

# Bale Grist Mill

## State Historic Park



### Our Mission

The mission of California State Parks is to provide for the health, inspiration and education of the people of California by helping to preserve the state's extraordinary biological diversity, protecting its most valued natural and cultural resources, and creating opportunities for high-quality outdoor recreation.



California State Parks supports equal access. Prior to arrival, visitors with disabilities who need assistance should contact the park at **(707) 963-2236**. If you need this publication in an alternate format, contact [interp@parks.ca.gov](mailto:interp@parks.ca.gov).

**CALIFORNIA STATE PARKS**

**P.O. Box 942896**

**Sacramento, CA 94296-0001**

For information call: (800) 777-0369.

(916) 653-6995, outside the U.S.

711, TTY relay service

[www.parks.ca.gov](http://www.parks.ca.gov)

**Discover the many states of California.™**

**Bale Grist Mill State Historic Park**

**3315 St. Helena Highway**

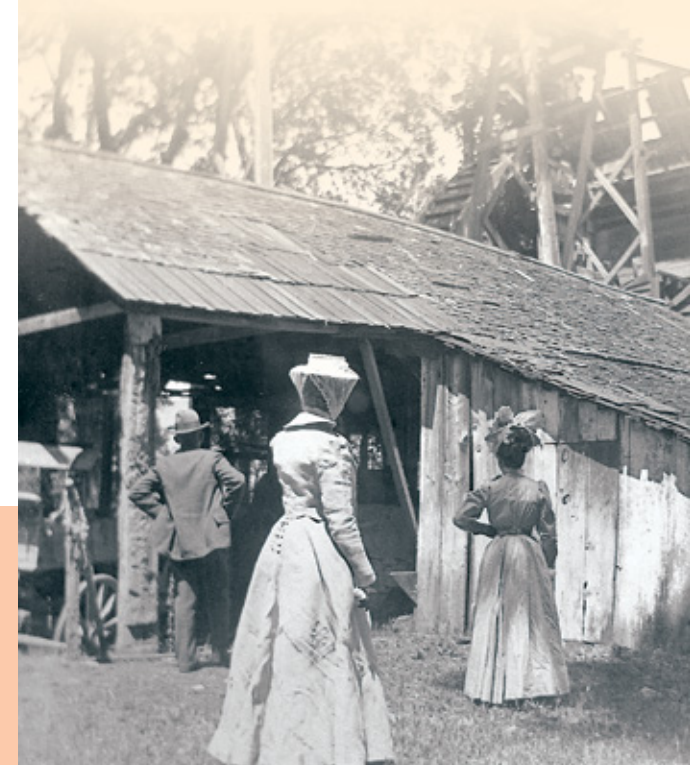
**St. Helena, CA 94574**

**Mail to: 3801 St. Helena Hwy.**

**Calistoga 94515 • (707) 963-2236**

© 2015 California State Parks

*Families gathered at  
the mill to have their  
grain ground into flour  
while they socialized  
and caught up on the  
news from around  
the valley.*



**T**he Bale Grist Mill played an important role in the settlement of the Napa Valley in the mid- to late 1800s. The mill is a significant part of California history.

Wheat, corn, oats, and barley were the main cash crops for farmers in the Napa Valley. Farmers brought their grain to the mill to be ground and bagged. Today, the mill is still operational, milling grains into flour and meal. The mill demonstrates its pioneering role in industrialization during the 19th century.

## PARK HISTORY

### Native People

From about 6,000 BCE, the *Koliholmanok* (“woods people”) lived within the area now known as Bale Grist Mill State Historic Park and Bothe-Napa Valley State Park. Their tribe’s central area, now the upper



*Corn grinding demonstration*

Napa Valley, was called *Mutistul*. These hunter-gatherers made fine obsidian tools—knives, scrapers, arrow and spear points—as well as intricate baskets and ceremonial objects.

