

Hopewell Furnace National Historic Site

Nestled within the largest contiguous forest in southeastern Pennsylvania, the restored buildings and structures of the Hopewell Furnace National Historic Site commemorate America's early energy history. The 848-acre park encompasses over 600 acres of woodland and 145 acres of farmland, meadows, and pastures.¹ Today, recreational uses such as hunting, camping, hiking, and fishing have complicated the interpretation of the rural site, but here discerning visitors learn about how industries extracted energy from the natural resources present in the very mountains and forests they have escaped the city to enjoy. Within this idyllic, pastoral landscape, an iron-making operation ran intermittently for over a century (1771–1883).

As in Europe, Americans enlisted charcoal as fuel to heat iron ore and extract pure iron and Pennsylvania was the center of such production due to its abundant natural resources. In 1771, ironmaster Mark Bird chose a site in the Schuylkill Valley of Berks County that boasted not only plentiful iron ore but also readily available waterpower, ample trees from which to make charcoal, and limestone to stimulate the smelting process. A twenty-five- to thirty-five-foot stone pyramidal furnace with a flattened top, set against a hill to anchor a charging bridge, heated the limestone and charcoal, separating out the impurities to create wrought iron fit for use by a blacksmith. A bustling, racially diverse, but isolated community of skilled and unskilled workers, including women and children, eventually grew around the glow, noises, and blast cycles of an iron furnace.²

The over four thousand-acre operation produced between 720 and 1,000 tons of iron for distant urban markets by consuming, manipulating, and despoiling its natural environment.³ Because charcoal is created from the slow combustion of wood, woodcutters encompassed the largest segment of workers. The furnace required at least five thousand cords of wood to maintain an eleven-month blast cycle (depending on coal sup-

¹ KFS Cultural Resources Group, with Menke and Menke, *Cultural Landscape Report: Hopewell Furnace National Historic Site* (Philadelphia, 1997), 1. Hereafter cited as CLR.

² Joseph E. Walker, *Hopewell Village: The Dynamics of a Nineteenth Century Iron-Making Community* (Philadelphia, 1966), 19–20. A cast house, a manor-type home for himself, a blacksmith shop, a store, a barn, and tenant housing for workers supported the village.

³ Walter Hugins, "The Physical History of the Furnace Group, 1770–1783" (Feb. 7, 1954), 4–5, Hopewell Furnace National Historic Site Files, Elverson, PA; CLR, 41; Robinson and Associates, "Historic Resource Study: Hopewell Furnace National Historic Site: Final" (Report prepared for the National Park Service, 2004), 34.

plies). However, the industry generally allowed for several years regrowth before cutting anew, and therefore the furnace owners rarely cut more than four thousand cords a year. In the meantime, the ironmaster purchased an additional two thousand to three thousand cords from woodlots outside the Hopewell property. A skilled collier smoldered the wood twenty-five to fifty cords at a time, creating enough smoke to cloud the air. Moreover, the smelting process created industrial waste, or “slag” piles, which workers occasionally recycled.⁴ Lastly, headraces (open ditches) redirected water from Baptism Creek and springs near French Creek down the sloping meadow to the furnace’s waterwheel. The stream powered the waterwheel, which pumped blowers for regular blasts of air. The oxygen maintained and intensified the heat, increasing the furnace’s efficiency.⁵ A nineteenth-century water rights dispute over the springs forced new owners to dam French Creek to replace the West Headrace.⁶

The Civil War and the building of the railroad further increased the demand for iron. By the 1880s, however, American industry was moving toward more efficient business models with the rise of cities and demand for steel construction. Under titans like Andrew Carnegie, the steel industry moved to urban manufacturing centers such as Pittsburgh and Bethlehem, consolidating all aspects of the manufacturing process with new technologies.⁷ Small, independent, rural enterprises such as Hopewell could no longer compete with its product or process.

