildings (Buildings & Utilities). The historic buildings were not intended for use as contemporary maintenance facilities. This use degrades the buildings, threatens their long-term preservation, and impedes efficient operation. The usable space in the buildings is inadequate for current maintenance needs, and there is no room for expansion. The HVAC systems are old and inefficient. Some workspaces are in old frame buildings that are not winterized. Restrooms for employees are inadequate. This division also uses the Val-Kill Stables-Garage for storage, and the gardener has permanent office space in the Greenhouse at the Home of FDR.
- The new partner administration building at Val-Kill provides office and program space for ERVK.
- The Garden Association uses the Vanderbilt Tool House for meeting space.

The provision of park housing was evaluated and certified by the NPS Northeast Region. The park is authorized to provide seven units of housing. The park currently maintains the following historic structures as quarters for seasonal and temporary park staff and law enforcement: at Vanderbilt, the Upper Gate House, the Lower Gate House, and the Gardener's Cottage; and at the Home of FDR, the Duplex and the Bellefield Stone Cottage. All of these structures were built to be homes and serve well as housing. All have been updated but still require routine and cyclic maintenance. The housing is offered to employees and interns at a comparable market rate for the northeastern United States, as determined by the Department of Interior.

The average rent in Dutchess County for a one-bedroom apartment is \$815 per month; a two-bedroom is \$998; and a three-bedroom is \$1,224. Given the difficulty employees (especially new employees) have in finding suitable rental units, particularly for the short term, the availability of these facilities allows the park to attract and keep seasonal, intern, and law-enforcement personnel. An added benefit is that occupancy helps keep the buildings in good repair and offers an additional degree of protection for park resources.

### **Public Use Facilities**

The Henry A. Wallace Visitor and Education Center, located on NARA property, serves as the visitor center and primary information and orientation center for the Roosevelt-Vanderbilt sites. The Pavilion at Vanderbilt Mansion NHS houses a visitor center, park offices, a museum shop, and a 420-square-foot gallery for temporary exhibitions.

The park maintains approximately six miles of roads and eight miles of trails throughout the three sites. The bulk of the roadways within the

parks are former private estate and farm roads that solely serve the visiting public and park operations and are not used as public throughways. Likewise, most of the trails were intended for estate and farm purposes, not as public facilities. One exception is the recently established trail from Val-Kill to Top Cottage.

The visitor circulation system is composed largely of historic roads and visitor parking facilities. The main visitor parking facility at the Home of FDR provides space for approximately 120 cars and six buses. At Val-Kill the main visitor parking facility provides space for approximately 15 cars and three buses. At Vanderbilt, the main visitor parking facility provides space for approximately 120 cars and two buses. No private parking is provided at Top Cottage. Visitor access there is limited to shuttle, pedestrian, and bike access. Demand frequently exceeds capacity at the visitor parking lots: an estimated 15 times annually at the Home and Val-Kill, and 50 times annually at Vanderbilt Mansion. During those times, cars park on lawn areas within the historic cores, which is disruptive to visitor enjoyment of the cultural landscape. A limited number of parking spaces are provided at the Roosevelt Farm Lane trailheads on Route 9 and Route 9G.

### **Operational Funding and Staffing**

The number of park staff fluctuates, depending upon which positions are filled or vacant. In 2008, there were 64.13 FTEs filled ("full-time equivalent" positions are the most accurate means of describing staffing, since some positions are seasonal or part-time), with 7.37 positions under hire or soon to be filled, which totals 71.5 FTEs. The 71.5 FTEs are distributed among seven operating divisions. Costs for these employees, including salary and benefits, total nearly \$4.3 million. The operating divisions include:

- Superintendent's Office
- Administration
- Area Services (Maintenance)
- Interpretation
- Museum Services
- Natural Resources
- Visitor and Resource Protection

All functions have been operating with declining numbers of personnel, as well as inadequate funding for non-personnel costs. Since the establishment of the parks, several significant historic properties have become the responsibility of park management. These include the Bellefield property added to the Home of FDR in 1975; Eleanor Roosevelt NHS added in 1977; Top Cottage added in 1997, and the historic farm road and surrounding lands in 2007.