When Spanish settlers arrived in this area of Alta California, it is believed that they called the native people *guapo* for their bravery, daring, and good looks; the native people eventually became known as the Wappo. Mexican land grantees and gold seekers upset the Wappo balance of life, introducing such diseases as smallpox that devastated the Wappo population.

By 1855, nearly 20 years after Missouri fur trapper George C. Yount planted the area’s first grapevines, only a fraction of the Wappo people remained. Wappo descendants in Napa and Sonoma counties continue to practice and honor their ancestral traditions.

### Early Pioneers

Edward Turner Bale was an English citizen who came to Monterey, the capital of Alta California in the 1830s. On March 21, 1839, Bale married into the prominent family of General Mariano G. Vallejo, commandant of the Mexican army. His bride, Maria Soberanes, was the niece of brothers Mariano and Salvador Vallejo.

General Vallejo appointed Bale as surgeon-in-chief of the Northern Mexican army in 1840, and Bale applied for Mexican citizenship. The following year, Governor Juan B. Alvarado granted Edward Bale four leagues of land in upper Napa Valley. More than 17,000 acres in Wappo territory were given to Bale; they encompass today’s Calistoga and St. Helena.

Bale’s land grant, issued in 1841, was known by various spellings and names. Perhaps referring to the *Koliholmanok*



*Dr. Edward T. Bale, ca. 1845*

native people, Bale called his rancho *Colofolmana*; others referred to it as *Caligolmana* and *Huilac Nama*. The grant’s official recorded name (ratified in 1845) was *Rancho Carne Humana*, a Spanish term translating to “human flesh.” The reason for the name has been lost.

The Bales built an adobe home off what is now known as Whitehall Lane in St. Helena. Edward Bale commissioned Ralph Kilburn to build a sawmill near the Napa River. Bale also had a small, animal-powered grist mill built for neighbors to grind the grains they grew.

In 1843, Bale contracted to build a larger grist mill, paying the builders with portions of his rancho land or selling off parcels to pay debts. The new mill’s water came from Mill Creek, through a ditch system with a wooden flume. The water powered a 20-foot waterwheel that turned locally quarried milling stones.

In 1848, Bale left to find a lucky strike in the gold fields. He returned ill the following year, and died in October of

1849. His young wife was left with six children and huge debts, liens, and mortgages against Bale's property.

### **Maria Soberanes Bale**

The census of 1850 recorded that 27-year-old widow Bale had only 1,500 acres of unimproved land and 50 improved acres left of more than 17,000 acres granted to her husband less than a decade earlier. Maria Bale contracted for improvements to the sawmill and the grist mill. She hired Leonard Lillie to expand the grist mill, building and installing the larger 36-foot waterwheel in place today.



*Maria Soberanes Bale, ca. 1870*

Resourceful Maria Bale managed to pay off her husband's debts and hold on to portions of Rancho Carne Humana as bequests to her children. She remarried, and the mill was sold by her daughter, Isadora Bruck, in 1860.

A succession of owners then ran the mill, installing a steam engine to power the mill in times of drought. The mill was purchased by Reverend Theodore Lyman in 1871. He installed a water-powered turbine to replace the waterwheel. Mill operations finally ceased in 1905.

Lyman's family donated the mill to the Native Sons of the Golden West in 1923. The Napa County parlor kept the mill grounds cleaned up and repaired portions of the buildings.

In 1941 the Native Sons deeded the mill to the Napa County Historical Society, which hired caretakers to live in the granary—converting the interior into a house. In the 1970s, California State Parks acquired the property and began a major restoration project with funding from the California State Parks Foundation. The mill was registered in the National Register of Historic Places in 1972. In 1974, it became a California State Historic Park.

The mill was restored to operating condition and milled its first grain in 1988. Beginning in 2005, volunteers and California State Parks joined forces to restore the grain-cleaning and sifting machinery. The final phase was completed through a Proposition 84 volunteer-enhancement grant.

### **NATURAL HISTORY**

The upper Napa Valley enjoys a mild Mediterranean climate. Average highs in July and August hover below 90° while winter lows can dip below 40°.

