



***THE COPAKE IRON WORKS  
AT TACONIC STATE PARK***

***A REPORT ON ITS HISTORICAL SIGNIFICANCE  
AND DEVELOPMENT POTENTIAL***

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## ***Executive Summary***

The remains of the Copake Iron Works have sat silently in the background of Taconic State Park since 1928 when they were acquired along with the first of many parcels that now comprise an 11-mile-long, 5000-acre park at the base of the Taconic Ridge. The ironworks was active from 1845 until 1903, when the furnace was last put in blast. Long recognized by specialist historians as perhaps the best preserved 19<sup>th</sup>-century rural ironworks site in the four-state Litchfield Iron District, it nevertheless has been neglected except for the opportunistic use of some associated buildings for park operations and maintenance facilities. Beyond swimming in one of the larger flooded ore pits, few ironworks features are experienced by the thousands of annual park visitors as the most significant buildings and structures are located in maintenance areas which until very recently have been generally off-limits to patrons.

The charcoal blast furnace (1872), with its rare surviving water-cooled hearth, lost its stone exterior almost 70 years ago. It is severely deteriorated and in need of stabilization and protection soon or it will collapse. Other components of this extraordinarily intact industrial complex include a blowing engine house, a machine shop with equipment still in place, a virtually intact late 19<sup>th</sup>-century frame ironworker's duplex, the original Gothic-style Copake Iron Works office, and the stylish residence of the family who first developed the site. These generally underutilized primary site features along with many secondary features are all in need of repair if not conservation if they are to survive in the next century.

This report responds to State Parks' interest in the potential of its underutilized resources to generate revenue that could help underwrite maintenance costs and justify future investment. It is important to note that the Copake Iron Works was recommended for development as a state historic site back in 1968 when the NYS Historic Trust was considering additions to the collection of historic sites owned and operated by the state. Little was done as a result of that recommendation. The report concludes that the ironworks at Copake is eminently worthy of preservation, even more now that its value can be shown not only as a rare and largely intact artifact

of our industrial heritage, but as a resource that can serve a range of functions consistent with the agency's mission as well as local and regional needs for heritage tourism development. Copake Ironworks, in its fortuitous location and with its available facilities, clearly presents circumstances that justify interest and investment.

**The report concludes that:**

**\*\* The significance of the Copake Iron Works lies not so much in any individual component, although there are several remarkable if not unique features, nor in any exceptional architectural, technological, or economic accomplishments, but in the fact that so much of the manufacturing operation is still visible in the buildings, site, and surrounding cultural landscape. There is no other comparable collection of accessible structures and artifacts surviving in the Litchfield Iron District.**

**\*\* As the icon of the Copake Iron Works, the charcoal blast furnace, even in its deteriorated and rather uncharacteristic appearance, must be saved if we are ever to realize the full potential of the site to tell the story of a 19th-century rural ironworks.**

**\*\* Virtually all of the historically significant features of the Copake Iron Works are in public ownership or generally accessible to the public, thus providing a unique opportunity for comprehensive access and interpretation as well as coherent management.**

**\*\* The site is fortuitously located in a high traffic zone within a major state park and adjacent to Bash Bish Falls. Combined, they draw over 100,000 visitors a year.**

**\*\* With little up-front cost, the facilities have the potential to generate revenue through patron fees for a wide range of educational and recreational attractions. The site is visually interesting, functionally linked with the park, the community, and the road system, and contains convenient, available, and flexible spaces for external as well as internal programming needs.**

**\*\* The Copake Iron Works as a multi-function facility has the potential to attract a wide range of possible partnering organizations.**

**\*\* The ironworks resources in their prime park location are an investment**

opportunity. Like the Pomeroy's of 1845, who cleverly observed the site's fortuitous combination of exploitable natural resources, State Parks should take notice of its similar good luck. The resources themselves have market appeal and lend themselves to several interesting interpretive opportunities that go well beyond charcoal iron production. The state does not have to buy anything or build anything of consequence. Development would not mean displacement. The patrons are already in the neighborhood and there are multiple opportunities for revenue generation for the park as well as the community. The necessary capital investment can be made in measured steps that would respond to market conditions. And finally, unlike opportunists of the past, we do not have to deplete the resource in order to take advantage of it.

## Background

This project was undertaken for the purpose of producing an evaluated inventory of the historic resources associated with the 19<sup>th</sup>-century ironmaking industry remains within and adjacent to Taconic State Park (TSP) and to assess their development potential. The Taconic Regional Office initiated the project after consultation with Bureau of Historic Sites (BHS) staff to respond to the stewardship responsibilities for what had long been recognized as neglected and deteriorating historic resources in the park. It also responds to the Commissioner's directive to explore the development potential of underutilized park resources.

The genesis of this report was at a 10/22/96 meeting at the park initiated by TSP manager, Tom Scofield. Taconic Region staff and BHS staff from Peebles Island Resource Center (PIRC) were given a tour of the core of the ironworks facility and were provided some background on efforts to protect the ironworks features over the last 30 years. Also noted were recent overtures from the community in having the historic site promoted and developed. Park staff had erected a small interpretive panel adjacent to the crumbling blast furnace to benefit casual visitors. Care had also been taken to keep the area reasonably safe and attractive to casual visitors. It was evident that current park staff recognized and appreciated the historic value of the ironworks and had made a special effort to protect and care for the site with the limited resources available to them.

The meeting concluded with a consensus among participants that the ironworks and its associated features needed to be inventoried and contextually evaluated for significance, conservation needs, and potential uses, and that at least two additional short-term initiatives should be pursued at the same time-- expanding the public access to and interpretation of some key site features and stabilizing the furnace stack, a key visual feature of the site.

Stabilization options were to be considered immediately including both short-term and permanent solutions. Since that first meeting, there were several on-site meetings in 1997 and some continuing discussion regarding how to proceed with placing a permanent protective enclosure around the furnace, which would help arrest further weathering and also provide a protected area for stabilization work.

On the matter of inviting visitors into the maintenance area to safely view the resources and to enhance interpretation of the ironworks, it was recognized that considerable documentation, research, and planning were needed before significant investment could be made. Very little detailed information about the ironworks had been collected and it was not clear how expansive or focussed any interpretation should be. It had not been listed on the National and State Registers of Historic Places, and our files contained little other than some helpful written observations of a few interested industrial archeologists. Expanding visitor access to the site created safety and operational problems that needed solutions. Intuition and first impressions convinced the group that ironmaking was only one of several large historical themes evidenced in the park and its immediate environs. Given the size, complexity, and extent of the resources, we needed a preliminary report

that identified the universe of themes and interpretive opportunities-- one that would give us a means to select attractive and workable offerings, provide guidance and priorities for measured steps, and identify potential development partners. Nevertheless, there were short-term projects, mostly clean up and hazard removal, which the park staff would begin to implement to make the area more acceptable for limited public access.

Staff at this first meeting did not fail to see the size and complexity of the task and recognized that it would take a sustained multi-disciplinary team effort and would be multi-year in scope. The meeting concluded with an agreement that Tom Scofield and Larry Gobrecht would consult further and prepare a Project Assistance Request and submit it to the PIRC for January-June 1997 work plan consideration.

### **Project Description**

The Project Assistance Request submitted in December 1996 was approved with modifications for work during the first half of 1997. The project as defined initially called for technical assistance from several PIRC units but was later scaled back to remove substantial time commitments from all the other team players except Building and Landscape Conservation Unit (BLCU) staff. Staff proceeded with the inventory and historical assessment deferring consultation and involvement with other units until the preliminary research report was drafted and circulated. It was also agreed to modify the original scope of the project to include a temporary exhibition of historic views and a small collection of artifacts related to the ironworks. The temporary exhibit would be installed in the machine shop so park visitors and community members could learn about State Parks' planning initiative and aspirations for the park.

The specific question of what to do, if anything, about the continuing and increasingly conspicuous deterioration of the Copake Iron Works charcoal blast furnace, a central feature of the site, had been around for almost 20 years. Discussion however, had been limited to a small and unorganized group of industrial archeologists, a few agency staff with an interest in industrial archeology, and the occasional prodding letter from the local history constituency that noted and protested the lack of agency investment or interest in preserving unutilized structures. Considering the limited capital funds available for upgrading even intensively used park facilities over the last 20 years and the vast stewardship investment now required by the statewide park and historic site system, it is no surprise that little had been done for the ironworks. Furthermore, park staff is well aware that significant reinvestment in the site will be unlikely unless there is a clear understanding that the resource merits our attention and stewardship dollars, that an important public need would be served, and that the surrounding community would provide staffing and program support through partnering arrangements.

Unfortunately, from the viewpoint of the general public as well as most agency staff, the fragmentary and dispersed remains throughout the park of what was once an important regional industry have been little more than a curiosity in the background of a popular

recreational park. Within the 5000 acres of rugged and mostly forested parklands abutting southwest Massachusetts and northwest Connecticut, the remains of the once extensive ironworks could be easily ignored or, at best, merely incorporated into park operations on an opportunistic basis. As much as such official disregard may seem shortsighted today, public acquisition protected against redevelopment and the alteration, demolition, and intrusive new construction that would have made the area unrecognizable today. Furthermore, some of the key ironworks features and buildings gained a new lease on life as park facilities, accounting for the remarkable survival of a significant portion of the resource, a circumstance not found elsewhere in a region that once boasted dozens of comparable operations.

## **Project Outline and Methodology**

Although the project as first planned focussed on the surviving ironworks-associated features at the core of the park, the scope of the inventory expanded somewhat as both archival and field research revealed that the Copake iron manufacturing operations were linked historically to several other concerns operating in the Litchfield district. Thus the final report, while still concentrating on the buildings and structures in the immediate vicinity of the blast furnace, provides pertinent information and commentary on discontinuous features that help us understand the ironworks in a broader, regional context. Furthermore, while the geophysical qualities of the area were perfect for development of a rural ironmaking facility, they were also perfect for recreational development culminating with the acquisition of the ironworks and surrounding areas by the state for public recreational use. The report therefore includes some information on the history of the recreational resource both before, during, and after the period of active industrial use in order to provide a more complete and integrated picture of the interpretive possibilities that the surviving resources provide, especially our understanding of the forces that work to create and change a cultural landscape.

Early in the file and literature search it became clear that the Copake Iron Works was well known to a few industrial historians for its remarkable number of unaltered surviving features, including a possibly unique water-cooled hearth still visible at the core of the crumbling blast furnace. The ironworks, however, had not been studied in the context of the larger regional ironmaking operations that dotted the Taconic mountain region from southern Vermont, through western Massachusetts, northwestern Connecticut and Columbia and Dutchess Counties in New York. While the key ironworks buildings and structures, including the water-cooled hearth are indeed remarkable survivors deserving protection, parks staff sensed that its location near the core of the intensive use areas of the park gave it a potential for development not only as an historic "attraction," but as a potential venue for interpreting the history of ironmaking in the region, the technology of charcoal iron production, community history, recreational history, and programming that focussed on the changing relationship between man and his natural and built environment. With the realization that the silent remains of the ironworks provided an opportunity to capture more expansive themes and interpretive possibilities, and with the understanding that significant re-investment in the resources

will need as broad a constituency and public purpose as possible, we proceeded to collect information on a wide range of associated themes and properties.

The project began with a reconnaissance survey (windshield and walkover) of the visible remains of the iron industry and its associated features within and adjacent to park boundaries. The next task was to collect and review existing printed materials and monographs about the history of the Copake Iron Works, Copake Falls, and the surrounding community. Information was gathered from a variety of sources on other regional ironworks operations from the 1740-1925 period for background and contextual understanding. This basic literature search in local, state, and national depositories was supplemented by interviews with specialist historians familiar with the property as well as informed local residents. Key sources were copied and collected for future reference. We then located and copied any historic maps that showed park and iron industry features.

Photographs of all extant historic buildings and structures were taken in anticipation of producing an inventory of all the park's historic features. These have been recorded, although there are some remote features and a few resources on private property that were not included at this stage. The photographs have been collected in the building/structure inventory ringbinders. A separate ringbinder contains the negatives.

After completing the literature search, map search, and photography, we began to locate, collect, organize, and evaluate easily accessible primary documents. Agency files, Roeliff Jansen Historical Society files, and local library vertical files were searched for photographs, maps, letters, documents, and other ephemera. The local historical society and the Hillsdale Public Library had collected literally boxes of materials covering the history of the ironworks as well as private and public recreational use of the parklands prior to state ownership. More than 200 historic photographs and postcard views were located and copied. The quality and number of historic views convinced us that if some of these informative views could be shared with the park visitors, new interest in the iron industry remains at Copake and their future would be very easily raised and might even bring new information to light that would help piece together the complicated history of the site. Thus, the research chores were temporarily set aside while some of the most dramatic and curious photographs were enlarged and used as the basis for a temporary exhibit installed in the engine house garage door bay.

The real property and engineering files of the Taconic Regional Office provided another large trove of resource reference materials, especially park development plans from before World War II and some historic photographs of buildings long since demolished. But administrative files were not available for inspection, and they no doubt contain much more important information. Information about the state's treatment of the ironworks facilities in the 1925-70 period will no doubt be found in those files when they are located.

After searching primary sources for resource-specific references as well as for information that would add to the narrative history of the site, a feature-by-feature

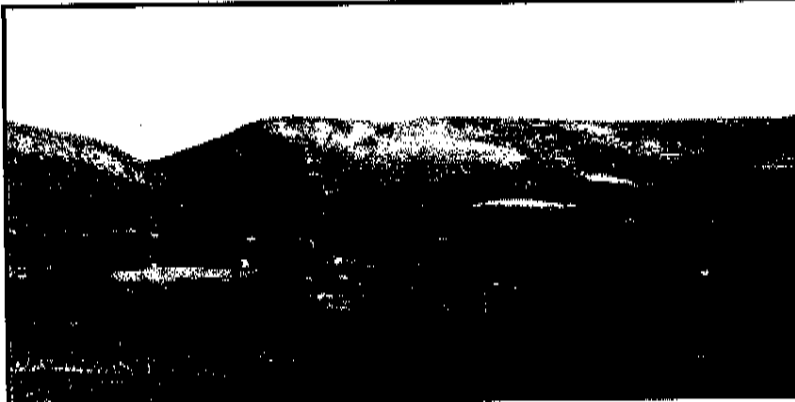


inventory of all park resources was initiated. An inventory form was created to provide a format for data collection. Each primary feature in the park has an inventory sheet, a locator map, current and historic photographs, and copies of related documents if they provide detailed information. Currently, the inventory and supporting documents are organized in ringbinders and are used as a cumulative working file that allows for expansion, as new information becomes available. (See attachment A for a list of subjects)

During planning for this project it was hoped that PIRC staff could prepare a new digitized base map of the park and its environs that would serve as data collection and planning tool. Given the size of the park, 11 miles long and over 5000 acres, with iron industry remains located throughout the park, the mapping component poses technical problems that we have not yet addressed. The original 1862 survey map has been digitized and other large-scale maps covering the entire park have been located in anticipation of possibly taking the chore on at a later date.