Though operating funds have been increased over the years, they have not kept pace with the increasing responsibilities of preserving and interpreting additional features and lands or with inflationary rising fixed costs (particularly employee cost-of-living adjustments, retirement and health insurance benefits, and utility costs).

#### SUPERINTENDENT'S OFFICE

This division consists of the Superintendent, Deputy Superintendent, a Management Assistant, and a temporary Office Automation Assistant. The coordinator for the "Teaching the Hudson Valley" program is a fee-funded employee who is also within this Division. In addition to responsibility for all aspects of the park's operation, the superintendent and deputy provide oversight and direction to the parks' numerous partnership efforts and serve as NPS liaisons to the Hudson River Valley National Heritage Area. They are also responsible for Congressional contacts and contacts with the Roosevelt Family. They participate in the Upstate New York Subcluster, which enables them to exchange information and expertise with a group of nearby NPS units.

#### ADMINISTRATION

This division consists of an Administrative Officer and four other employees responsible for managing the parks' budgeting, human resources, housing, acquisition and property management, energy reporting, and record-keeping. A computer specialist is responsible for keeping the parks' information technology performing efficiently.

#### MAINTENANCE

The Maintenance (Area Services) Division is divided into two sections: Roads & Grounds and Buildings & Utilities. A Facilities Operations Specialist is in charge of the entire operation. The Roads & Grounds staff consists of a foreman and seven other employees (two of whom are subject to furlough), and a varying number of seasonal positions. Roads & Grounds staff are responsible for more than 40 acres of fine turf, more than 90 acres of rough turf, 53,000 square feet of formal gardens (with the assistance of the Frederick W. Vanderbilt and Farrand Garden Associations), more than 1,200 specimen trees, five dams, five bridges, more than 27,000 feet of stone walls, 11 lane-miles of roadway, eight miles of trails, and seven parking lots. The Buildings & Utilities section has a foreman and seven maintenance people, as well as two custodians, and a varying number of seasonal positions who care for all the historic buildings, which include more than 30 electrical systems, 19 alarm systems, 23 heating systems, 22 plumbing systems, 13 septic and three water systems. These figures do not include the two new buildings placed in service in 2008.

#### INTERPRETATION

There are 13 full-time permanent employees and a varying number of employees who are seasonal, subject to furlough, and/or part-time. The Interpretive Division is responsible for the NPS presence in the Wallace Center, which functions as the parks' visitor center. In addition to its primary responsibility of preparing and presenting public programs, the division manages the park education program and Alternate Transit System; coordinates volunteers; manages the fee-collection program; and provides photography and videography services for the parks. Division personnel coordinate the "Rail-to-Trail" interpretive programs in conjunction with Amtrak.

#### MUSEUM SERVICES

This division consists of five permanent professional employees, with a varying number of part-time and/or term employees. They are responsible for all aspects of preserving and maintaining the parks' collections and archives, including the portions on public exhibit. They develop park exhibits and provide support for other park programs and also work with a variety of partners and special initiatives relating to park themes.

#### NATURAL RESOURCES

The staff of this division consists of one person, a chief, sometimes assisted by interns provided by outside or grant-funded programs. In addition to researching, monitoring, managing, and advising on natural resources (a topic of increasing concern as urban sprawl continues to reduce open land), the division has a variety of additional responsibilities. These include overseeing park activities for trails, landscape planning, environmental compliance, and archeology.

#### VISITOR AND RESOURCE PROTECTION

This division is responsible for security, safety, traffic control, crowd control, and special events at all units. It consists of a chief ranger and four park rangers. The division owns two fully equipped police vehicles. The Roosevelt-Vanderbilt parks have concurrent jurisdiction, and the ranger force maintains good working relationships with town, county and state police. Per recent legislation, the rangers have police officer status in New York State, which gives them jurisdiction outside park boundaries. The division also works with the FDR Library and has placed a radio there to facilitate coordination. The Library depends on a contracted security service, which provides round-the-clock protection but does not have police powers. Park rangers also occasionally assist other parks for special events and are on call for wildland fire details.