The layers of volcanic rocks under the mill have accumulated over the last three to five million years. Near the path to the mill grows a venerable hollyleaf cherry tree (*Prunus ilicifolia*), a native species used by local Wappo for food and



*Hollyleaf cherry*

medicine. Coast redwoods, tan oak, Douglas-fir, and madrone grow nearby.

### **Wildlife**

The pileated woodpecker rat-a-tats loudly on hardwood trees. Watch out for rattlesnakes and big banana slugs on the trail. Many creatures are nocturnal, so bats, mountain lions, coyotes, raccoons, and bobcats are rarely seen.



*Pileated woodpecker*

### **THE AUTOMATED MILL**

Inventor Oliver Evans (1755-1819) was granted the United States' third patent for his automated flour mill in 1790. President George Washington reviewed and signed Evans' patent application; the President later installed the system in his own grist mill at Mount Vernon. Evans' invention was one of the first to address an entire production process, forerunner of the automated mill.

The Bale mill uses the Evans system of cup elevators and screw conveyors that require little human labor. The miller controls the waterwheel and millstone speeds, but little manual effort is needed to transport product through the mill.

### **The Wheel's Operation**

This historic wooden overshot waterwheel—one of the largest in North



*Corn in the hopper*



*Weighing the milled flour*



*Organic milled grains*



*Millstones and first floor of mill*

America—and its iron hub were installed by Leonard Lillie in 1851. The flume has about 500 to 600 gallons of water flow through it and over the wheel every minute. The miller controls the water flow onto the wheel with a control arm that raises or lowers a head gate on the end of the flume. The water's weight makes the wheel turn about 2.5 revolutions per

minute, generating about 40 horsepower. A series of four gears increases the speed of the turning millstones.

### Millstones

The actual milling of the grain takes place between two heavy horizontal quartzite French Buhr millstones. As the top stone turns, powered by the waterwheel and gearing, grain feeds from the hopper



and shoe above the millstones into the center (eye) of the top millstone. Grain flows between the runner stone and the stationary bottom bedstone; the grain is then ground into meal or flour.

Millstone dressers periodically hand-sharpen the cuts and grooves on the faces of the 42" stones.

### Interpretive Exhibits

Displays in the mill and granary interpret the mill's heyday period with historic millstones, tools, and implements used in the late 1800s. The park is open for day use only, with a small admission fee.

To schedule school or other group tours or for information on holding events at the mill, email [info@napavalleystateparks.org](mailto:info@napavalleystateparks.org).

For park hours and information on such events as Harvest Dinners or Old Mill Days, visit the park website at [www.parks.ca.gov/balemill](http://www.parks.ca.gov/balemill).

## OL' MILL SAYINGS:

**"LOOKS LIKE YOU HAVE BEEN RUN THROUGH THE MILL"**

Refers to someone who looks tired or feeling ground down as if he or she has been through the milling process

**"BACK TO THE OLD GRIND"**

Means to get back to work; once the millstones are set, they will grind the same all day.

**"MILLSTONE AROUND HIS NECK"**

A burden in life; millstones are very large and heavy with a hole in the center.

**"MILLING AROUND"**

Socializing around the mill; talking with other farm families who are waiting for their grain to be milled



The granary has exhibits and interpretive items for sale, supporting maintenance and operation of the mill.

Two-pound souvenir bags of many types of organic flour or cornmeal (bread flour, pastry flour, cornmeal, polenta, spelt, oats, barley, and rye) are available for a small donation.

## RECREATION

The 1.1-mile History Trail leads from the Bale Mill to the Pioneer Cemetery and into the picnic area at adjoining Bothe-Napa Valley State Park.

## ACCESSIBLE FEATURES

The accessible paved path to the mill from the parking lot is inclined. Call (707) 963-2236 on weekends for gate access to accessible parking at the mill. The granary and first floor of the mill are accessible.