## THE COPAKE IRON WORKS: HISTORICAL OVERVIEW

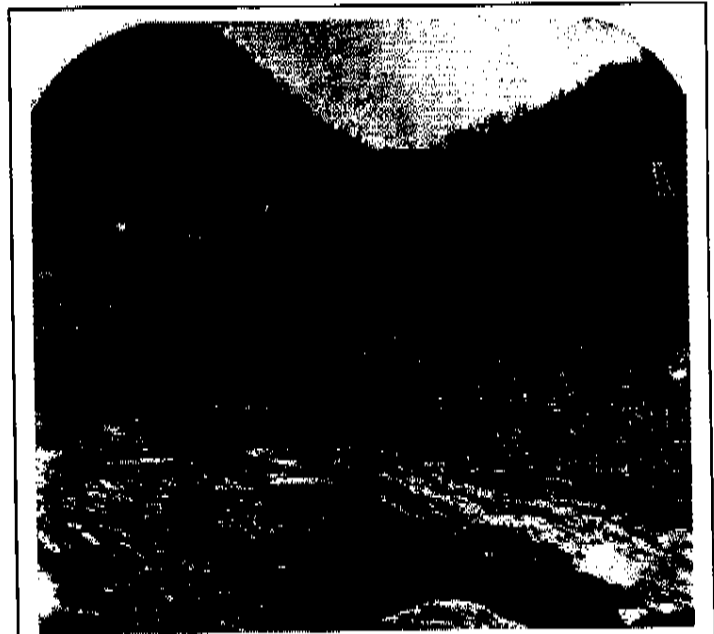
The story of the Copake Iron Works began in 1845 when Lemuel Pomeroy II (1778-1849), a prosperous businessman from Pittsfield, relocated his ironmaking operations from nearby Ancram where he and his family had been operating a furnace for the Livingston family. The new site at the base of the Taconic ridge along the Bash Bish



The Bash Bish Brook Clove in the Taconic ridge showing the topography of the area around the hamlet of Copake Falls (1998).

Brook offered waterpower, significant ore deposits, nearby limestone sources, and a dependable charcoal supply. Pomeroy was perhaps the most important industrial entrepreneur in Western Massachusetts at the time, and his development of the

ironworks at Copake came late in his career. When Pomeroy died in 1849, the operations at Copake were carried on by several of his 11 children until it was sold in 1861 to John Beckley. Beckley operated two other furnaces, one in North Adams, Massachusetts, and the other in Canaan, Connecticut. His tenure was short as only a year later he sold it to Frederick Miles (1815-1896) of nearby Salisbury, Connecticut, who was fairly new to the business having established an ironworks in Salisbury only four years earlier. Frederick Miles was active in Connecticut politics and while operating the Copake works he served four years in the state legislature and two years in Congress. Miles did not reside in Copake as the family maintained a Connecticut home on Twin Lakes, just over the mountain due east of Copake. His sons, William A. Miles and Frederick Plumb Miles, appear to have been involved in the day-to-day operations. William maintained a small home not far from the current office building. Miles and his sons made substantial improvements to the ironworks over time including a new 32' high furnace in 1872, a brick blowing engine house, and a narrow-



Undated stereocard view of Bash Bish Brook and portions of the ironworks. This is the earliest known view and appears to predate the improvements made by Frederick Miles.

gauge, works railroad. It is clear that most of the surviving buildings and structures represent improvements made by Miles. The furnace produced varying amounts of pig iron according to trade journal reports with the highest annual capacity of 7500 tons reported in 1896. But the charcoal iron industry was in decline during the last two decades of the 19<sup>th</sup> century and only held on because of a demand for high-quality railroad car wheel iron that furnaces of the Litchfield district had become famous for. With the deaths of Frederick Miles in 1896 and his son Frederick Plumb Miles in 1897, the ironworks was leased to the Salisbury Carbonate Iron Company, which operated other furnaces in the district. However, by 1903, when operations at the blast furnace ceased, William A. Miles had taken clear title to the property and was back in control of the operations with several partners that had interests in other regional ironworks. While the blast furnace had gone silent, foundry operations continued with Miles' Copake Plow Works producing single bottom plows, and possibly other products, until the early 1920s. When the State of New York approached William A. Miles in 1926 to purchase the lands and improvements for a new state park, much of the equipment was still present on site including the steam engine and blowing tubs that provided the blast.

Although the ironmaking operation at Copake was only one of several hundred 19<sup>th</sup>-century American iron manufacturing sites that ranged from Maine to Alabama, it is most appropriately considered in the context of a regional iron industry that began in the 1720s with the discovery of high quality iron ore (limonite, or brown hematite) deposits in Salisbury, Connecticut. Subsequent discoveries in the Taconic ridge and neighboring areas resulted in the development of what became known as the Salisbury Iron District--an area that stretched from southern Vermont, through northwestern Connecticut, and included the western fringes of the Harlem Valley in Columbia and Dutchess Counties in New York. Although the Copake works began operation in the 1840s, it was in fact part of a regional industry that was already more than one hundred years old and which had established itself as a critical source of premium iron products essential to the munitions industry and then later for rail car wheels and axles. Salisbury pig iron was famous for sturdy cannon and rifle barrels and for rail car wheels that would not crack.

The Copake works, like the others in the district, experienced rising and falling prosperity throughout its 60 years of activity. Owners changed, markets expanded and contracted, the price and availability of raw materials fluctuated, and changes in the labor force and production technology brought constant challenges to the management. However, by the 1880s, iron production in the Salisbury district had begun to decline in general and would never return to vitality. Many factors led to the decline. Decreased availability of affordable charcoal, the successes of the Bessemer process furnaces in providing cheaply produced steel to compete with the high quality wrought "charcoal iron," and the economies of scale introduced by heavily mechanized operations in Pennsylvania, Minnesota, and elsewhere forced the closure of most furnaces before the end of the century. A few lingered on with specialty products or were restarted to help meet demand for WW I armaments-- but most were left to salvage and natural deterioration as the new century started. The massive scrap metal drives for WWII did not overlook the remaining rusting machinery and scrap heaps and most of what had survived previous scavengers was turned into guns and armor.

The Salisbury district was geologically distinct from the other important neighboring iron ore districts that developed simultaneously in the Ramapos in southern New York and New Jersey and from the Adirondack-Champlain district that emerged in the mid-19th century. Thus, when comparing the relative merits of surviving ironworks operations, the appropriate context is not so much other ironworks in New York State, but the regional



Undated view of the ironworks taken from the hillside on the north, showing Wyckoff farm in the distance. The furnace is enclosed in building (H) with pipes penetrating the roof.

iron industry of the Salisbury district covering portions of four states. The story of how the industry evolved and the rather complex business relationships among a small group of family-owned companies has not been recorded in any single study, although pieces of the story can be found in articles and chapters in specialty publications. It is clear from even a brief survey of existing literature that the district had more than 40 active

blast furnaces with varying ironmaking capacity. Most of these companies operated several facilities and used raw materials from a variety of sources. Partnerships and joint ventures seem to have been a standard way of doing business. All the New York furnaces had Connecticut or Massachusetts owners at one time or another and most were developed by out-of-state operators. In looking through even the few business records currently available regarding the Miles family operation at Copake, for instance, it is clear that they also ran mining operations in Dutchess County, had interests in Connecticut ironmaking operations, owned charcoal kilns in Vermont, and purchased raw materials from a wide area and from multiple sources. Keeping a steady supply of quality ore and charcoal available for production once the furnace was fired up was a constant source of frustration and concern.

It is difficult to assess the significance of any one manufacturing facility, such as a particular blast furnace, without knowing how it fit into the larger company operations and the regional output. Production figures were determined by many factors besides general market conditions. Thus, ranking or establishing the relative significance of the



Obverse of Frederick Miles's business card.

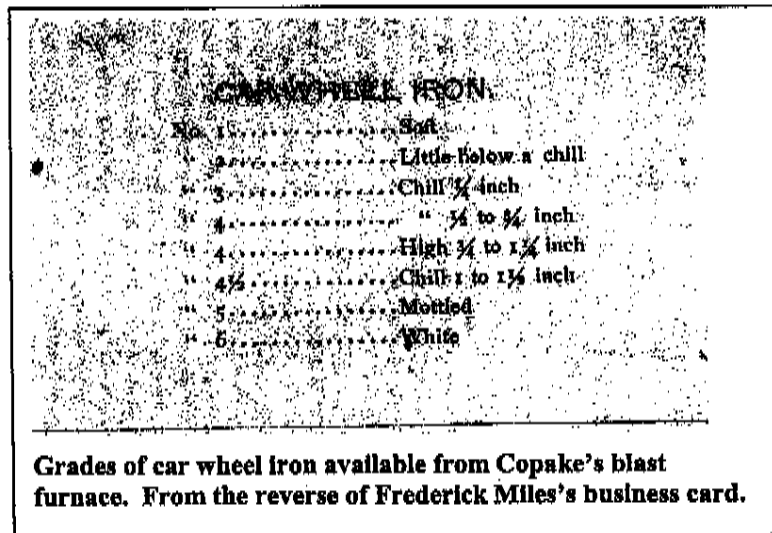
Copake Iron Works from comparative study of production would be a major research chore beyond the scope of this study. However, an example of what such an effort would look like when completed is Victor Rolando's remarkably comprehensive monograph, *200 Years of Soot and Sweat: The History and Archeology of Vermont's Iron, Charcoal, and Lime Industries* (1992). There is no comparable published work for New York or

Massachusetts, but from the little evidence on hand, mostly from government reports on iron production, one can see that the Pomeroy and later the Miles family were major regional players in the industry and that the Copake operation appears to be typical of others in the district in terms of scale, production, and technology.

There were several variant approaches to iron production that inspired period debate among producers as to their relative merits-- such as hot blast vs. cold blast vs. warm blast, (Copake's was variously reported as "hot blast" and as "warm and cold blast") or anthracite vs. charcoal fuels-- but in the end such debate is probably only of interest to industrial archeologists. Documenting and deciding on the relative importance of any claims about unique or distinctive features, processes, or techniques associated with the Copake operations would take considerable research and consultation with specialist historians. It is not clear at this point whether the documentation and data exist in enough quantity to prepare a detailed history of operations at Copake.

A few fragments of correspondence and ephemera have survived from the last two decades of ironworks operation while under the control of the Miles family, but nothing has been found regarding the Pomeroy and Chesbrough period (1845-1861). This is not to say that significant archives do not exist, but none appear to be in local

repositories. Although current levels of knowledge regarding the operations at Copake would suffice for generating a first effort at an interpretive program, especially given the easy availability of general interpretive materials on 19th-century iron manufacturing from other museums, a fully developed site-specific interpretive program at the park would at least need to be preceded by at least some attempt to track down descendants of

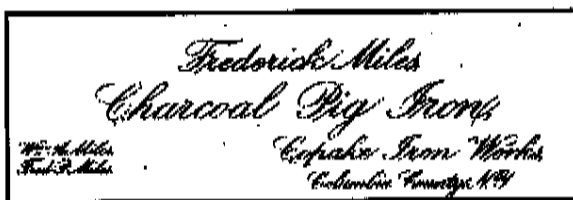


Grades of car wheel iron available from Copake's blast furnace. From the reverse of Frederick Miles's business card.

the various owners to determine if significant records, especially business records, may have been saved and retained by the family. Also, with the owners' connections to ironmaking operations in Connecticut and Massachusetts and knowing that they resided in those areas, following up in local archives across state lines would be a worthwhile investment of a researcher's time. The Baker Library at Harvard Business School claims to have some materials related to the ironworks, and these should be investigated.

The first official agency consideration of the significance of the Copake Iron Works came from the Office of State History which prepared a report in 1968 for the New York State Historic Trust. This cursory, seven-page document provided a brief historical sketch, a condition assessment of the features, a contextual evaluation, a statement of its interpretive potential, and observations that the Copake remains were the best preserved rural ironworks in the state. As such, Copake offered the best potential for interpreting the story of later 19th-century iron manufacturing. In conclusion, the report recommended that the Trust acquire the site for these purposes. It is not clear from the report whether the Copake Iron Works were being compared with any out-of-state manufacturing sites, such as those in nearby Connecticut and Massachusetts. However, some handwritten notes in BHS files prepared by Richard Allen appear to be comments upon the Office of State History report. Allen was then, in the 1970s, the only historian that had invested any time in the subject of the regional iron industry as a whole. He had prepared a statewide checklist and had attempted to visit and inspect each of the rapidly disappearing blast furnaces. He observed that the Copake site "retains more actual intact structures relating to the iron industry in a typical setting than any other furnace site in the 'Salisbury District,' in any of the four states involved."

Since 1968 there does not appear to have been any serious agency consideration of the recommendations. Except for some expressed interest from individuals regarding the continuing deterioration of the blast furnace, the remains of the iron-making operation have simply not been considered part of a popular state park's amenities, either for recreation, education, or operational purposes.



Letterhead used in 1891.

The significance of the remains of the Copake Iron Works lies not so much in any individual component, although there are several remarkable if not unique features, nor in any exceptional architectural, technological, or economic accomplishments, but in the fact that so much of the manufacturing operation is still visible in the

buildings and the landscape-- despite the losses and additions brought on by the development of TSP. Before taking a new look at the complex in its collected state, however, we need to identify its specific components and provide some brief commentary on the integrity, physical condition, and development challenges for each.

## Charcoal Blast Furnace

According to a 1978 survey by Richard Allen, the furnace at Copake was one of as many as 104 historic blast furnaces with documented operation in New York during the years 1743 to 1930. Only 16 furnaces were still standing at that time. Four of those were in the New York portion of the Litchfield iron district: Chatham furnace (1872) and Copake (1872) in Columbia County, and Clove Spring (1873) and Sharparoon (1881) in Dutchess County. Of these surviving furnaces, only Copake has any associated buildings still standing.



The core buildings of the ironworks shown in a photograph probably taken after 1903 when the furnace ceased operations. The blast furnace was enclosed in the tall building at the center. The casting shed is the low building to the left with the ridge ventilator. The engine house with the blowing tubs is on the far left. The charcoal storage sheds are located on the hilltop to the right.

While there is much information available from period literature as well as recent scholarship about blast furnace construction and operation, there is little detailed information about this specific furnace and its operations to use for comparative study. The few references available provide contradictory information, probably caused by the frequent technological experimentation, improvements, and modifications necessary to all industrial processes.

What we do know is that the first furnace on the site was constructed soon after Lemuel Pomeroy II bought the land in 1845, with the first blast started in 1846. Ore had been mined from nearby pits for an undetermined number of years and probably used at Ancram where Pomeroy's firm was operating a furnace for Herman Livingston. The first furnace constructed at Copake reportedly was 32' high and 8' 6'' wide in the bosh. Its blast was provided by mechanical bellows powered by a water-wheel fed by the impounded waters of Bash Bish Brook. There is little information currently available

about the scale and regularity of iron production at Copake under Pomeroy's ownership.

After a brief one-year ownership by John Beckley, Frederick Miles purchased the entire operation in 1862. Frederick, with his sons William A. Miles and Frederick P. Miles, operated the ironworks for about forty years. The Miles's tenure saw many improvements and in 1872, the old furnace was disassembled and rebuilt on the same location with approximately the same dimensions on a 33' square base. It was sheathed in Dover limestone quarried in Dutchess County. It is not known when the surviving water-cooled hearth was installed, but it may have been when the furnace was rebuilt. The water-cooled hearth replaced the earlier stone-lined hearth and consisted of hollow-core, water-cooled, segmental cast-iron plates held together with circular iron bands. The interior was lined with fire brick. A continuous flow of cool water was piped to the jacket to control hearth temperature, protecting the hearth in the face of intense heat. More durable hearths allowed furnaces to remain in blast for longer periods before major repairs were necessary. At some point, a steam engine was added to power the blowing engine when the flow of Bash Bish Brook was insufficient for powering the bellows.



Water-cooled hearth surviving at the base of the furnace (1999).