#### Partnerships and Volunteers

Partners play key roles in the operation of the parks, providing advocacy, volunteer workers, and assistance in raising funds. The primary partners with which the NPS has formal agreements are:

- The Eleanor Roosevelt Center at Val-Kill, Incorporated (ERVK)
- The Franklin and Eleanor Roosevelt Institute (FERI)
- The Franklin D. Roosevelt Presidential Library and Museum
- Honoring Eleanor Roosevelt: A Project to Preserve Her Val-Kill Home
- The Hudson River Valley National Heritage Area
- The Roosevelt-Vanderbilt Historical Association (RVHA)
- The Beatrix Farrand Garden Association
- The Frederick W. Vanderbilt Garden Association, Inc.

Park managers also work cooperatively with **Scenic Hudson, the Town of Hyde Park, the Hudson River Valley National Heritage Area**, and others to advance the Hudson Valley Welcome Center project (previously known as the Regional Center) on lands between Route 9 and Route 9G.



Park managers connect the parks' interpretive programs with those of **thematically related sites**, such as those associated with Franklin and Eleanor Roosevelt, the Vanderbilts, other presidents, the Hudson Valley, and "**sites of conscience**." They also cooperate with partners in the **Hyde Park Trail Network** to extend and improve the trail system and conduct increasingly important work with the **New York State Department of Environmental Conservation** to protect views of lands outside the park boundary and to manage invasive plant species. Volunteers assist the parks in interpretation, maintenance, and resource management. (Student Conservation Assistants are considered volunteers for the purposes of this discussion.) The interpretive volunteers function as docents, giving tours of the main residences and providing back-up for tours with large groups. In fiscal year 2007, interpretive volunteers provided 3,023 hours of service. In addition, 12 volunteers provided 260 hours of service on "Rail-to-Trail" interpretive programs presented on Amtrak trains. Cumulatively, volunteer efforts in fiscal years 2006 and 2007 translate into six additional FTEs for the park. Two garden associations provided a total of 9,200 volunteer hours to maintenance operations.

### **Socioeconomic Environment**

The Town of Hyde Park, home to the national historic sites, is located in the mid-Hudson Valley, approximately 80 miles north of Manhattan and 70 miles south of Albany. Located in Dutchess County, Hyde Park stretches along ten miles of scenic and historic shoreline on the east bank of the river and contains about 37 square miles (nearly 24,000 acres). The town general zoning ordinance was already in place when the previous master plans for the Home of FDR and Vanderbilt Mansion were being prepared in the 1970s, at which time 91% of the land was zoned residential. However, no plan governed the detailed pattern of land use. As a result, the main commercial area grew up along Route 9 between the Roosevelt and Vanderbilt sites, with strip malls and small business establishments mingled with municipal and historic buildings, some of which have associations with the Roosevelts.

### **Population and Demographic Profile**

In the 2000 census Hyde Park recorded a population of 20,851, the fifth largest of the 20 towns in Dutchess County. The estimate for 2006 shows 20,697, or a drop of 0.7%. The density for Hyde Park is 563 persons per square mile, compared to 349 in Dutchess County and 402 in New York State. In 1900 Hyde Park had a population of 2,100, which had increased to 16,700 in 1970. Planning agency estimates incorporated in the 1970s master plans predicted that the population of Hyde Park would grow to 32,000 in 1990, but in fact it leveled off in its present range around 1980.

Hyde Park remains overwhelmingly White non-Hispanic (89.3%), with 4.3% of the population Black and 3.2% Hispanic. Only 4.9% is foreign-born, compared to 20.4% statewide. Thus, although the population has increased greatly since FDR's time, its composition has changed little. The residents are quite well-educated, with 86.9% having at least a high school diploma, 24.7%

with a bachelor's degree or higher, and 10.5% with a graduate or professional degree. Some 20% of the population attends public schools—2,658 in the town's five elementary and middle schools and 1,550 in FDR Senior High School.

Dutchess County was estimated to have a population of 295,146 in 2006, an increase of 5.4% from the 280,150 of 2000. The New York State population increased only 1.7% in that period. The county had a population of 81,670 in 1900 and stood at around 125,000 at the time of Franklin D. Roosevelt's death in 1945. Unlike many other rural areas, Dutchess did not lose population during the Great Depression or the general rural decline of the 20th Century. Its greatest rate of increase occurred during the 1960s and 1970s, as urban sprawl largely skipped over rugged Putnam County. The rapid growth of that period may have led planning agencies to make the prediction of 400,000 for 1990 that is cited in the 1977 Home of FDR master plan. Dutchess County as a whole has a higher minority population than Hyde Park, with 10.2% Black and 8.1% Hispanic. The foreign-born figure is also higher, at 8.4%. The median resident age is 36.4 years for Dutchess County and 35.9 for the state.