The second floor mill exhibits are reached by steps. An assistive listening device and an illustrated booklet are available to those who cannot climb the stairs.

Accessibility is continually improving. For updates, visit <http://access.parks.ca.gov> or call the park.

## NEARBY STATE PARKS

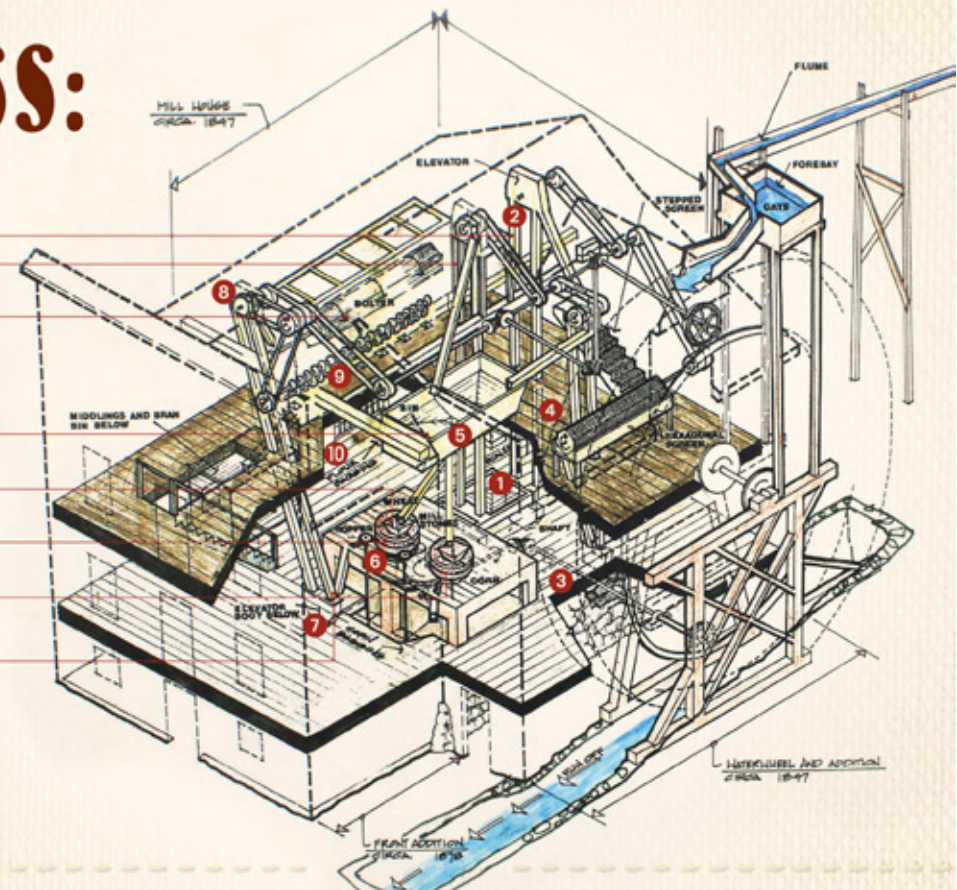
- Bothe-Napa Valley State Park  
3801 St. Helena Highway  
Calistoga 94515  
(707) 942-4575
- Robert Louis Stevenson State Park  
(day-use hiking only; no dogs)  
12 miles north on Highway 29  
(707) 942-4575