Although some period references cite the Copake furnace as being "cold and warm blast," evidence on site indicates that the furnace had a top-mounted oven at some point. Air was pre-heated by blast furnace gasses to about 400 degrees Fahrenheit before it was piped to the base of the furnace and forced through a bustle pipe to the three tuyeres, or nozzles that directed the pressurized, heated air into the burning charge. One surviving iron retort from the top oven was recently unearthed from a site near the edge of the Bash Bish Brook and is now located near the base of the furnace.

There is clear documentation that the furnace's last year of operation was 1903, although other features of the site such as the foundry continued in operation, especially to supply the Copake Plow Works, a separate company also run by the Miles family, that continued operation until the early 1920s. The exterior limestone "shell" was almost completely removed in the early 1930s, reportedly to build retaining walls along the Bash Bish Brook as part of the state highway construction project. The furnace remains, in their sadly deteriorated condition, have remained ignored and out of public view in the maintenance area of the park for the last 70 years. However, new directional signs have brought more casual visitation, and visitors are encouraged to view the furnace from behind protective safety fencing surrounding the unstable furnace stack.



The furnace, once an impressive structure finely crafted in large blocks of quarried limestone now appears as a slumping and shabby pile of stone, bricks, and dirt. Its casting and tuyere arches with intricate brick linings reveal its function and its unique



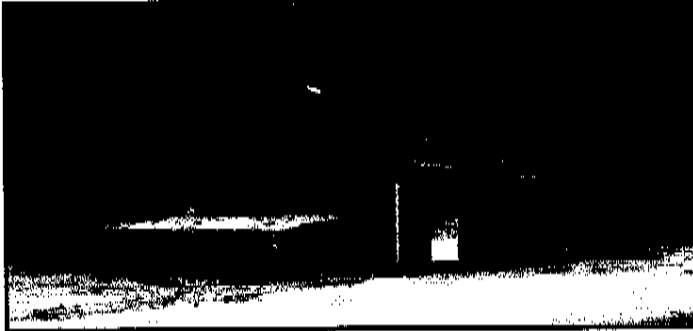
**Blast furnace in its current condition (1998).**

surviving water-cooled hearth is clearly visible. However, one must keep in mind that even if the blast furnace had retained its limestone sheathing, its historic appearance was quite different. The entire furnace, like many of this period, was fully encapsulated in a framed building that hid the furnace from view. It is not known when all the frame enclosures visible in early photographs were removed, but they were probably gone by 1930. The furnace was left to the elements for the last 70 years without its enclosure or sheathing and while it is still standing, it is in very fragile condition. That so much remains seems remarkable given the exposure to weathering that it has had to endure.

As the centerpiece of the ironworks complex, the survival of the blast furnace, even in its rather uncharacteristic appearance, is critical to the visitor's understanding of the site. It is the key feature that defines the site as industrial and the feature that engages the eye and inspires curiosity. It also poses the largest problem for site development, as substantial investment in protecting and stabilizing the furnace is needed soon if it is to survive. Without its survival, the site would be without the key industrial artifact. If the agency intends to develop and offer the site to the public as an interpreted historic site, it should commit soon to protecting the furnace from collapse.

## Blowing Engine House and Machine Shop

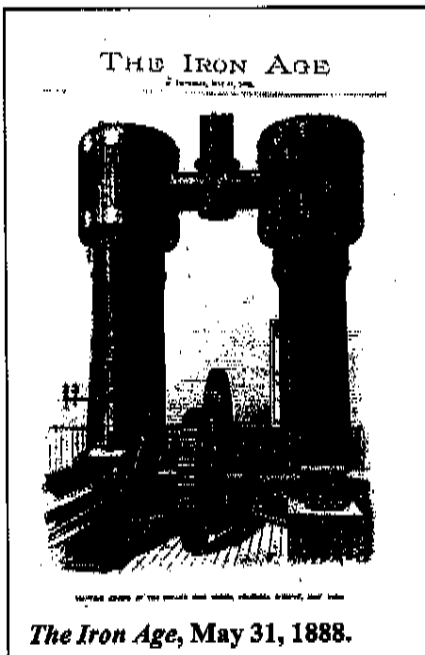
Located less than 100 feet north of the blast furnace is a two-story brick engine house. It is connected to a larger timber frame building that historically functioned as the machine



Engine house and machine shop (1998).

and pattern shop. The date and sequence of construction is unknown at this time, but construction details and decorative trim suggest the 1880s. The Roeliff Jansen Historical Society has in its collection undated photographs of the steam engine and a steel engraving of the iron blowing tubs. The engraving is an

original of the view shown in an 1888 feature article in *The Iron Age*, the most important iron and steel manufacturing trade publication of the era. The engine remained in place until at least 1929, several years after state acquisition by mutual agreement between the



*The Iron Age*, May 31, 1888.

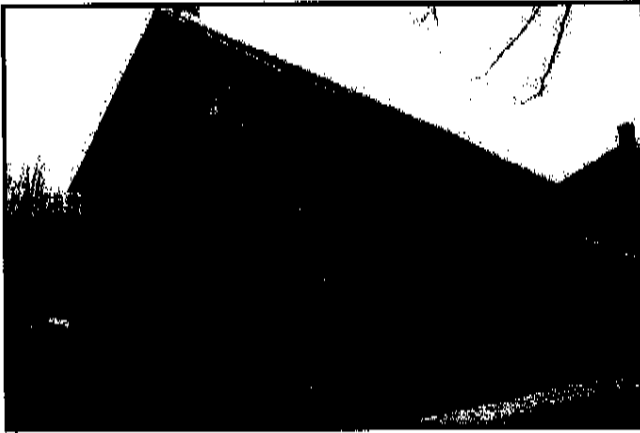


Undated photograph of Hardis-Corliss steam engine in the engine house at Copake Iron Works.

Park Commission and William A. Miles. Much of the machine and pattern shop equipment in place at the time of acquisition is still in the building, having been turned over to the state by Miles for the right to leave his blowing engine temporarily in place after transferring the property.

An inventory of machinery and equipment present when the building changed hands was found in the real property files in the regional office. The building is in generally sound condition and has experienced relatively few changes since state takeover-- largely because the park used the building for park maintenance and as a workshop until fairly recently and thus did not have to adapt it for new uses.

The brick engine house with its unusual buttressed walls and attached concrete bunker to the west give evidence on the exterior of a special purpose building.



Machine/pattern shop (1998).

equipment, a complete documented inventory from 1928, and an extensive collection of associated tools, patterns, and artifacts is truly remarkable. At present, the engine house interior is divided into two levels. The first floor contains a forced hot air heating furnace room. The second level, reached by an open stair, has a large workroom that is set up as a collection point for maps, artifacts, and other materials associated with the ironworks and the ongoing study. The garage door bay on the south is currently used to house an historic photograph exhibition.

The frame machine shop is more barn-like in character, but combined, the two buildings have the distinctive look of late 19<sup>th</sup>-century, small scale-industrial buildings. The fact that such a building survives with so few alterations is certainly unique in the region and may be unique in the larger context of late 19<sup>th</sup>-century ironworks. That it survives with a substantial collection of machine shop



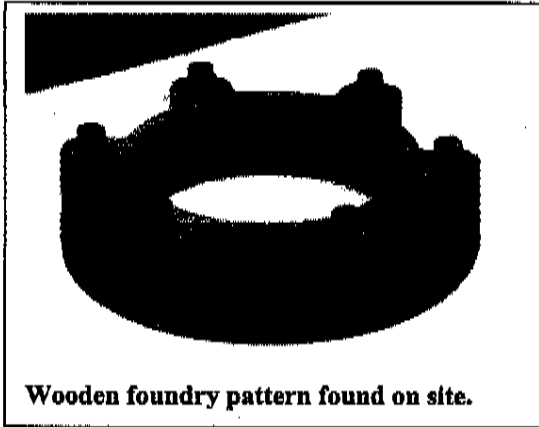
Temporary historic photograph and map exhibit installed in 1998.



Horse cart found in attic of machine shop (1998).



Drill press and portions of the shaft and pulley system (1998).



**Wooden foundry pattern found on site.**

The machine shop interior is largely intact to its 1920s appearance with numerous pieces of equipment still in place. Most are still connected to a system of belt-driven shafts powered by a large electric motor. The power system appears to be in good condition and could be made operational with a minimum of effort. The shop has a storage area above reached by a wall-mounted ladder and trap door. The buildings are in reasonably good condition, although there is some masonry deterioration and its wood trim needs

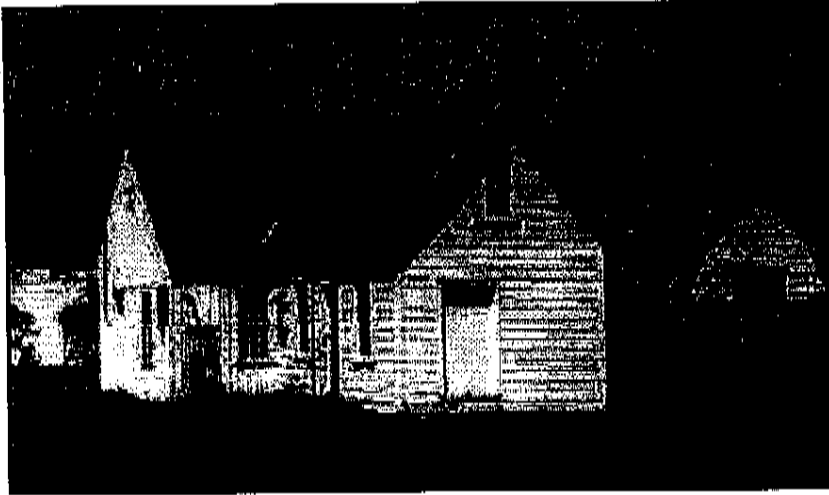


**Single bottom plow manufactured at Copake Plow Works. Found in machine shop attic and now on temporary display. (1998)**

consolidation in places and paint. Some artifacts associated with the manufacturing operations have managed to survive over the years and these have been stored in the area above the shop. The storage area contains other assorted artifacts that have not been inventoried or identified, although most appear to be salvaged items from earlier buildings or early park cabin furnishings.

The engine house and machine shop combined provide spacious, heated, convenient, and ADA-accessible space for interpretive exhibits and programming. With the blast furnace only a short distance away and plenty of available parking, the building is a prime candidate for redevelopment on the site.

## Ironworks Office



Ironworks office with powder storage building to the right (1995).

The historic Copake Iron Works office survives in substantially intact condition on its original site along the entrance road to the blast furnace complex. A small building on this site shows up on the 1862, 1873, and 1888 maps. The original, older portion to the west is vernacular Gothic in



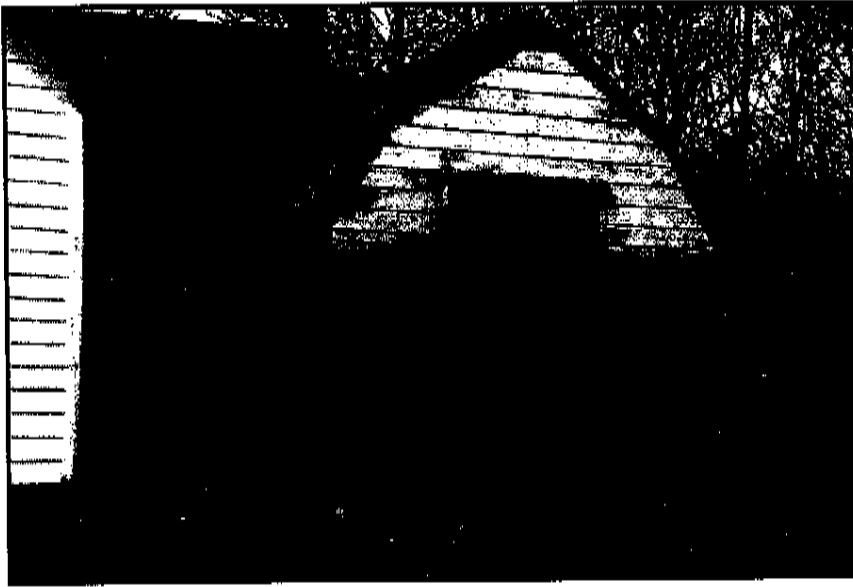
Office building, north gable (1998).

style with a steeply pitched roof and board and batten siding. Rectangular in plan, its front gable faces south overlooking the entrance road. An intersecting gabled wing, possibly used as a company store, was added to the east elevation, probably between 1873 and 1888 as the Beers map of 1888 shows the extension. Some interior finishes survive in the office, although the interior has suffered some from use as storage and as a paint shop. There is some sill and trim deterioration but the building is generally sound and dry inside. It is currently unused and the underground oil tanks have been removed from the area in front.

This building is ideally sited to serve as a potential contact station/control point at the entrance of the ironworks site. A contact station would be especially useful during special events taking place in the core of the ironworks. It could also serve as potential exhibit and/or retail space.

## Powder Storage Building

The powder storage building, construction date unknown, is a small, single-story, brick, gambrel roof structure attached to the northeast corner of the original office building. The building is unused and in deteriorated condition. Its mortar joints are severely



Powder storage building, attached to the east wall of the original office building (1998).

eroded in places and the wood shingle roof has failed in several places. Blasting powder and equipment used in the nearby ore pits and possibly in the limestone quarries were kept here in a secure location. Like the blast furnace, the powder storage house is a distinctive and curious feature in

the ironworks complex and will be useful in telling the story of the how the mining and manufacturing processes were run and what special purpose buildings were necessary.

The building has not been in use in recent years as the failing roof keeps it from serving even as a dry storage space. It has need for a roof immediately and at least temporary repairs should be made to stop water from entering the interior spaces and the masonry walls. If the building were allowed to collapse, we would lose a key visual element in the industrial landscape that would be an important part of any walking tours of the site. Such small, special-purpose industrial buildings are increasingly rare. They often have no other use after being abandoned for their original function.



North elevation of powder storage buildings showing connection to office building (1998).

## Lower Storage Shed

This single-story frame building sited just east of the blast furnace appears to be a reworked fragment of the now demolished foundry building that once filled the space between the engine house/machine shop and the steep embankment behind the blast furnace. Currently it has four open equipment bays and a small, enclosed tool storage room on the east end. It may have been constructed from salvaged parts when the foundry building was removed. In any case, it has little integrity to the period of ironworks



Lower storage shed (1980).

operations. This building is ideally suited for several potential uses that require covered activity areas and flexible space. Although it does not have integrity of design, materials, and craftsmanship to the period of the operating ironworks, it does look like a building that fits in the setting. It could provide functional, covered spaces for vendors, displays, large artifacts, and craft demonstrations. Equipment now stored in the open bays would need to find another home in the park, preferably in a new pole barn that would provide more accommodating dimensions and better weather protection with closeable doors. The present building could have swinging barn doors added to the open bays without adversely affecting its character or surroundings.

## Upper Storehouse

This large, gable-roofed, frame building now serves as the principal maintenance facility for park operations. It was probably built after 1872 when the blast furnace was rebuilt and the site's production capacity expanded. Typically, storehouses located near the charging bridge were used for stockpiling crushed and washed ore, limestone, and charcoal, the three components of the charges that furnace workers measured out and dumped into the top of the burning blast furnace. The building maintains its original



Upper storehouse (1998).

siting, exterior dimensions, and massing, although its interior has been completely modernized in recent years as it was turned into the headquarters for park maintenance. Despite its changes, the building is an important visual feature of the site from its commanding location on the hillside above the blast furnace. It provides an important visual reference point to visitors trying to understand the vertical orientation to the industrial process of raw materials in at the top of the furnace and finished iron out at the bottom. Because of its location and separate road access, the structure can be considered physically outside the furnace zone, although it is quite visible from the furnace base and engine house and may be regularly visited by park patrons unless signage is installed in key locations indicating that the maintenance area is off limits.