### **Transportation**

Dutchess County has a land area of 801.59 square miles. It extends from the Hudson River to the eastern boundary of New York State. The major regional north-south highway is the New York State Thruway (I-87), though it lies on the other side of the river. There are vehicular bridges across the Hudson at Poughkeepsie in the south and Rhinecliff in the north. U.S. Route 9, the old Albany Post Road, which runs past the Vanderbilt Mansion and the Home of FDR, intersects I-84 about 20 miles south of Hyde Park. The Taconic State Parkway, a scenic roadway from which commercial vehicles are prohibited, runs through the center of the county to terminate at a junction with I-90 (the Berkshire branch of the New York Thruway, which links to the Massachusetts Turnpike). The nearest commercial airports are Dutchess County in Poughkeepsie, 13 miles from Hyde Park, and Stewart International in Newburgh, 25 miles away. The Poughkeepsie railroad station, which is a terminus for Metro North commuter trains and is also served by Amtrak long-distance trains, is 5.5 miles from Hyde Park.

### **Housing**

Dutchess County had 110,712 housing units in 2005 and a home ownership rate of 69%. In that year, the median value of an owner-occupied home in Dutchess County was \$306,900, and in Hyde Park was \$259,500, close to the state figure of \$258,900. The Hyde Park value had increased dramatically from the \$130,400 recorded in 2000, though the general downturn in housing prices after 2006 has undoubtedly had an impact. In 2006, the average rent in Dutchess County for a one-bedroom apartment was \$815 per month; a two-bedroom \$998 per month; and a three-bedroom \$1,224 per month.

### **Income and Employment**

The median household income for Dutchess County was \$56,971 in 2004 and

for the Town of Hyde Park \$59,300 in 2005, an increase from \$50,870 in 2000. These figures are considerably higher than for the state as a whole: \$45,343 in 2004 and \$49,480 a year later. An estimated 5.7% of residents of Hyde Park and 7.7% of those in Dutchess County have incomes below the official poverty line. This compares with 14.6% state-wide.

Employment data indicate a predominantly service orientation, with little manufacturing or agriculture remaining. The most common industries for Hyde Park males are: construction (12%), computer and electronic products (10%), educational services (7%), professional, scientific and technical services (7%), public administration (7%), health care (5%), and repair and maintenance (4%). For females the figures are: educational services (21%), health care (17%), accommodation and food services (6%), professional, scientific, and technical services (4%), social assistance (4%), and food and beverage stores (4%). A sizable portion of workers commute substantial distances, as the mean travel time to work is nearly 30 minutes for the county and 26 minutes for the town.

While the rate of development may have slowed, it has by no means ceased, as evidenced by the 860 building permits issued in Dutchess County in 2006. In Hyde Park, several large projects, which would combine multi-family housing with commercial use, have been proposed for some of the remaining large tracts of vacant land. If constructed, they would complete the transition from the largely rural setting that prevailed during most of the lifetimes of Frederick Vanderbilt and President Roosevelt to a suburban environment. These proposals are being reviewed within the context of the Comprehensive Plan of 2005.

Tourism occupies an important place in the regional economy. A study, "The Economic Impact of Tourism in New York," prepared by Tourist Economics in 2007 using 2006 data, offers some revealing figures about the role of tourism in the state economy. The study divides the state into 11 economic regions, with Dutchess, Orange, Putnam, Rockland, and Westchester Counties forming the Hudson Valley region. For this region in 2006 it is estimated that tourism generated \$2,943,224,000 in direct sales and labor income of \$1,646,767,000. Tourism employed 55,763 people and generated \$179,926,000 in local taxes and \$167,984,000 in state taxes. The Hudson Valley produced only 6% of the state total direct sales (New York City was the major contributor, at 63%).