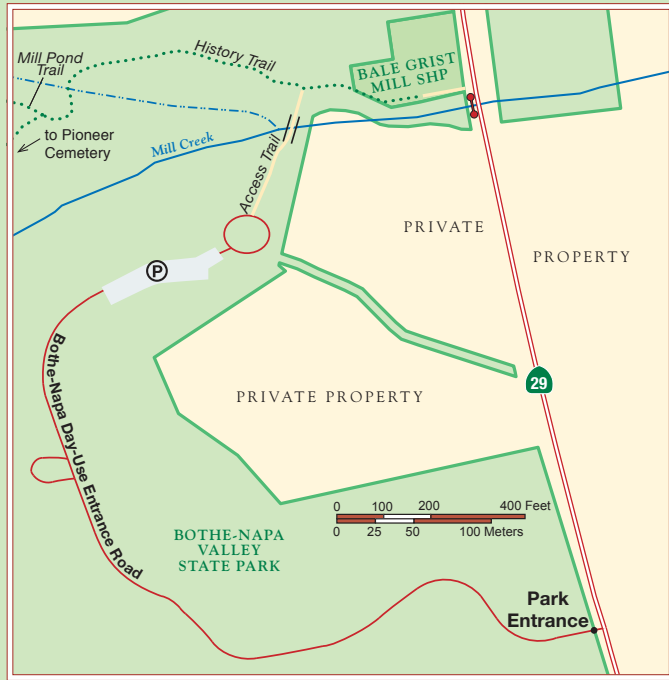
# THE MILLING PROCESS:

The grain (grist) entered the mill in sacks, which were emptied into a basin **1**. Elevators **2** took the grain through a chute to a grain cleaner that removed any large foreign matter still in the grain **3**. Another elevator **4** and chutes carried the clean grain to a bin **5**, which was opened to let the grain into another hopper above the millstones for milling **6**. The milled whole-wheat flour dropped into an elevator boot **7** and was carried by the elevator **8** to the bolter. The silk-covered bolter **9** sifted the flour, grading it into white flour (finely ground), middlings (coarsely ground), sharps (the coarsest grind), and bran (livestock feed). The final flour grades fell through chutes into sacks, completing the milling operation **10**.



- Elevator**  
for unground wheat
- Elevator** for corn
- Bolter**  
for sifting milled whole wheat
- Bin** for whole corn
- Hopper**
- Millstone** for wheat
- Millstone** for corn
- Milled wheat elevator**  
to bolter for sifting