## Ironworkers Housing

When the ironworks was first developed in the 1840s, the area around the site had not yet been settled. Housing for laborers and skilled personnel did not exist and the owners, typical of 19th-century industrialists, invested in housing as a means of attracting workers and also as a source of income. Within the park, four examples of this distinctive “industrial housing” survive. Houses documented to the first owners of the ironworks, the Pomeroy, have not been identified, although construction details of extant houses



Ironworker's duplexes converted to park rental units. (1998)



suggest that some could date from before 1862 while the ironworks was still in Pomeroy ownership. However, map references suggest that they were likely built between 1862 and 1873 when Frederick Miles and his sons operated the ironworks. The 1873 Beers map shows at least 15 houses under Iron Co. ownership in the vicinity of the blast furnace. Of the four that survive in the park, three have been converted to rental units and are sited on the north side of Bash Bish Brook near the furnace. The fourth, which has never been converted or modernized, is sited just west of the blast furnace near the entrance road and opposite the old office.

Other ironworker houses appear to survive in the hamlet area beyond the park boundaries, but they have been much altered. They are privately owned and have not been investigated at this stage. The substantially intact and unmodernized industrial housing is indeed one of the more remarkable features of the industrial site. In particular, the unconverted and virtually unaltered house to the west of the furnace may be a unique survival. It is in deteriorated condition and needs substantial work to repair rotted sills and arrest the weathering process. Nevertheless, staff and local historians have long recognized this residence as an extremely valuable example of mid-19<sup>th</sup> century vernacular housing, as it seems to have experienced very little modification since it was built. It is in a



Unaltered ironworker's duplex dating from the 1860s (1998).

conspicuous location at the entrance to the ironworks and along a public road and local folks often criticize the agency for not doing anything to save it from ruin.

In 1980, the Roeliff Jansen Historical Society made an overture to the Taconic State Park Commission (TSPC) to take over the vacant ironworker house and establish a local history

museum and home for the society. The state was asked to underwrite the restoration and the society would staff a museum on the premises. The region encouraged the partnership, but could offer no money other than the possibility of a matching historic preservation grant. The historical society was encouraged to contact staff of the Historic Preservation Field Services Bureau to get the house listed on the National Register. Designation does not appear to have been pursued, although if it had, it is unlikely to

have progressed with only one component part of the multi-component industrial site singled out for designation. The region indicated it was undertaking a cost estimate for restoration at that time, but it is unclear if it was ever completed. I was able to locate a copy of a 1981 report that contained complete interior and exterior photographs and measured (sketch) floor plans that appear to have been put together by Taconic Region's restoration crew. Some artifacts from the house were collected, marked, and stored in the garret above the machine shop.



Vertical plank construction detail (1998).

Given the remarkably unchanged fabric of the building, serious consideration should be given to the option of stabilizing and preserving the house without adapting it to new uses, as that would necessitate substantial changes.

## Isaac Chesbrough House

The large Greek Revival-style residence sited at the entrance to the ironworks was built for Isaac Chesbrough, who joined the Pomeroy family business in 1848 as a partner in the Copake Iron Company. Chesbrough, a civil engineer, had married one of Lemuel Pomeroy's daughters, so it is no surprise that he joined Pomeroy and his four sons in the manufacturing concern. Although it appeared on the 1862 map as the house of Isaac Chesbrough, there is presently no other documentation on who built it and when or which



Isaac Chesbrough House serving as park manager's residence and park office (1998).

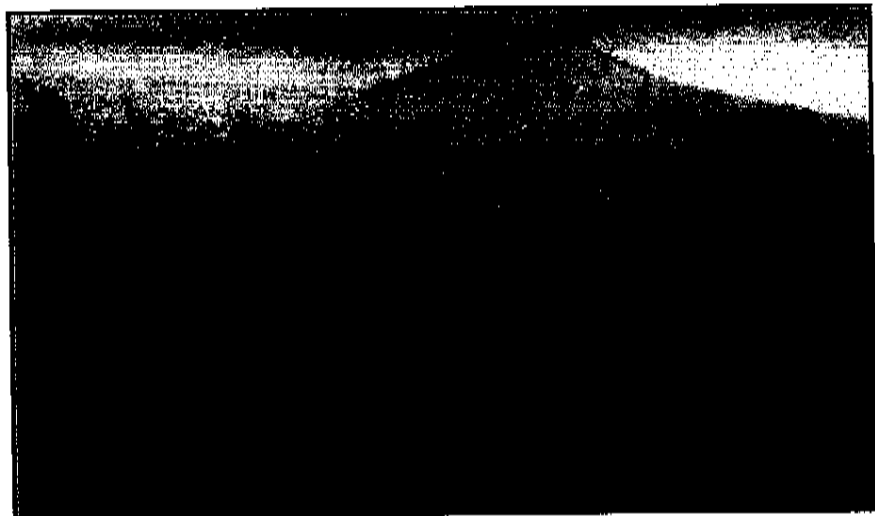
members of the large Pomeroy family might have lived there. Given the Greek Revival style of the house, it most likely dates to the 1845-1850 period. The house stayed in the Chesbrough family after the ironworks was sold and was lived in by Isaac Chesbrough's daughter, Fanny Pomeroy Chesbrough Peck. After her death in 1928, the house and 4.39 acres were sold for \$3,000 to the TSPC by her estate administrator. The residence has served in recent years as the park manager's residence as well as the park office. While the presence of the office in the park manager's house has obvious convenience and operational advantages, increased activity in the area of the ironworks would put increased pressure on the office as a contact station-- thus giving support for establishing a seasonal contact station in the ironworks office building. The Isaac Chesbrough house, although somewhat plain and old-fashioned compared to other Greek Revival-style residences of prosperous merchants and industrialists, provides an excellent opportunity for interpreting architectural preferences in the social context of a conservative New England family.

## The Ore Pit

Probably not many visitors to TSP realize that the bucolic pond used as the swimming area was once an open pit mine with noise and dust filling the air and machinery, ore carts, and rail operations dominating the landscape. The water-filled mine is the largest of several that were worked in the immediate vicinity of the blast furnace. Ellis wrote in 1878 that the pit provided most of the ore used at the furnace. He also reported that the mine was "first opened many years ago, but was not very extensively worked until the furnace was built in 1845." The June 1889 *Bulletin of the New York State Museum* reported that the mine "was worked up to August 1888, when the pumps were taken out and the pit began to fill with water." The report also recorded the presence of a crusher, ore washer, and an engine house with machinery for pumping water and raising ore to side tracks from the main line. Since the blast furnace appears to have continued in operation until 1903, ore must have been hauled in from other locations after 1888. One of those was the Clove Spring Mine in Dutchess County, which Frederick Miles purchased in October 1888.

Soon after the abandoned pit began to fill with water it began a new life as a recreational resource. With Bash Bish Falls attracting more and more tourists and seasonal visitors, the old pit's informal swimming hole character changed when it was leased sometime after 1918 by William Miles to Philip Schick. Schick operated an automobile campground nearby on the site of the old Bash Bish Inn. Private access became public access when the ore pit pond became the central recreational facility in the new TSP development plan.

Just beyond the park boundaries to the west of the park entrance are two smaller, water-filled ore pits that were also used by the ironworks. These are now on private property, but are easily visible from public roads. Other small ore pits can be found on both public and private lands to the south of the hamlet area, along with large water-filled pits at Weed Mines, Deer Run, and near Maltby Furnace.



An undated postal card view, probably dating from the 1910-1920 period, shows the ore pit in use as a swimming area.

## Railroad Remains

The New York and Harlem Railroad opened a line through Copake in 1852 and the stop became known as Copake Iron Works. In the early 1870s the line came under the control of the New York Central and it became known as the Harlem Division. The rail line was used until 1974, with passenger service ending in 1972. The abandoned Harlem Division



1888 Beers map of Copake Iron Works showing narrow gauge tracks linked to the Harlem Division line near the depot.

track bed in the vicinity of the park is currently being converted to trail use as the Harlem Valley Rail Trail. The present depot building, probably constructed in the early 1870s, is located on the west side of the track bed just a short distance from the entrance to the TSP camping and swimming areas.

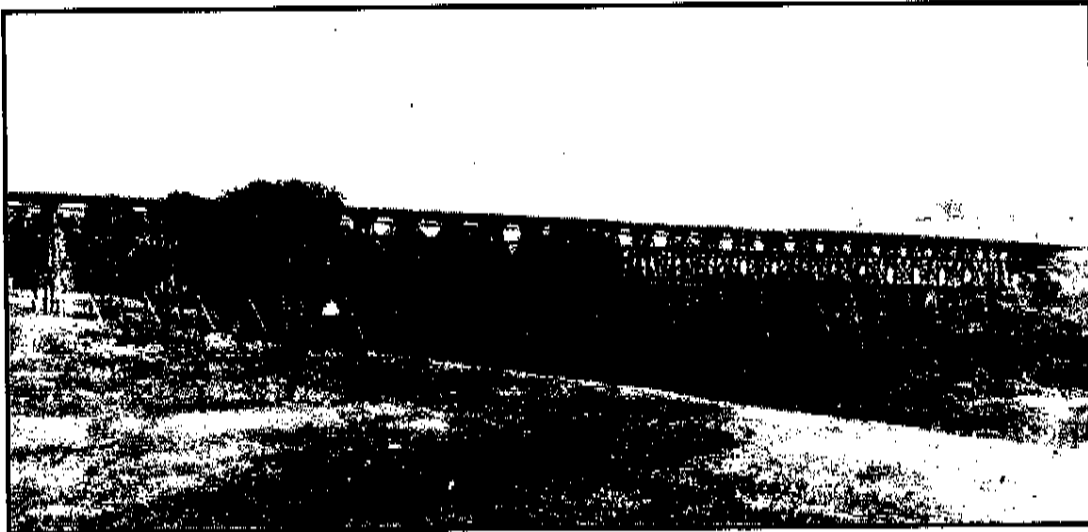
Although the siting, massing, and exterior dimensions are historic, the building was extensively rebuilt after a fire in the late 1970s and now is operated as the Depot Deli.



Undated photo of Copake Falls depot (c. 1920).

It is not known when the ironworks first established an internal, narrow gauge track system. The 1873 Beers map of the hamlet does not show any tracks off the main line as does the 1888 map, suggesting that cart transport was used to load the furnace for at least 20 years after the main line was opened.

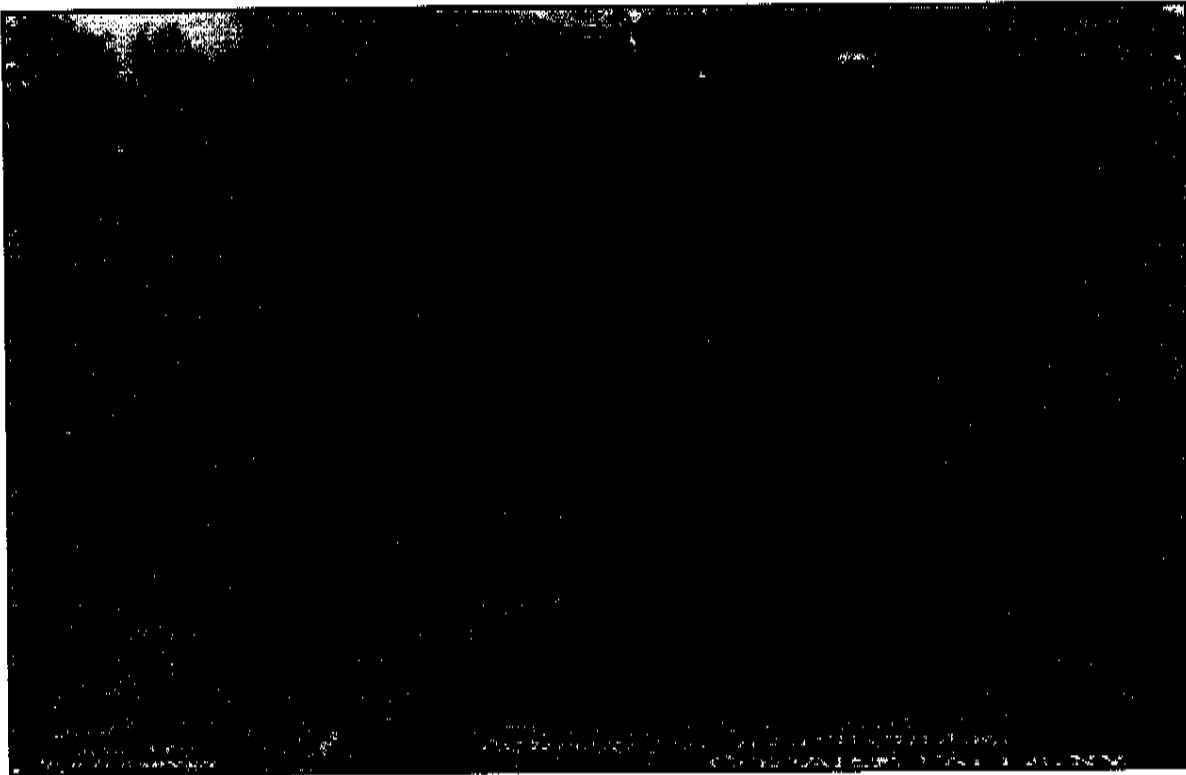
Besides the rail bed and the depot, there is one other interesting surviving feature. In the area just south of Weed Mines, it appears that a wooden, heavy timber trestle that once carried the rails over a streambed and wetlands has been covered over with fill forming a berm. The construction date has not yet been established, but it is likely that it dates to the original 1852 construction of the line. The length of the trestle is not known precisely, but is surely several hundred feet long. Recent erosion in one area of the berm exposed some of the timber structure. It is not known when it was buried, but it is likely that it is very well preserved and may be one of the few 19<sup>th</sup>-century timber trestles of this size to have survived. The opportunity to study such a remarkable artifact is of course limited by the fact that it is buried and the berm now carries the Rail Trail.



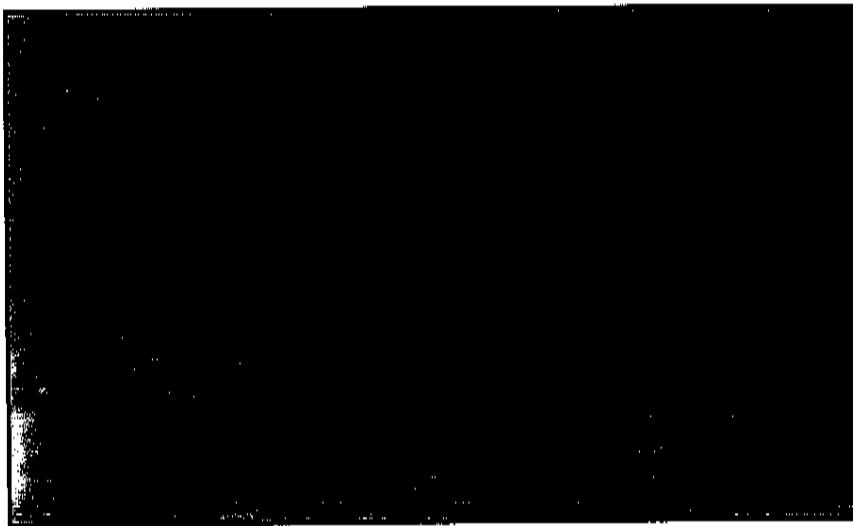
Undated photograph of the Weed Mines area trestle, now buried in fill and used as part of the Harlem Valley Rail Trail.

Also surviving is one crossing signal that had been removed from a grade crossing, probably the one by the depot, and transported to the maintenance area of the park. Remains of the ironworks rail system are limited to visible evidence of rail beds cutting through the hilly topography and the southern trestle abutment a few hundred feet upstream from the blast furnace.