Within the Hudson Valley Region, Dutchess County produced 16% of the direct sales; Westchester was the dominant contributor at 53%. In Dutchess, tourism direct sales reached \$466,747,000, with labor income at \$261,261,000. Tourism in the county provided employment for 10,277 people, local taxes of \$31,946,000, and state taxes of \$26,640,000. A breakdown of direct sales shows \$91,772,000 derived from lodging, \$33,807,000 from recreation, \$107,848,000 from food and beverage, \$79,607,000 from retail and service stations, \$134,794,000 from transit, and \$18,920,000 from second homes. Tourist labor employment (direct and indirect) was about 8.7% of the total, and tourist labor income was about 5.2% of the county total.

### Economic Impact of Roosevelt-Vanderbilt National Historic Sites

The following section is adapted from Daniel J. Stynes, "Economic Significance of Roosevelt-Vanderbilt National Historic Sites to the Local Economy" (April, 2008).<sup>24</sup>

The three Roosevelt-Vanderbilt sites combined received 572,163 visitors in 2007, including 178,408 paid tours. The mix of visitors at each unit was estimated by dividing visitors into those who took tours and those who did not. The segment mix for tour visitors was assumed to be 10% local, 60% day trips, 20% overnight stays in area motels, and 10% other overnight stays (camping or stays in private homes). Non-tour visitors were divided into 80% local and 20% day trips from outside the local area (Table 3-2).

Applying the tour and non-tour segment mixes to each unit yields an overall distribution of visitors to Roosevelt-Vanderbilt of 58% local, 32% day trips, 6% overnight stays in motels, B&B's etc., and 3% other overnight stays. Vanderbilt had a higher percentage of local visitors, while the Home of FDR visits mostly involved tours.

**Table 3-2: Visitors to Roosevelt-Vanderbilt 2007**

UNIT	TOTAL RECREATION VISITS	TOURS	SEGMENT MIX			
			LOCAL	DAY TRIP	MOTEL	OTHER OVN
ELRO	59,846	23,631	52%	36%	8%	4%
HOFR	114,193	90,684	24%	52%	16%	8%
VAMA	398,124	64,093	69%	26%	3%	2%
ROVA Total	572,163	178,408	58%	32%	6%	3%

Spending averages for Roosevelt-Vanderbilt were estimated at \$22 per party per day for local visitors, \$68 per party for day trips, \$220 per night for visitors staying in area motels, and \$110 per party per night for other overnight visitors. The spending averages apply to roughly a 50-mile radius of the park. An average party size of 2.5 was assumed.

Re-entry rates were estimated to adjust for double counting of those who visited more than one unit on their trip or entered a single unit more than once. The re-entry factors were estimated based on park estimates of the percentage of tour takers who take tours at more than one site. To estimate the number of unique visitors represented in the tour counts, we began with the 90,684 tour visitors at the Home of FDR and added 15% of the tours at Vanderbilt and 10% of tour visits at Val-Kill to represent distinct visitors.

For overnight visitors, 1.7 nights of spending was attributed to the park visit for visitors in motels and 1.2 nights for other overnight visitors. Since re-entry factors for these segments are close to these length-of-stay figures, the effect is to count roughly one day of spending for each visit (Table 3-3).

**Table 3-3: Average Spending and Visit Conversion Factors for ROVA, 2007**

	LOCAL	DAY TRIP	MOTEL	OTHER OVN
Spend Avg per Party per day	\$22.16	\$68.41	\$220.00	\$109.88
Length of stay	1.0	1.0	1.7	1.2
Party size	2.5	2.5	2.5	2.5
Re-entry/Multi-park visits	1.1	1.2	1.6	1.2

The figure of 572,163 visits (park entries) converts to 494,755 unique visitors and 205,327 party days/nights in the area. Applying the per day/night spending averages for each segment to the number of party days/nights yields a total Roosevelt-Vanderbilt visitor spending of \$11 million in 2007. Local visitors accounted for \$2.68 million of the total (Table 3-4). Thirty percent of the spending was for restaurant meals, 15% for lodging, 18% souvenirs, and 18% auto fuel. The \$1.17 million spent on admissions includes the park admission and tour fees.