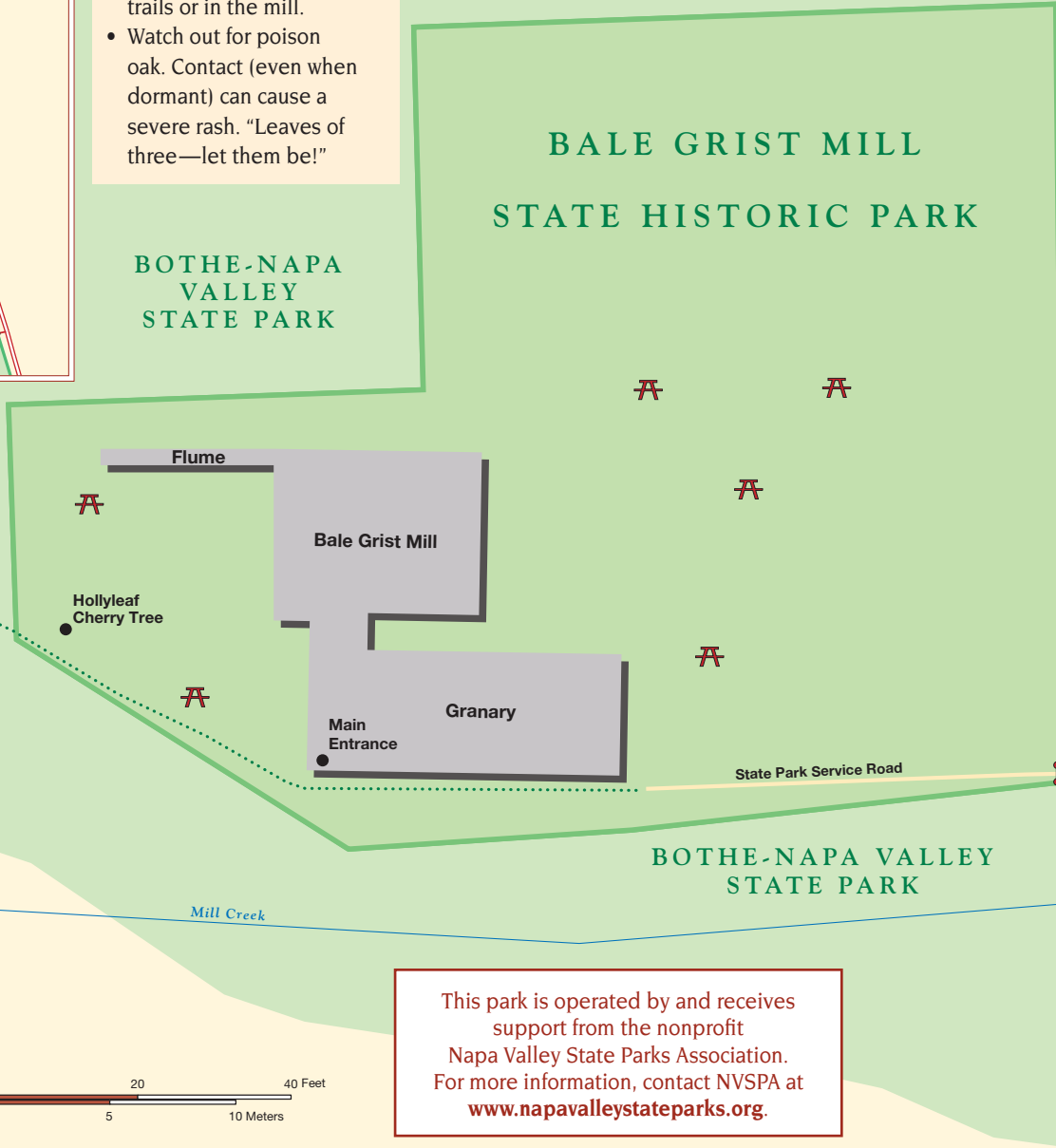
**PLEASE REMEMBER**

- All natural and cultural features, including down wood, are protected by law and may not be removed or disturbed.
- Except for service animals, dogs are not allowed on trails or in the mill.
- Watch out for poison oak. Contact (even when dormant) can cause a severe rash. "Leaves of three—let them be!"

**Bale Grist Mill**  
State Historic Park

**BALE GRIST MILL**  
**STATE HISTORIC PARK**

**BOTHE-NAPA**  
**VALLEY**  
**STATE PARK**



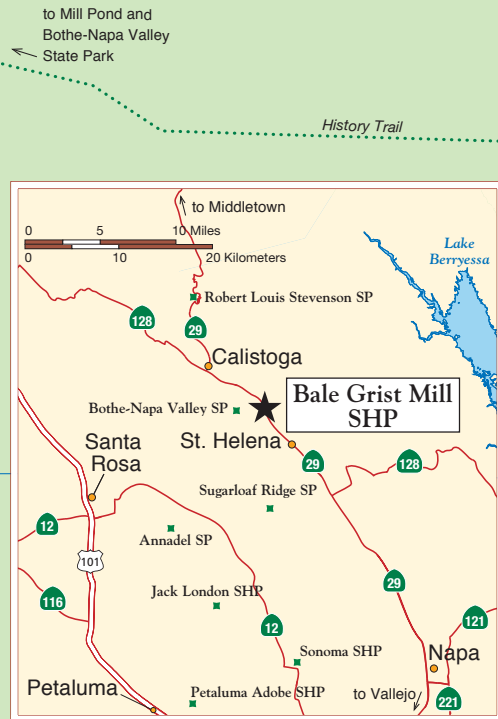
↑  
to  
Robert Louis  
Stevenson  
State Park



**Legend**

- Major Road
- Paved Road
- Trail: Hike
- Paved Path
- Parking Area
- Bridge
- Locked Gate
- Parking
- Park Building
- Picnic Area

© 2015 California State Parks



This park is operated by and receives support from the nonprofit Napa Valley State Parks Association. For more information, contact NVSPA at [www.napavalleystateparks.org](http://www.napavalleystateparks.org).

↓  
to Napa