Historic photographs of the depot and the bridges survive and provide some excellent material for exhibition and interpretation. These include several period photographs of the depot, an excellent photograph of the timber trestle below Weed Mines, and another over the Bash Bish Brook, and a c.1889 photograph of the small steam locomotive used by the company. The story of railroads passing through what is now TSP is not limited to the Harlem Division and the lines within the ironworks site, but include the Rhinebeck & Connecticut RR and the Poughkeepsie & Eastern, both of which linked up with the



**Upper Miles trestle carried ore cars over Mt. Washington Road and Bash Bish Brook to the top of the furnace. View from an undated postal card.**



**Steam locomotive at Copake Iron Works (1889). Collection of the Roeliff Jansen Historical Society.**

Harlem Division line at Boston Corners. All three lines had commercial links to the regional iron industry in general as they provided transport of raw materials, pig iron, and finished products both within the Litchfield District and throughout the northeast. For example, the Copake furnace used charcoal shipped in

from kilns as far away as Vermont, where the Miles family had their own production facilities. It is clear that railroads were instrumental in the growth and prosperity of not only the Copake Iron Works, but all ironworks with easy access to rail transport.

The most conspicuous railroad feature is the surviving station in its location directly across from the park entrance. The Depot Deli with its signage and outside equipment presents a distinctly commercial message at the park's front door. This message, when combined with a poor level of maintenance and a cramped site, creates aesthetic, practical, and safety concerns. In the long run, it might be wise for State Parks to purchase this historic building and rejoin it with the recently acquired rail bed right-of-



Copake Iron Works Depot as the Depot Deli (1998).

way. If the building were owned by State Parks, then it could lease out the premises or a portion thereof to a concessionaire. This would allow the agency to control the visual message at our park's front entrance, generate revenue, and continue to provide a "campers store" in a convenient location. Managing the immediate environs of the park entrance, particularly when there are obvious safety issues for pedestrians and Rail Trail users, would make this a worthwhile investment. At some point, when visitation/vehicle traffic at Bash Bish Falls, the TSP intensive use area, the historic ironworks, and the rail trail grow to a point where patrons are at risk crossing SR 344, a pedestrian/bicycle tunnel might be considered a solution. As a new design for the park entrance is now under consideration, it would be a good idea to lay it out with the premise that a tunnel and station acquisition are possibilities down the road. At the very least, controlled crossing over the state highway in the vicinity of the station and park entrance ought to be studied.



## Ruins and Sites

Although the standing remains of the Copake Ironworks comprise an extraordinary collection of specialty buildings associated with 19th-century ironmaking, even a cursory look at the historic maps of the site shows that many features of the manufacturing operation have been lost over time. The good news is that in most cases the loss came from removal of derelict structures superfluous to park needs and not because something else needed to be built on the sites. Thus, it is likely that below-ground resources have been largely undisturbed and the archeological potential is great. There have been no systematic archeological investigations to speak of at the site with the exception of some recent tests at the base of the blast furnace to determine if footings for a proposed structure covering the furnace would damage any structural features or encounter artifacts.



**Copake Plow Works site near Bash Bish Brook railroad bridge (1998).**

While it is obvious from period maps that there is a significant concentration of industrial features in the vicinity of the Copake manufacturing operation, in fact there are potentially significant remains throughout the park, especially in the Weed Mines area and around Maltby Furnace near Millerton where operations of comparable scale flourished. The park contains three major mining areas (and an unknown number of minor open pits or exploratory mines), three large-scale processing/manufacturing sites, and dozens of sites associated with pre-park residential and agricultural uses. The present study is only beginning to collect the site-specific data necessary for a preliminary mapping project. A map of the 11-mile-long park at the base of the Taconic Ridge, if it were marked up with approximate locations of now lost buildings, structures, and features, would reveal a density of agricultural, extractive, and industrial activity that is now difficult to imagine as time has allowed the once intensely developed cultural

landscape to revert back to a more natural character. The neighboring mountains will undoubtedly reveal evidence of charcoal burning pits, test pits from explorations for ore, limestone quarries, and cart roads, some in the park, and others on private land.

While it is not the purpose of this report to document the precise nature and extent of archeological potential, it is important to note that the number of features that appear in the historic record pose both opportunities and challenges. The three areas of intense industrial activity no doubt could produce significant data that will help reconstruct the story of the ironmaking operation in this locale as well as provide important information to correlate with other data and findings regarding 19th-century ironmaking in the Litchfield Iron District. The opportunity for gaining a much broader understanding of the iron manufacturing processes may not be explored in the near term as the costs associated with investigations and the need to conserve deteriorated but still standing resources will direct us to the latter.

It is obvious that any construction or ground disturbance in the ironworks site will require testing and probably salvage. In anticipation of making that task manageable, it would



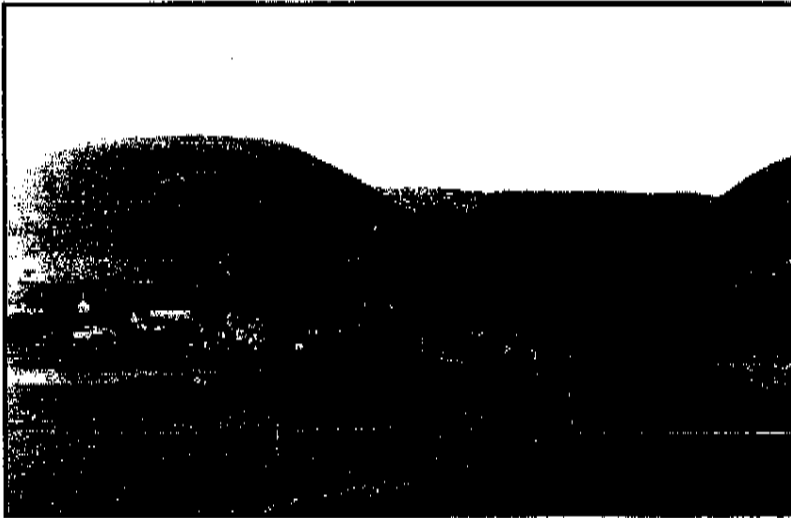
**Perimeter foundation walls of the charcoal storage sheds located near the staging area on the hillside behind the blast furnace (1998).**

make sense to create an accurate site map recording existing buildings and visible features. To this database we could add overlays of historic surveys and maps, as they are located. This will help us identify areas of high vs. low probability of encountering sub-surface remains.

When this report was first scoped out, such a map was envisioned, but the scale and staff time needed for such a project forced reconsideration. Detailed site mapping of all features, especially important for intensive use areas of the park, remains to be done.

## Copake Hamlet

The community now known as Copake Falls began life as Copake Iron Works, with a post office established with that name in 1853. It remained Copake Iron Works until 1909, when the name was changed to Berkshire Pass. A little more than a year later it was changed to its present name, Copake Falls. Long before the name changes that reflected its more positive and picturesque character, the area had attracted visitors and seasonal residents to enjoy the mountain setting, dramatic Bash Bish Falls, and the recreational opportunities. There is no question that to get to the most spectacular features, such as the falls, visitors had to pass close by the ironworks and mining operations. But they were not put off enough to forego the area and, like many 19<sup>th</sup>-century Americans, learned to ignore the “machine in the garden” conflicts that the American industrial revolution brought to the rural landscape.

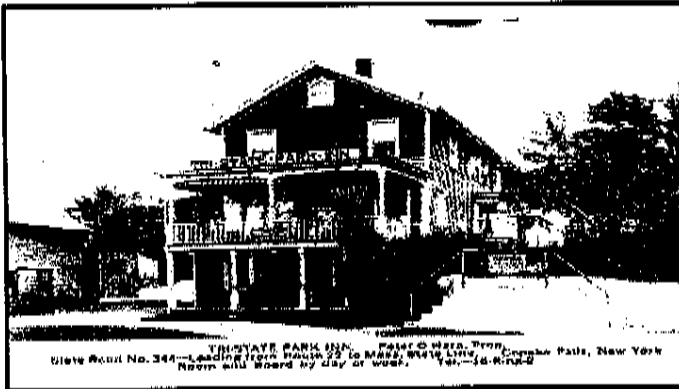


View of Copake Falls hamlet nestled at the base of Cedar Mountain shown in an undated photo postcard c. 1910.

In the decades prior to the Civil War it is likely that the ironworks defined the character of the hamlet, with modest worker housing and small businesses supported by cash generated by the substantial economic force of the ironworks. The hamlet known as Copake Iron Works grew with a dual

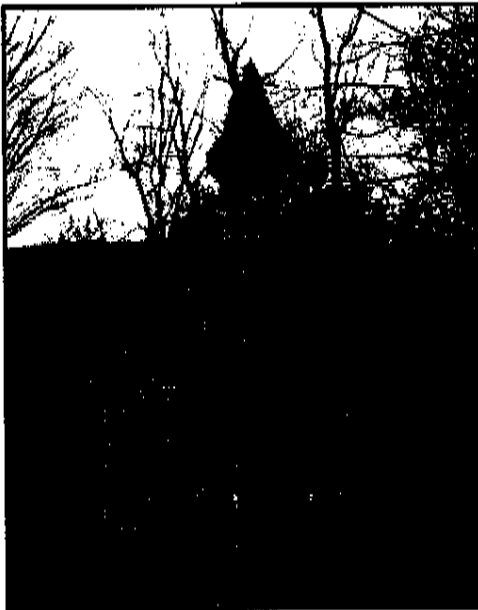
character after the arrival of the railroad. The noise, heat, and dust of an active ironworks competed with a bucolic landscape of mountains, valleys, and picturesque scenery that attracted tourists and seasonal visitors. The tourists and seasonal visitors finally won out completely with the TSPC buying the ironworks in 1928 to expand the core of its first park. The hamlet today reflects a mixture of resources associated with each of these competing historic forces. It is not within the scope of this study to assess hamlet area resources except





One of several hamlet establishments catering to the automobile tourists of the 1920s and 30s.

to note that despite alterations to individual buildings and some new construction that has compromised the character of its streetscapes, there are resources in the hamlet area that will provide important evidence and context to any future interpretation of the ironworks. The hamlet area includes several more surviving ironworker houses similar in scale to the ones remaining in the park.



Former Methodist Church, built 1892.

During the early stages of the project, when local archives and sources were investigated, any historical information on hamlet resources that appeared to have a connection to the ironworks story or the early history of park development was collected and held in the ringbinders for subsequent research use. Of particular interest is information on the small ore pits in the yards of some residential properties, the burial ground on the original site of St. Bridget's Catholic Church, several intact commercial buildings, the Methodist Church owned by the Town of Copake and used by the Roeliff Jansen Historical Society as a local history museum and meeting space, and a range of period residential buildings and farmsteads including many associated with the owners and/or employees of the ironworks.



Douglas Estate outbuilding salvaged and moved in the late 1920s to the hamlet area and used as seasonal residence (1998).

The hamlet area is clearly an associated resource that can be used to tell a more complete story of the ironworks as well as the history of the locale as a recreational destination. Because the hamlet is immediately adjacent to the park boundaries and close to the intensive use areas of the park, it provides a wonderful opportunity to expand and enhance any park-based interpretive initiatives.

## The Church of St. John in the Wilderness/Pomeroy Family Burial Plot

Dramatically sited on a knoll between the ore pit and the historic ironworks are an architecturally and historically significant rural Gothic church and parsonage. Richard Upjohn (1802-1878) designed St. John in the Wilderness. The owners of the ironworks, the Pomeroy and the Chesbrough families, who also established their family burial plot on the site, underwrote its construction. The picturesque, board-and-batten church was completed in 1852 and the parsonage, also designed by Upjohn, was completed in 1853. The property was listed on the National Register in 1995. In his 1980 work *Technology and the Picturesque, the Corporate and the Early Gothic Styles*, William Pierson observed that "Of all the Gothic churches of America none is more subtly conceived and more expressive of the religious tone of America in the nineteenth century than Upjohn's magnificent little Church of St. John in the Wilderness in Copake Falls, New York." The 3.8-acre "church lot" on which it is sited is completely surrounded by TSP lands—indeed, the parsonage and most of the land around the church was once owned by the TSPC, between 1930 and 1948, after having been sold to them by the Episcopal Diocese of Albany.

After WW II, the congregation was reconstituted and the TSPC returned the church to the Albany Episcopal Diocese. The church is an integral part of the history of Copake Iron



St. John in the Wilderness Church (1998).

Works and the community of Copake Falls. The genesis of Copake Iron Works as a vital community began with the Pomeroy family investing in more than their business. They had strong ties to the Anglican Church and naturally encouraged the establishment of an Episcopal

Church convenient for their use and for the English ironworkers they brought to the community. While it was not long before Irish and other Catholic workers joined the local labor force, the first church was Anglican by choice of the community founders. The graves of the founding members of the Pomeroy and Chesbrough families remain on top of the hill overlooking the ironworks remains and the hamlet that their enterprise created.

St. John in the Wilderness is an architectural gem surrounded now by bucolic parklands rather than the noise and dirt of a mining operation. It offers the park visitor an attractive visual amenity even if one knows nothing of its creation and colorful history. More detailed information is found in the National Register nomination and a centennial history booklet published in 1952. The vitality of the church was inextricably linked to the interests and fortunes of the ironworks owners and as such provides an interesting opportunity for interpreting broader social history themes. Who could not be intrigued by the exploits of Fanny Pomeroy Chesbrough Peck, a descendant of both founding families, who could not abide a group of Methodists using her ancestral church. Fanny and a few remaining Anglicans locked themselves in the church building in 1887, reclaiming the sacred ground and forcing the Methodists to find another meeting place. Shortly thereafter, the Methodists built their own church a few hundred yards to the east. That building is now the home of the Roeliff Jansen Historical Society.



**The Pomeroy family plot at St. John in the Wilderness cemetery (1998).**

The Church of St. John in the Wilderness provides an extraordinary opportunity to interpret an important architectural artifact and to link the building to the social and economic history of the community. The Pomeroy and Chesbrough family burials help explain the story of how a 19<sup>th</sup>-century community could arise simply from the will and resources of a few prominent and capable individuals. The history of the founding families has not been explored for this report, but it is likely that much could be discovered about them in Pittsfield area archives as they were prominent in that community as well.

## Bash Bish Falls and Bash Bish Inns

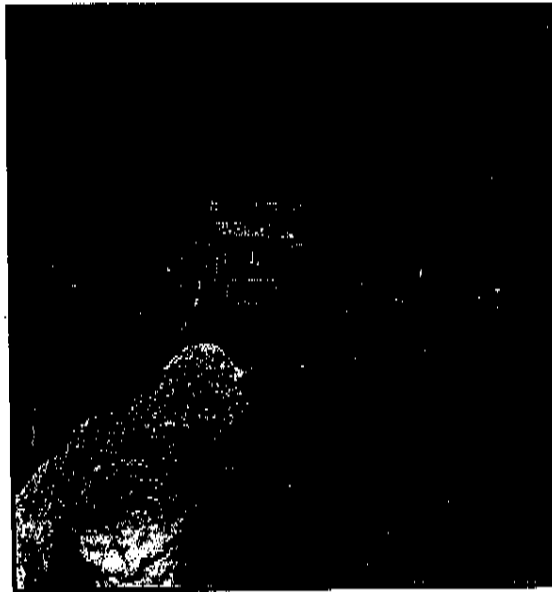
While Lemuel Pomeroy came to Copake to exploit the limonite ore beds and waterpower of the Bash Bish Brook, another valuable natural resource had already been noticed and it was not long before it too was singled out for development. The dramatic Bash Bish Falls, tumbling down 300' from Mt. Washington in Massachusetts through a picturesque gorge to meet the Roeliff Jansen Kill at the base of the Taconic Ridge, had long been admired by adventurous 18<sup>th</sup>-and early 19<sup>th</sup>-century travelers. In the 1850s, it attracted the prominent landscape painter, John Frederick Kensett, who painted five versions of the falls. As its reputation grew as the most picturesque waterfalls in Western Massachusetts it is not surprising that someone would have wanted to develop the obvious commercial opportunities. It is believed that a rustic tavern catering to visitors was built near the base of the falls as early as the



Undated late 19<sup>th</sup>-century view of Bash Bish Falls.