**Table 3-4: ROVA Visits and Spending by Segment, 2007**

	LOCAL	DAY TRIP	MOTEL	OTHER OVN	TOTAL
Visits	333,231	184,437	35,002	19,492	572,163
Unique visits	302,937	153,698	21,877	16,243	494,755
Party nights	121,175	61,479	14,876	7,797	205,327
Total spending (\$000's)	\$2,685	\$4,206	\$3,273	\$857	\$11,021

**Table 3-5: ROVA Visitor Spending by Category**

CATEGORY	SPENDING (\$000'S)	PCT
Motel, hotel, B&B	\$ 1,523	14%
Camping fees	131	1%
Restaurants & bars	3,334	30%
Groceries, take-out	689	6%
Gas & oil	1,974	18%
Other vehicle expenses	66	1%
Local transportation	98	1%
Admissions & fees (including tour fees)	1,171	11%
Souvenirs	2,034	18%
<b>Total</b>	<b>\$11,021</b>	<b>100%</b>

Economic impacts of visitor spending are estimated by applying the spending estimates to a model of the local region's economy. Impacts apply to the local region, encompassing roughly a 30-mile radius of the park. Impact estimates can be made using all visitor spending (economic significance to the region) or just spending by visitors from outside the local region (economic impact). Estimates made using all visitor spending, including secondary effects, generate \$11 million in spending, which in turn supports 232 jobs in the area, generates \$3.85 million in labor income (wages and salaries), and contributes \$5.6 million in value added.<sup>25</sup> Visitor spending directly supports 88 jobs in restaurants, 41 jobs in motels, and 38 retail jobs (including grocery stores and gas stations). A rural area sales multiplier of 1.3 was factored in, which means that \$.30 in secondary sales is generated for every dollar of direct sales (Table 3-6). Economic impacts are about 25% less if spending by local visitors is excluded (Table 3-7).

**Table 3-6: Economic Significance of Visitor Spending, 2007**

SECTOR/SPENDING CATEGORY	SALES \$000'S	JOBS	LABOR INCOME \$000'S	VALUE ADDED \$000'S
<b>Direct Effects</b>				
Motel, hotel cabin or B&B	\$1,523	41	\$664	\$1,078
Camping fees	131	1	15	36
Restaurants & bars	3,334	88	1,262	1,424
Admissions & fees	1,171	27	425	711
Other vehicle expenses	66	0	13	29
Local transportation	98	2	53	59
Grocery stores	174	4	67	89
Gas stations	440	6	158	205
Other retail	986	28	451	631
Wholesale Trade	183	5	99	111
<b>Total Direct Effects</b>	<b>8,107a</b>	<b>202</b>	<b>3,207</b>	<b>4,374</b>
Secondary Effects	2,400	31	647	1,247
<b>Total Effects</b>	<b>10,507</b>	<b>232</b>	<b>3,853</b>	<b>5,621</b>

a. Note that direct sales are less than the \$11 million in spending, as not all spending is captured by the local economy. In particular, only retail margins and a portion of wholesale margins on goods bought by visitors accrue to the local economy, as most goods bought by visitors are not made in the local area.



**Table 3-7: Economic Impact of Visitor Spending, 2007**

SECTOR/SPENDING CATEGORY	SALES \$000'S	JOBS	LABOR INCOME \$000'S	VALUE ADDED \$000'S
<b>Direct Effects</b>				
Motel, hotel, cabin, or B&B	\$1,523	32	\$664	\$1,078
Camping fees	131	2	15	36
Restaurants & bars	2,171	51	822	927
Admissions & fees	881	23	320	535
Other vehicle expenses	66	1	13	29
Local transportation	98	2	53	59
Grocery stores	113	3	43	58
Gas stations	332	5	119	155
Other retail	744	17	340	475
Wholesale Trade	136	4	73	82
<b>Total Direct Effects</b>	<b>6,195</b>	<b>138</b>	<b>2,461</b>	<b>3,434</b>
Secondary Effects	1,811	23	492	947
<b>Total Effects</b>	<b>8,005</b>	<b>161</b>	<b>2,953</b>	<b>4,381</b>

Note: Excludes spending by local visitors

As visitor spending on admissions and tour fees mostly accrue to the NPS, this spending should be excluded if visitor spending impacts are combined with the impacts of park operations. In FY 2006, the three units and the Roosevelt-Vanderbilt Headquarters had a total payroll of \$3.88 million supporting 67 NPS jobs.<sup>26</sup> Including secondary effects, the total impact of the park payroll on the region was 100 jobs, \$4.8 million in labor income, and \$5.5 million value added.