Hopewell Furnace, ironically, owes its second life as a historical park to a public economic relief and conservation program designed to offer unemployed men work and urban people refuge from their industrial home environments during the height of the Great Depression. French Creek became one of forty-six Recreational Demonstration Areas, where the ill effects of industrialization had hit hard. These woodlands offered locations for campgrounds, picnic sites, bridle paths, and hiking trails, all developed by the Civilian Conservation Corps. The dammed reservoir that had supplied water to the furnace would provide an attractive “center-

⁴One acre produced between thirty and forty cords of wood; a cord is eight by eight by four feet. Walter Hugins “The Story of a 19th-Century Ironmaking Community,” in *Hopewell Furnace: A Guide to Hopewell Village National Historic Site, Pennsylvania*, Official National Park Handbook series, 124 (1983; Washington, DC, 1988), 30, 53; Robert B. Gordon, *American Iron, 1607–1900* (Baltimore, 2001), 15, 123, 148.

⁵CLR, 24–36; Hugins, “The Story of a 19th-Century Ironmaking Community,” 29.

⁶CLR, 23–30. See chapter 8 for more detailed discussion of water rights issue.

⁷CLR, 42.

piece” for activities such as boating, fishing, and even swimming. The ruins of the defunct furnace could be an attraction too.⁸

Interviews with Harker Long, who oversaw the furnace’s last blast, provide descriptions of the “dear old furnace and village.”⁹ In the winter of 1936, former Hopewell caretaker and collier Lafayette Houck agreed to perform a charcoal-making demonstration lasting several days.¹⁰ In 1938, the iron plantation became the first National Park Service (NPS) site to earn national recognition for industrial history in the United States.

Unfortunately, indecision over what era in which to “freeze” preservation and interpretation of the site challenged the interpretation of Hopewell as a landscape of continuous energy production. As one observer noted in 1959, “The visitor today can hardly realize that the furnace—with its lazily-turning waterwheel . . . was once the hub of great activity.”¹¹ But in the 1960s, the park revised its interpretative program and, after thirty years, reintroduced on-site charcoal-making with regular demonstrations by collier Elmer Kohl. Each August, the event shows interested members of the public how wood was converted into energy in a presentation that engages all of the senses.¹² In the 1980s, NPS changed the site’s name from Hopewell Village to Hopewell Furnace to reflect a new interpretive focus on iron-making technology.¹³ This shift has helped teach visitors about the long, intimate, and complicated relationship between American technology, labor, industrial production, and natural resources.

Central Connecticut State University

LEAH S. GLASER

⁸ Leah S. Glaser, *Hopewell Furnace National Historic Site: An Administrative History* (Philadelphia, 2005), 8, 23–55.

⁹ See John P. Cowan, “Notes on Interview with Harker Long, of Birdsboro,” Apr. 5, 1938, Hopewell Village File to Sept. 1940, Northeast Regional Office, National Park Service, Philadelphia; Christopher Fisher Motz, Monthly Report, Apr. 5, 1941, “NMP-CCC Hopewell Village April 1, 1941 to December 1941,” box 56, RG 79, NARA-Mid Atlantic Region (Philadelphia).

¹⁰ NPS researched and produced a detailed report and booklet, both of which are still available today: Jackson Kemper, *American Charcoal Making in the Era of the Cold Blast Furnace*, National Park Service Popular Studies series, 14 (1941); Arthur Sylvester and Jackson Kemper, *The Making of Charcoal as Followed by the Colliers of the Schuylkill Valley* (Pottstown, PA, 1937); Kemper to Arthur Sylvester, Dec. 16, 1936, Papers of Charles Hosmer, Special Collections, National Trust Library, University of Maryland, College Park.

¹¹ G. Clymer Brooke, *Birdsboro: Company with a Past, Built to Last* (New York, 1959), 11.

¹² Harry Hart, taped interview by Leah S. Glaser, July 26, 2003, copies at Hopewell Furnace National Historic Site, Elverson, PA.

¹³ “National Park Service Area Name Changed to ‘Hopewell Furnace National Historic Site,’” press release, Nov. 1, 1985, Historical Central Files, Hopewell Furnace National Historic Site.