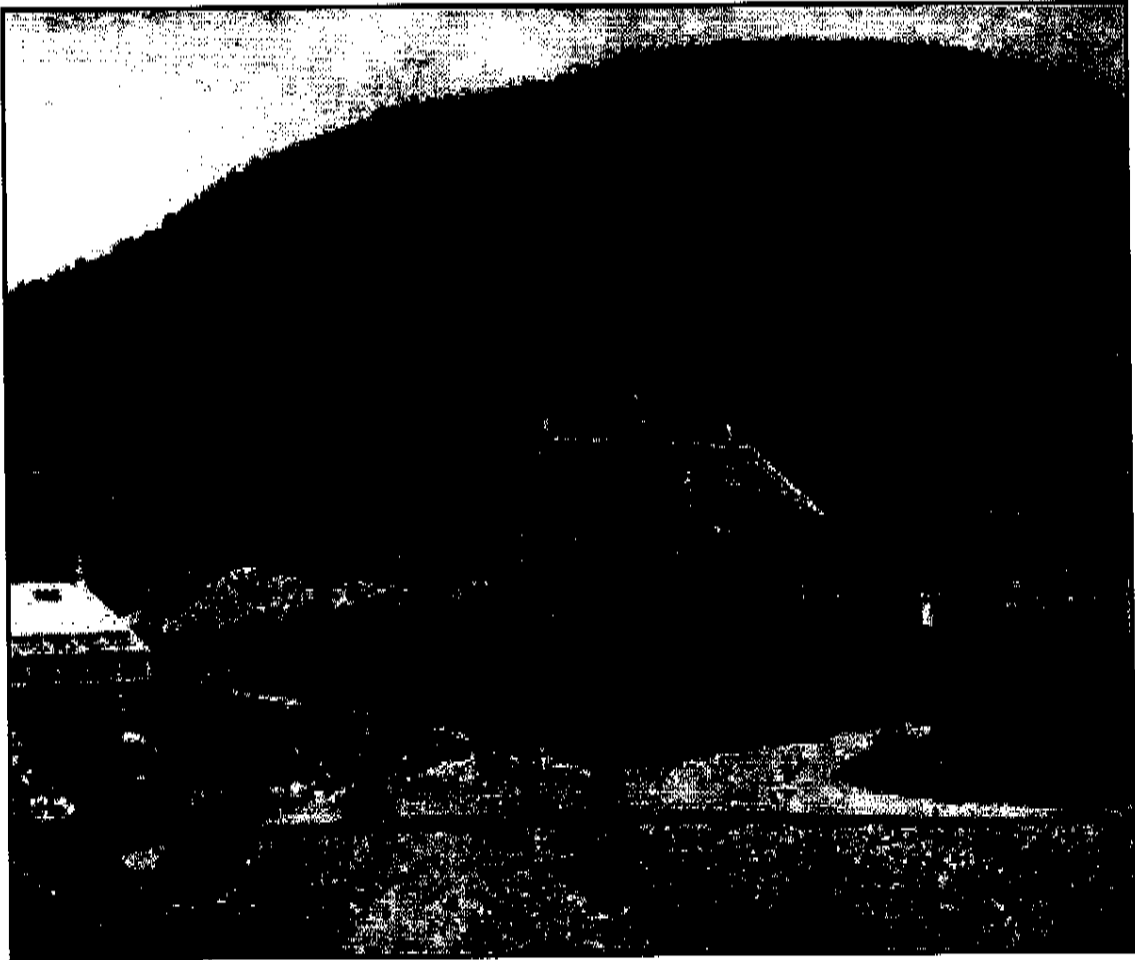


*Bash Bish Falls, John Frederick Kensett (c. 1855).*



First tavern sited near Bash Bish Falls from undated stereo card photo.

1850s. By 1865, with rail passenger service from New York City already well established at nearby Copake Iron Works station, and the Civil War over, there was renewed interest in the area. It was then that Professor Jean Roemer, who later became President of City College in New York, began acquiring land in the area. By 1867 he had put together eight parcels including the land around the falls. Roemer died in 1872 and in 1874 his lands were apparently conveyed to his friend, Josephine Douglas, wife of prominent New York City lawyer, Alfred Douglas. Shortly thereafter, on lands at the



Alfred C. Douglas estate sited along Bash Bish Brook (Undated stereo card view).

lower end of the gorge that are now part of TSP's cabin camping and day use area, and only a few hundred yards east of the active charcoal blast furnace, Douglas built a Swiss-style residence. This extraordinary architectural composition had multiple outbuildings in the bracketed Swiss style and also featured elaborately landscaped grounds. Well documented in a series of undated stereo photo views, Douglas's picturesque showplace was the next phase of what turned out to be a long and complex saga of development and exploitation of the falls-- most of which was ill-fated and from which there is little surviving physical evidence.





**Bash Bish Inn built by Josephine Douglas in 1879 and torn down in 1897 (Undated photo).**

interest in the property is unknown. The *Dictionary of American Biography* lists John Haldane Flagler as a prominent manufacturer of iron pipe with business interests in Boston, New York, and Pennsylvania. He was retired in 1899 and may have been simply speculating in real estate. In any case, Flagler must have sold off portions other than the falls in order to allow a 300-acre parcel containing the Douglas estate buildings to be purchased by a series of restaurateurs who sought to capitalize on the appeal of the distinctive buildings sited conveniently close to the famous falls.

The first of the restaurateurs came in 1903, when Margaret Vacheron and her husband Eugene converted the

Alfred Douglas died in 1876 at his residence in Copake at the age of 47 and left the estate to Mrs. Douglas who in 1879 built an inn overlooking the falls. The inn appears from surviving photographs to be located in approximately the same location as an earlier tavern that had burned in 1870. Despite its dramatic siting on the side of Cedar Mountain just north of the falls with dramatic views looking across the gorge to the falls, this last attempt to operate an inn failed as a business venture, purportedly because Josephine Douglas was not very adept business matters. Oral tradition has it that the inn was torn down about 1897.

By 1899, all the Douglas property had been lost to its mortgage holders and appears to have ended up in the hands of John H. Flagler. Flagler's



**The Douglas house converted to the Bash Bish Inn (c. 1910).**



THE CHALET

One of several Swiss-style buildings added to the Douglas estate when it was converted to the Bash Bish Inn after 1903.

house and its outbuildings to a posh country inn with French cuisine. The Douglas residence received a 40' X 75' addition and numerous other improvements including an eight-room Swiss chalet that blended well with the existing estate buildings. All are documented in surviving brochures and photographs. Despite its obvious attractions, the inn did not prosper and in 1914, Louis Moquin, a well-known chef from New York City with a reputation for fine French dining, acquired the inn through foreclosure. Moquin catered to the rich and famous until 1918, when the inn burned to the ground.

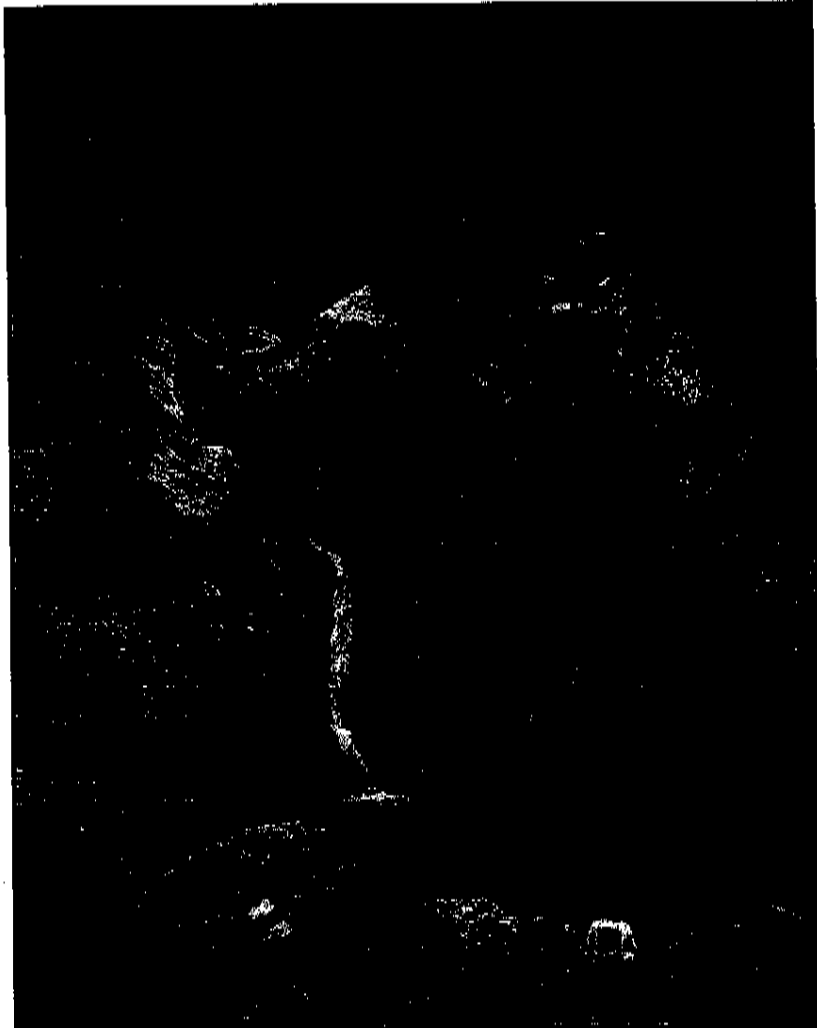
Sometime after 1918, the property was purchased by Philip Schick, a New York City lawyer, who combined the remaining outbuildings with some newly constructed facilities to create a commercial campground that the owner claimed would accommodate 150



Rustic three-unit cabin built by Philip Schick for his automobile campground on the former Douglas estate. Shown in a 1926 photo just prior to acquisition by the Taconic State Park Commission.

adults. The owner offered it to the TSPC for \$72,000, when it became clear that the State of New York was serious about creating a park in the Bash Bish area, but no deal was forthcoming. The State commenced an appropriation proceeding, one result of which was that the 203-acre parcel with its odd collection of shabby buildings and improvements was fully evaluated and recorded by a professional appraiser whose report and documentation provide a rather complete picture of the buildings and infrastructure as found in 1926. It

appears that the TSPC sought at the time to convert some of the acquired buildings for park uses, but that idea was abandoned in the early 1930s and all the remains of the Douglas estate and its subsequent additions were removed, leaving little but cellar hole depressions in the landscape. It is likely that additional photographic documentation of the pre-park development survives in private and public collections as such a popular destination surely inspired more than a few photographs. Those, combined with the memorabilia, advertisements, and brochures of the various promoters of



**Bash Bish Falls as it appears today.**

the series of inns and camps, can provide solid material for study and interpretation. The history of Bash Bish Falls and the remarkable facilities used by the tourist and seasonal visitors that came to admire them is an important and engaging story that should be told to visitors today. The facilities at the ironworks may provide a suitable venue. Indeed, the history of development of Taconic State Park's own facilities and related state park development in nearby Massachusetts provide the closing chapter in a story of natural resource exploitation turned into natural resource appreciation and conservation.

## Taconic State Park

While the focus of this study is the iron industry remains in the park, it is clear that our understanding of that industrial event is affected to some degree by the presence of the park developments that came after 1926. The early history of park development is a fascinating story if told in detail-- and it probably should be written before too much more time passes. A brief account of how the park idea at the Bash Bish Gorge came about was written by Hiram C. Todd for the *Chatham Courier* in 1964. Todd, a retired New York City attorney who had a summer residence nearby, had been researching the subject for years and much of what follows has been gleaned from his articles and notes, the latter being in the possession of the Hillsdale Public Library.



High Valley Farm. Country residence of Francis Masters. Undated photo probably from about 1910.

The genesis of the idea to secure Bash Bish Falls and surrounding mountainous areas for public ownership and conservation appears to date from the 1880s. The concept of a tri-state effort by Massachusetts, Connecticut, and New York was debated and advocated by many concerned conservationists, but never managed to get the backing and coordination it needed. As had often been the case

before with some of the state's most spectacular natural treasures, decisive action of concerned and wealthy individuals was needed to acquire and protect them. In 1904, Francis Masters, a prominent New Yorker, built a fishing lodge on property he acquired near the falls, after visiting the gorge area for its famous trout fishing. Soon after, the lodge was replaced by a sprawling gentleman's farm that is today known as High Valley Farm. As discussions on creating a tri-state park did not bear fruit, and the threat of commercial development increased, Masters' wife, Ella R. K. Masters, took matters in her own hands, first purchasing the falls from John N. Flagler in 1924 and reselling it to the State of Massachusetts for no gain, and then purchasing additional land in New York and donating it to the state as the first parcel of what was to become Taconic State Park in 1927. New York State, through the Conservation Commissioner, began negotiations for land purchases in the area in 1923 with funding first authorized in 1924. In that first year the State Council of Parks had signed agreements to purchase over 2600 acres of land with the intent of turning over administrative responsibilities to a newly created Taconic State Park Commission as soon as staffing and operational funds became available. The park opened for the 1927 season.

In the six years that preceded the development of the park, New York was confronting the question of how to create a statewide park system. Governor Smith looked to the

young Robert Moses for a workable plan for consolidating the various and disjointed state efforts at conservation and recreation developments. Moses came up with a plan in 1922, which formed the basis for the 1924 legislation that created the New York State Council of Parks. The Taconic Regional Commission came only one year later in 1925, and Francis Masters became the first park commissioner representing Columbia County. Franklin Delano Roosevelt was the first Commission chairman. The Masters family continued their interest in the park with Francis R. Masters Jr. succeeding his father as a commissioner and serving until 1950. High Valley Farm, which is almost surrounded by TSP lands, is both historically and architecturally significant. It is owned by Edgar Masters, the grandson of the first owner. It was not in the scope of this study to investigate in any detail what potential High Valley Farm might have for interpretation of the history of the ironworks and the park itself. However, it is clear from preliminary data that there are likely archeological remains of cultural features associated with the ironworks on this privately held parcel. With regard to the history of the park itself, it is fair to say that the Masters property is the substantially intact private estate of the family that essentially "started" and sustained Taconic State Park for its first 25 years. Like the Isaac Chesbrough house surviving at the gate to the Copake Iron Works, the Masters's High Valley Farm survives at the core of the park they created.