## Notes

1. NPS, "Water Resources Management Plan." (NPS, 1997).
2. Klemens, M.R., et. al., "Herpetofauna of Roosevelt-Vanderbilt National Historic Sites" (Tech. Report. NPS/NAROSS/NRTR-92-08; Boston, MA: NPS, North Atlantic Regional Office, 1992).
3. NPS, "Water Resources Management Plan." (NPS, 1997).
4. USFWS, "Significant habitats and habitat complexes of the New York Bight Watershed." (Charlestown, RI: Southern New England-New York Bight Coastal Eco-systems Program, 1997).
5. NPS, "Water Resources Management Plan." (NPS, 1997).
6. Dutchess County Dept. of Planning, "Natural Resources" (Poughkeepsie, 1985).
7. Gilbert, A.T., et. al., "An inventory of terrestrial mammals at National Park Service Sites in the Northeast Temperate Network (draft). (NPS, 2006); Pandullo Quirk Associates, "Natural Resources Inventory at Eleanor Roosevelt NHS." (Boston: NPS, 1979).
8. Trocki, C., and P.Paton, "Avian surveys in Northeast Temperate Network." (Woodstock, VT: NPS Technical Report NER/NRTR, 2005/004, 2003).
9. Klemens, M.R., et. al., "Herpetofauna of Roosevelt-Vanderbilt National Historic Sites" (Tech. Rpt. NPS/NAROSS/NRTR-92-08). (Boston, MA: NPS, North Atlantic Regional Office, 1992).
10. USFWS, "Significant habitats and habitat complexes of the New York Bight Watershed." (Charlestown, RI: Southern New England-New York Bight Coastal Eco-systems Program, 1997).
11. Klemens, M.R., et. al. "Herpetofauna."
12. Ibid.
13. Mather, M.E., et. al., "Freshwater fish inventory, Northeast National Parks." (NPS, 2003); Schmidt, R.E., "Fishes of the Roosevelt-Vanderbilt NHS." (NPS, ROVA: 1995).
14. Mather, M.E., et. al., "Freshwater fish inventory, Northeast National Parks." (NPS, 2003).
15. Schmidt, R.E., "Fishes of the Roosevelt-Vanderbilt NHS." (NPS, ROVA: 1995).
16. Pandullo Quirk Associates "Natural Resources Inventory at Eleanor Roosevelt NHS." (Boston: NPS, 1979).
17. Bode, R.W., et. al., "Biological stream assessment, Crum Elbow Creek." (Albany: NYS Dept. Environmental Conservation, 1995).
18. Kelly, M. and W. Perrotte, "The epiphytic invertebrates of *Trapa natans* and *Myriophyllum* at Roosevelt Cove." (National Estuarine Research Program, 1988).
19. Dutton, B.E., "FDR NHS vascular plant survey" (Hyde Park: NPS, 1998a); "Eleanor Roosevelt NHS vascular plant survey" (1998b); Glenn, S.D., "Vanderbilt Mansion NHS vascular plant survey" (1998).
20. Bravo, M.A., "Invasive plant assessment and inventory." (Hyde Park: NPS, 2002).
21. NPS, "Assessing the risk of foliar injury from ozone on vegetation in parks in the Northeast Temperate Network." (NPS: 2004).
22. Ann Davis, "Report of Interviews at Historic Sites in the Hudson River Valley National Heritage Area." (Poughkeepsie: Marist College Bureau of Economic Research, 2005).
23. Ibid.
24. Daniel Stynes, "Economic Significance of Roosevelt-Vanderbilt National Historic Sites to the Local Economy." (East Lansing MI, Department of Park, Recreation and Tourism Resources, Michigan State University, April, 2008).
25. Jobs include full-time and part-time jobs, but adjust seasonal positions to annual equivalents. Labor income includes wages and salaries and payroll benefits. Value added is the sum of labor income, profits and rents, and indirect business taxes.
26. Seasonal positions are converted to an annual equivalent.