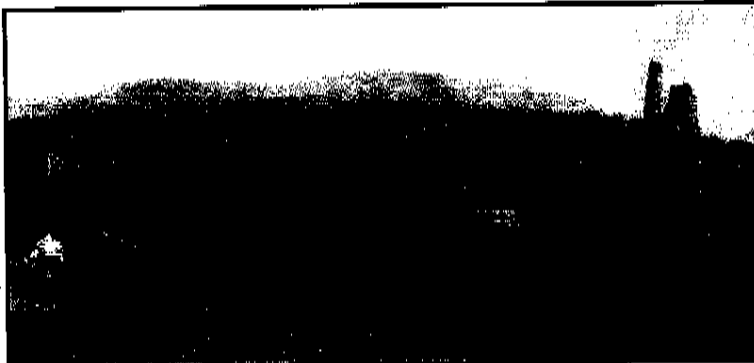
This report has not attempted to record in detail the pre-WW II development history of the park except that all buildings have been inventoried and dates given when known. However, photographs, maps, and other documentation related to the early history of the park have been collected when encountered. All planning maps found in the engineering files that date from this period have been copied and are available for study at the park and at PIRC. Some historic views and park-related ephemera have been collected in a dedicated file. For purposes of later interpretation initiatives, it would be useful to continue this task and create a permanent park history file.



View of tent camping along the Bash Bish Brook on the site of the Douglas Estate shortly after the park opened.

## Litchfield Iron District: Related Resources

Although this report does not attempt a comprehensive survey of other surviving iron industry remains in the region, it was helpful to undertake a limited investigation of how the Copake remains compare with others that have survived. A review of the existing literature, discussions with industrial archeologists, and some limited field investigation has resulted in the observation that the survival rate for blast furnaces and ironmaking operations in general is poor and that efforts to promote and interpret the history of the few surviving/standing features have met with limited success. Within Taconic State



Maltby (Phoenix) Furnace about 1930.

Park at its southernmost limits near Millerton are the ruins of the Maltby Furnace. When the State acquired the property in 1961, it appears that the historic buildings were gone, but the stone blast furnace and the brick-arched charging bridge were still standing. It collapsed around 1970.



Sharparoon Furnace (1998).

Today, the only visible remains are the large, flooded ore pit and a rather difficult-to-find slumping pile of stones where the furnace was located. But as can be seen from the period photos and from other records of the iron industry there, it was quite similar to the ironworks at Copake in technology and scale of production.

Dutchess County to the south has two surviving blast furnaces, Sharparoon Furnace and the Dutchess County Iron Works Furnace, both in the Town of Dover and both in private ownership. The latter was never completed and as such is a structure fragment. Neither has any surviving associated structures nor are they accessible to the public. The Sharparoon furnace appears to be the most intact 19<sup>th</sup>-century blast furnace remaining in the Litchfield District.



Chatham Furnace (1998).

The only other district furnace in New York is the Chatham Furnace in northern Columbia County, and it is in deteriorated condition. It too is privately owned and

has no surviving associated buildings.

Vermont has benefited from Victor Rolando's remarkable study of that state's iron, charcoal and lime industries, published in 1992 as *200 Years of Soot and Sweat*. Several hundred sites were identified using archival and field investigation with only about half



**Forest Dale Furnace (1998).**

that number yielding ruins or containing remains meriting inventory. Despite the extraordinary amount of archival data collected by Rolando, almost all ironmaking operations there have receded into the landscape. Vermont Division for Historic Preservation staff claim that there are only four 19th-century blast furnaces still standing in the state, in varying degrees of deterioration. All except one are on private property. The exception is the state-owned Forest Dale Furnace, which is considered an official state historic site, but is not promoted or interpreted for the general public. Thus, while archeological remains of the industry are well documented by survey forms and contextual overviews, there is little in Vermont for the public to see and appreciate.

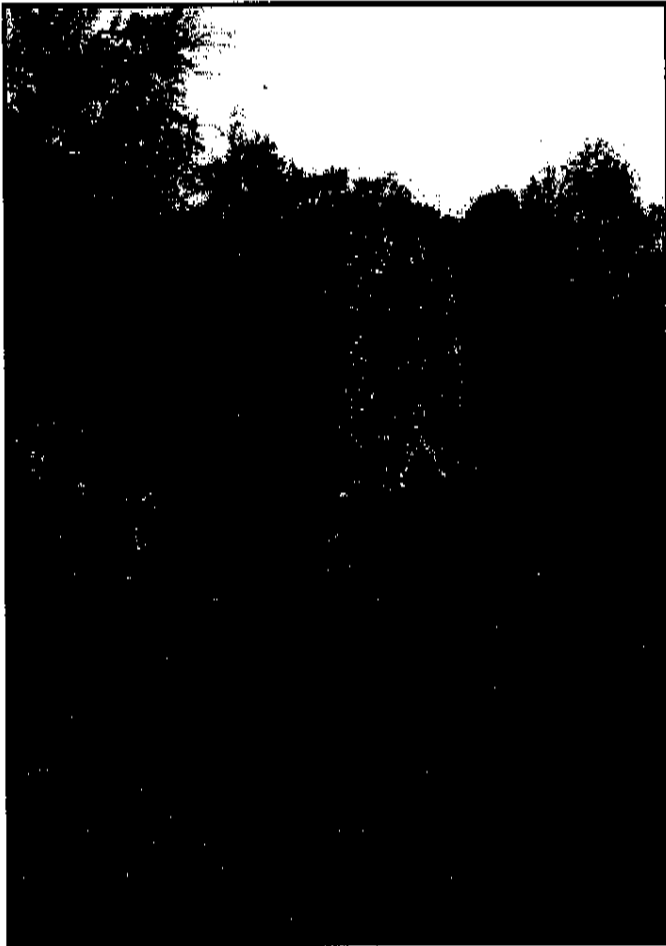


**Richmond Furnace (1998).**

Massachusetts once had more than a dozen blast furnaces in the Berkshires, but today only the Richmond Furnace survives. It operated until 1923, one of the last in the district to remain in blast. The furnace is on private property and continues to deteriorate. Some associated residential buildings survive, but are all on small, privately owned parcels and new homes have been built within portions of the industrial site. The ironworkers housing lining Rte. 41 have all been modernized, although they are still recognizable as industrial housing. No industrial buildings of note survive, but the furnace, associated surviving buildings, and numerous archeological sites of varying integrity have recently been listed as a district on the National Register of Historic Places. The Richmond Furnace itself is considered to be one of the three best (least deteriorated) surviving examples in the Salisbury District--the others being the Beckley Furnace in Canaan, CT and the Sharparoon Furnace in

Dutchess County, NY, in the Town of Dover.

Northwestern Connecticut, the site of the first regional ironmaking operations, has the most impressive record in preserving and promoting resources associated with the ironmaking industry. The State of Connecticut owns the Beckley Furnace in Canaan (John Beckley briefly owned the Copake Iron Works in 1861) as well as the Kent Furnace in southern Litchfield County. Beckley Furnace is located on property owned



Beckley Furnace (1998).

and managed by the State Department of Environmental Protection and has benefited in recent years from the efforts of a support group called the Committee for the Preservation of the Beckley Furnace. Attempts have been made to stabilize the furnace and to arrest its deterioration. Interpretive signs have been installed and it is a premier stop on local history tours.

The Connecticut Historical Commission in conjunction with the Sloane-Stanley Museum, the later being developed on the site in the 1960s, operates the partially restored Kent Furnace. The museum offers a diorama of the ironworks in operation and has exhibits on blast furnace operations and pig iron smelting. There are three other standing blast furnaces in Connecticut, all on private property; the Lime Rock Furnace, Mt. Riga Furnace, and the Roxbury

Furnace. None of the Connecticut furnaces and ironworks operations contains significant collections of buildings that would compare to those at Copake. Available documentation, including photographs, maps, articles, and National Register designation reports have been collected in ringbinders for further comparative study.

The Connecticut, Massachusetts, and other New York furnaces and ironworks sites are all within an hour's driving distance from Copake, suggesting that the Copake site might make a convenient collection and orientation point for specialty tours that would include visits to other accessible ironworks.



## **Non-Litchfield District Ironworks**

Historic Ironworks in various states of preservation can be found in the Adirondacks, the Hudson Highlands, and the Ramapo Mountains as well as in many part of the United States and in Europe. While it is not possible for this report to comprehensively survey other areas of the country for resources comparable to the Copake furnace and its manufacturing operations, We did attempt to collect data from secondary sources and from the World Wide Web for the purpose of establishing the relative scarcity of this resource type and the level of public investment in other parts of the state and country.

If we were to invest in Copake with the idea of conserving it and promoting public appreciation of the site, we would not alone. The National Park Service (NPS) itself operates the Saugus Iron Works near Salem, Massachusetts, (a 17<sup>th</sup>-century re-creation) and Hopewell Furnace in Pennsylvania (a restoration of a resource type very similar to Copake). The NPS began its work at Hopewell in 1938. Several states operate partially restored or re-created ironworks as do some local governments and several private not-for-profit organizations in partnership with government. If State Parks were to proceed with some initiatives at Copake, there are plenty of organizations that have successes to share and probably some stories of failure as well. We have collected printed Web pages in a binder and from the large number of Web-promoted ironworks sites it is clear that there is a significant level of interest in the history of ironmaking and blast furnaces in other parts of the country, especially in western Pennsylvania and in the upper Midwest. There is also a remarkable amount of interest in the subject in the Scandinavian countries that turned up on the Web. Here in New York, there have been some significant gestures and more are planned. The Adirondack Museum has a large portion of one exhibit building devoted to the Adirondack iron industry and a new interpretive center for Adirondack area iron industry history is planned for Port Henry on Lake Champlain. The Orange County Historical Society has adaptively reused the foundry/casting shed at the Greenwood #2 Furnace near Harriman as the base of their operations. An active group of iron industry historians has formed the Hudson Highlands Iron Conservancy and is vigorously studying and promoting conservation of the numerous southern New York and Ramapo Mountain ironworks sites including a substantial collection of mostly archeological resources located on the recently purchased Sterling Forest parcel.

## Conclusions:

It is clear that the remains of the Copake Iron Works are an extraordinary set of historic buildings and features and are eminently worthy of preservation. That much had been concluded more than 30 years ago. Whatever else is now known about the resources only serves to support that assessment and to bring urgency to the question of how to proceed. The collection of historical information regarding individual features, the brief survey of related regional ironworks that provides a contextual understanding, and the consideration of the ironworks resources in the larger context of the historic TSP and the hamlet of Copake Falls had not been undertaken before. While these should bring a more complete picture of the relative value of the resource, their most important function is to bring forth a rationale to the agency and the community to take action.

Discussion of opportunities at Copake should begin with several key observations about the Copake resources and the circumstances of their fortuitous survival. These factors are critical to an understanding of the merits of the resource and its potential for development.

1. The Copake Iron Works is exceptionally significant in the context of surviving charcoal ironworks in the four-state Litchfield Iron District as well as other iron producing regions in New York. This is to say that the remains of the blast furnace with its unique surviving water-cooled hearth, the engine house/machine shop with a substantial collection of original machinery and artifacts, the office building, powder storage building, owner's residence, ironworkers housing (including one virtually unaltered example), ore pits, numerous foundations and other visible features, substantially intact archeological remains, and intact setting all combine to produce an artifact of charcoal iron industrial production containing a level of information, interest, and integrity that is decidedly unique in the region and state and certainly rare if not unique in the national context.
2. Virtually all of the historically significant features of the Copake Iron Works are in public ownership or generally accessible to the public, a circumstance not found elsewhere in the region-- therefore providing an unusual opportunity for unrestricted access, comprehensive interpretation, and coherent management.
3. The Copake Iron Works resources are located in a major state park and immediately adjacent to the famous Bash Bish Falls, both of which serve as favorite and frequent destinations for tourists and vacationers. While the ironworks has long been inconspicuous if not invisible in the background of a popular park's recreational offerings, it not because it is unappealing or without interest. Until recently, visitors were generally discouraged from entering the furnace area, as it was unsafe, insecure, unprotected, and unexplained. Thousands of visitors pass it each year without even knowing it is there. Many of those visitors who are already in the area would visit the ironworks if it were made part of the park's offering.

4. The Copake Iron Works can generate fee and rental revenue as a venue for a wide range of educational and recreational activities and amenities. The resource is visually interesting, integrally linked historically and at present with the park itself and the surrounding community, and contains convenient, available, and flexible spaces. New or additional uses would not necessarily intrude on or conflict with other park activities-- indeed, spaces at the ironworks could be used to expand current park activities and programs.

5. The Copake Iron Works has the potential to generate the interest of support organizations and development partners. The local community of Copake Falls and those of the surrounding towns are well aware of the historic importance of the ironworks and would contribute time, energy, artifacts, and other support to the effort-- indeed much help has already been given by the Roeliff Jansen Historical Society in terms of shared information and community contacts. If the ironworks were to be offered as a heritage tourism destination, then regional marketing organizations such as the Columbia County Alliance would have an interest in expanding the set of Columbia County attractions. Other potential local partners include the Harlem Valley Rail Trail and the Columbia County Historical Society the latter of which already operates one museum/archive and two historic house museums in the opposite corner of the county, and may be willing to establish a presence in the other corner. Also, given the collection of antique metal and woodworking machinery in the pattern/machine shop, one can predict interest from organizations such as the Hudson Valley Old Time Power Association. For academic support there is the Society of Industrial Archeologists and their subgroup, the Ironmasters, some of whose membership has undertaken research at nearby ironworks, and who would be interested in the benefits of comparative study afforded by the Copake and Maltby operations. In nearby Connecticut, the Committee for the Preservation of the Beckley Furnace has focussed not only on stabilizing the Beckley Furnace in Canaan, but has created a Heritage Trail that directs visitors to all the publicly accessible ironworks sites in the Litchfield District, including the works at Copake. All of this is to suggest that the Copake Ironworks is not without friends, some with direct experience with restoration and promotion of such sites. State Parks should explore partnership opportunities with organizations that have the capacity to help as well as benefit from association with the resource.

6. A lesson can be taken from the history of the first development at the site. The developers of the ironworks saw an opportunity in the area along the Bash Bish Brook in Copake with its fortuitous combination of exploitable natural resources. What was not present at the site-- labor, expertise, and money could easily be secured if the potential for profit merited the investment. The Iron Works once again presents to the entrepreneur a fortuitous combination of exploitable resources. The site contains a significant collection of interesting historic buildings and artifacts in an attractive setting that can draw a sizable audience if properly presented and promoted. It is already in public ownership and is located in a convenient section of an existing park with infrastructure and amenities in place or nearby. The resource is underutilized and there

are flexible spaces available. The ironworks is sited within or adjacent to a major recreation facility and tourist destination that brings over 100,000 visitors per year. The recreational resources in the area around the ironworks have a local constituency, i.e., regular patrons as well as businesses that depend heavily on park and Bash Bish Falls visitors to leave dollars in the community during their visits. The economic development benefits of a new heritage destination for the local and regional economy can attract the attention of willing investors. Like the historic ironworks, the present resource can be developed in measured steps that respond to the market. And finally, there are existing organizations with a range of interests that would invite partnering for mutual benefit and enrichment. Although the Pomeroy and Miles families of the 19th century exploited and depleted the fortuitous collection of resources, we have learned to operate with a different ethic, one that recognizes the need to conserve the resources while reaping benefits from them. Education and recreation are revenue-generating commodities that can be offered to the public with carefully planned strategies, using the resources to generate the income needed to protect them. Like the first developers, we will have to pursue our goals with an awareness that markets change, new technologies will predicate modification to our approach, and that overuse will diminish the resources. But unlike the 19<sup>th</sup>-century exploiters, who could not and would not replenish the resources, we can take the opportunity to return income to the resource itself with reinvestment in conservation measures.

## **Recommendations for Action**

### ***1. General Site Cleanup***

The area of the ironworks containing the blast furnace, engine house/machine shop, ironworks office and powder storage, and the ironworkers duplex has been used for maintenance, warehousing, and outside storage/staging for more than 60 years. While park staff has already begun some cleanup and consolidation, all non-historic materials should be separated and removed from the historic buildings. Burn piles, materials storage, and discarded or unused equipment should be moved off premises or removed to other locations in the park. Ground vegetation that obscures the blast furnace and the nearby retaining walls should be removed and that which is undermining walls or foundations treated with herbicides to arrest any further root expansion. Edges of the maintained area can be cleaned and pruned back to create an attractive and clear transition from wooded areas to maintained areas. The construction debris dump should be relocated to non-public use areas. Vegetation growing at the foundations or on the sides of the buildings should be removed. The area should be inspected for unsafe conditions and if any are found, they need remediation.

*Rationale:* The blast furnace and the surrounding buildings, even in an undeveloped condition, should be made as attractive as possible. The area is experiencing increased casual visitation as new signs on the highway now direct travelers to the site and word spreads of the curiosities on display at the engine house. Our goal is to not only impress visitors with the existing charm of the area, but to avoid the impression that the area is neglected or undervalued. This will help protect the area from abuse and also assure potential partners that State Parks is willing to take care of the area. An added benefit is that with vegetation removed, the buildings can be inspected and necessary repairs made without the inefficiencies of dealing with obscured damage or inaccessible building fabric.

### ***2. Emergency repairs and inspection***

Several buildings in the area of the blast furnace are in need of immediate repair to arrest deterioration or to prevent irreversible damage. The ironworker's duplex and the office building are open to raccoons, woodchucks, and birds. Resident animals should be removed and entry points closed off. All buildings should be checked for roof leaks and impending threats such as leaning trees, intruding root systems, insect infestations, and obvious structural problems. Each building should be inspected for immediate threats and safety concerns. A prioritized work list of temporary and/or minor repairs that can be performed by park or regional staff should be generated in consultation with technical preservation staff.

*Rationale:* The standing remains of the ironworks operation are exceptionally important artifacts that need to be protected from accelerated deterioration or obvious threats. While many of the buildings are in need of significant capital investment, and the means

to undertake that investment is not established, a small investment at this point can avoid much more costly and extensive replacement of historic fabric at a later date, and may avoid catastrophic events that would make repair of the structures infeasible. Like the general cleanup of the area, we need to make visitors and potential partners believe that the buildings have a future if we are to ask them to support the significant investment that their overall condition requires.

### ***3. Historic photograph and artifact display upgrade***

The current temporary exhibits of historic photographs and selected artifacts in the engine house/machine shop should be reworked to increase their durability and to ensure that the artifacts are reasonably secure and protected from deterioration. The temporary display has been very positively received by the local community as an indication that State Parks has at long last taken some interest in promoting and preserving the site. State Parks has the option of undertaking a much more comprehensive and permanent exhibit at the site, but for the present it seems wise to work with the existing concept. The exhibit should be evaluated by PIRC staff and recommendations made regarding a more professional looking, durable (weather resistant), and protective installation. Exterior and interior lighting that would make the area attractive, safe, and usable on summer evenings should also be considered as a small investment in materials and staff time could make evening events a possibility.

*Rationale:* Until such time as a more expansive interpretive offering can be developed, the temporary displays are all the public will be able to experience at the site and whatever can be done to keep it from looking shabby would be a good investment. The sample artifacts are at risk from extended exposure to sunlight. Lighting the area for evening use would expand the potential for events, especially special programming that other organizations might sponsor.

### ***4. Orientation materials/brochures/walking tours/Web pages/special events***

Although visitors to the park can be directed to the ironworks area by staff and roadside signs, once they arrive there we have no guides, orientation signs, or printed materials to help them understand what they are looking at. Park staff has erected an information panel at the blast furnace and the temporary exhibit offers some basic information about the site. However, at a minimum, we should offer a site map with a basic historic narrative about the ironworks and some commentary on specific visible features. A brochure could direct visitors to other resources beyond the immediate vicinity such as Weed Mines and Maltby furnace areas where minor clearing and a few trail markers would go a long way toward making the sites understandable and accessible. While the buildings are concentrated in the area of the blast furnace, many interesting features can be found in the surrounding landscape. A site brochure can offer options to visitors to just take in the basics or to range out and experience railroad features, foundations, slag heaps, ore pits, and even charcoal burning sites up on the mountainside.

The park could also generate revenue from guided tours for school groups and specialty

tours. A whole range of scripted thematic tours could be produced over time that would expand on the basic information provided for the core area. The rail trail users as well as park visitors could use a railroad feature tour brochure. The geology and geophysical character of the site were important to the success of the ironworks operation and a specially focussed tour brochure could provide another interpretive spin. It would also make sense to label the park's historic buildings with their historic names and construction dates-- much as if we were putting plaques on them. Brief histories of the converted ironworker housing on the north side of the Bash Bish Brook should be posted inside each rental unit. The same could be done for the CCC-era cold water cabins.

A brief search of the INTERNET turned up information on more than a hundred historic ironworks around the world, including one of limited use about the furnace at Copake. Some of these have rather extensive dedicated Web pages. With the information at hand it would be an easy matter to create a site linked to the Parks page as well as other pages.

In addition, we should display a project sign in the ironworks area that alerts the public to what the agency plan is for the ironworks and invite their interest and participation.

Finally, we should consider a limited number of special events that will bring folks into the ironworks zone. We could partner with the local or county historical society or some other sponsor such as the Chamber of Commerce for a familiarization tour for business people and staff from other historic attractions in the region. A few well-attended events would be helpful in getting the word out that the long-ignored Copake Iron Works is a fresh, new, and engaging destination for visitors.

*Rationale:* Visitors to the ironworks need help in understanding what they are looking at and the site's history as well as its future will be of great interest to most visitors if we can capture their attention and imagination. The level of our future investment in the site is directly related to how positive the public feels about their experience, their willingness to pay fees for a quality product, and their encouragement to others to visit. This season will bring us the first of many visitors who will be responding to the new Copake Iron Works directional sign on the state road and even a modest effort at producing orientation materials will greatly enhance the visitor experience. Marking the buildings with their historic names and construction dates can encourage the "unthinking" to give respect for what might be perceived as derelict structures.

##### ***5. Protect/stabilize the charcoal blast furnace***

The essential visual element in the core area of the ironworks is the charcoal blast furnace, even in its heavily deteriorated condition. There has long been agreement among agency staff that if the blast furnace is to remain standing, then we will have to build a protective enclosure and also undertake some masonry stabilization. The questions have always been-- how do we do it and, perhaps most important, how do we pay for it. Lack of answers to these questions have resulted in further deterioration as well as a suspicion in the community that State Parks is not doing its job of protecting resources. Deciding precisely what to do will take some investment in staff time, but the

design issues can be resolved and a plan implemented only after decisions are made regarding the amount of financial investment State Parks is willing to make. It seems wise to invest the staff time now to develop a preferred approach and then see if we can get some outside corporate sponsorship investment to help us along. A team should be put together to focus on this problem. The design solutions may be linked to fiscal constraints, as often happens, but a preferred option should be considered first. Prompt attention is needed. Prior efforts to reach a solution have stalled and we cannot expect that what is now a very fragile industrial artifact will remain standing much longer. It is fair to say that allowing the furnace to fall down without at least serious consideration as to how we might keep it standing would be an embarrassment to the agency. Like other initiatives at the ironworks, the conservation and stabilization of the blast furnace can be done in measured steps-- as long as we make design decisions that will give us flexibility and that do not close out options for a full-scale conservation effort or restoration. Such restorations have been done elsewhere in this country and overseas, and it is not out of the question that such an effort might be called for in this instance-- even if it seems too formidable an undertaking at the moment.

*Rationale:* The blast furnace is the key to understanding the site as an ironworks and its survival has obvious practical as well as symbolic implications for future investment in the larger ironworks property. Visible activity will help inspire community and regional support. One can see from scanning Web pages recording the conservation, restoration, and development efforts related to similarly deteriorated ironworks in the United States and in northern Europe that the story of ironmaking has widespread appeal and that there is much to learn from the experience of others. The furnace and its future must remain center stage.

#### ***6. Set up resource room on premises***

Steps have been taken already to create a resource room in an unused second-floor space in the engine house. The large amount of material collected about the Copake Iron Works and other historic resources in and around the park provide important data for planning and decision making. Historic maps, copies of historic photographs, and accumulated manuscript material and ephemera should be accessible to staff and possible volunteers in one location. The resource room can serve as a collection point for reference materials and can double as a meeting space for park staff. Minor cosmetic treatments that will not affect the historic fabric and finishes can be easily and inexpensively accomplished, making the room suitable for regular use. The room is already heated, and work lights have been installed. Original historic documents and photographic negatives would be stored at Peebles Island.

*Rationale:* This research project resulted in the accumulation of large amounts of reference materials that will necessarily be consulted over time as the resource is developed. Easy access to these materials is essential to the park manager and other staff involved in making the many decisions required in resource development and maintenance. The resource room will also be available to those developing interpretive materials and park programs as well as to those researchers interested in the subject



matter. The inventory of park structures created as part of this study is designed to be a cumulative file. Much remains to be learned about cultural features in the park and in nearby locations. The resource room would also contain a small reference library of the key, secondary sources, National Register designation reports, and special documents related to other regional ironworks, all of which can provide crucial contextual information that will aid in interpretive program development. Finally, with this small investment we can show the local community that we are making a serious gesture toward researching and developing the site for public use. This will make it easier for the local community to buy into the process and provide a local/on-site repository for copies of printed materials, historic photographs, manuscripts, etc., rather than having them sent off to inaccessible places like Albany. We are more likely to get help in collecting artifacts and ephemera of the Iron Works if we can show donors that "stuff" will be kept locally and will be available for community use as well as our own. As research questions arise and we look to volunteers and avocational historians for help, the resource room is a place where they can get started and also know that they are making a permanent contribution.

### ***7. Machine shop study***

The machine shop presents an exciting development opportunity. The shop survives with a remarkable collection of pre-1930 wood and metal working tools and accessories. The extensive shop inventory was acquired from William A. Miles in 1929, and a detailed inventory was recently located in the TSPC real property files. The shop machinery is all powered from one electric motor connected to an extensive system of shafts and leather belt-driven pulleys. It appears that the "system" could very easily be restarted. An early 20<sup>th</sup>-century shop of this kind with so much working machinery still in place along with a documented period inventory is surely an unusual survivor. There are truly exciting opportunities for using such an extraordinary resource for interpretive programming if one can envision a "working" display with demonstrations and interpretation.

*Rationale:* It is unrealistic to think that the blast furnace or other ironmaking operations could be activated for demonstrations. However, if we are looking for the best opportunity for active and interactive educational venues and for revenue-generating attractions, then the remarkable machine shop may be our most promising avenue. A "working" shop with its curious collection of machines and specialty tools promises to be a key attraction if properly presented. There is nothing that I am aware of in the region that compares with its potential. We need to partner with a corporate sponsor for research and development, (Stanley Tools has underwritten the Sloane-Stanley Tool Museum at the Kent Furnace in Connecticut) and an operating/programming partner, such as the Hudson Valley Old Time Power Association.

### ***8. Artifact inventory and conservation assessment***

The storage garret above the machine shop has been the casual repository of ironworks and early park-related artifacts since the park acquired the building in 1928. While there is no inventory or documentation as to origin, it is clear that most of the tools, furniture,

building parts, foundry patterns, etc. were saved as objects that were too curious to throw out or could some day be displayed and interpreted if not merely studied. Plow handles from Copake Iron Works plows that were collected for WWII scrap, hundreds of foundry patterns, and an odd miscellany of industrial and architectural artifacts await inventory and more environmentally suitable storage. In the short term, it makes sense to undertake an evaluation of the numbers, type, and condition of the artifacts and develop a strategy for their protection and some recommendations for collecting if not a full-blown collection policy. The industrial production of the ironworks included numerous cast items that are now obsolete and may find their way back to the site if there were a place to safely display or store them. The park has already been given several artifacts and as local citizens learn about the possibility of the park displaying Iron Works-associated items, more are likely to appear. Subsequent to inventory, a preliminary assessment of the collection should be prepared that will identify any artifacts that need immediate conservation or stabilization. The report should also identify items or sets of items that would be suitable for interpretive programs.

*Rationale:* The local community will buy into the development of an ironworks-associated collection that would be on display if they believe the artifacts will be safe, cherished, and used/displayed. There are several short-term options for storage including leaving things pretty much where they are until more permanent storage areas are established. Nevertheless, it would be very helpful to have at least a preliminary plan as to what materials will be collected, where they would be stored, and who would be responsible for managing them. We should be ready to assure any potential donor that we can take care of donated materials and give them some idea as to how they would be used. Collecting artifacts establishes a connection to the community and despite the inevitable headaches, will help build community interest and provide any partner organizations with a role in collecting suitable artifacts.

### ***9. Archeological sensitivity map***

The preliminary research undertaken for this study uncovered many documents, references, maps, and photographs of non-extant cultural resources throughout the park. Collecting this information in a GIS data base keyed to inventory records would serve to protect them from accidental disturbances and also help streamline the Sec.14.09 review component of the capital project planning process. It would also be advisable for archeology staff to perform a site walkover in the industrial area and recommend either retrieval of surface finds or covering areas where park visitors are likely to surface collect. There may be areas along the Bash Bish Brook that should be regularly monitored for appearance of artifacts as the stream edge erodes and exposes them. Signage and printed materials should ask visitors to leave artifacts in place, or, at the very least, report them to park staff. Park staff themselves should be sensitized to the procedures for protecting below-surface resources as well as buildings and structures.

*Rationale:* It is likely that large portions of the intensive use areas at the north end of the park around the hamlet and Bash Bish Gorge have the potential to yield significant archeological materials, as well as the Weed Mines and Maltby Furnace areas to the

south. For a small investment of time we can collect existing information in a GIS database and have a ready planning tool at our disposal. Locating and identifying visible remains can be an ongoing/cumulative chore and might involve avocational historians and students. However, the basic system for data gathering and manipulation should be set up right away and current data entered. Support for such an exercise might be found at Bard College, Columbia-Greene County Community College, or other institutions teaching GIS, leaving parks staff in the role of project oversight.

#### ***10. Report out on the Assessment with an action plan***

This report leaves us with an overview of the nature and extent of the historic resources in TSP and some contextual understanding of associated resources in the Litchfield District. It also makes ten recommendations for undertakings that will require staff time and money from the park, the region, and from the Peebles Island Resources Center. The recommendations are based on the assumption that State Parks desires to take measured steps forward toward protection, conservation, and utilization of the resources rather than simply continuing to ignore both their needs and potential. A consensus among the involved unit administrators as to how much investment and at what pace development can or should proceed needs to be reached. The report suggests a number of potential partners that could help with both general and specific projects, but it is not wise to make overtures to organizations until we have established a plan, a timetable, and a level of commitment to share with partners who are likely to be eager and capable. As the Iron Works slowly emerges from the background of the park, there will be fiscal, programmatic, and operational issues to be confronted. The options and opportunities need debate and hopefully a road map for next steps will emerge.

Here are some of the questions that will need answers:

1. What further research and analysis is needed as the agency moves to implement specific development opportunities? Should this report be expanded or should any additional work focus on specific issues/problems/opportunities? What kinds of maps, market analyses, revenue projections, survey data, etc., would be essential for decision making and implementation?
2. What priority should we give to generating a thematic (multiple property) National Register nomination for the ironworks in order to qualify the resources, especially the heavily deteriorated ones like the blast furnace and the ironworker's duplex, for EQBA grants and also to make it easier to attract outside interest and money?
3. How do we best respond to the opportunities at the Iron Works? How do we create a functional project team that can provide leadership, direction, and continuity? What are the expected contributions from the Albany office, the region, facility staff, Peebles Island Resource Center staff, and from our potential partners?