

Chapter 2

The Chinese, Spanish, Mexicans, Russians, and the Coast Redwoods

The first people other than Native Americans to see the coast redwoods may have been Chinese. One account has a Chinese merchant named Hee-li being blown out to sea and eventually arriving at a coast wooded with what were apparently redwoods in 217 B.C. (Collings, 1985). A Chinese explorer named Hui Shan wrote about tall trees with red wood that he had seen while sailing eastward along the Pacific rim in 458 A.D. (Adams, 1969?). Discovery of these writings has stirred controversy about our traditional ideas about the "discovery" of North America.

In 1579, Sir Francis Drake landed at Point Reyes, making the Coast Miwok among the first Native Americans in the redwood region to have contact with Europeans. Contact with Europeans in the southern part of the Miwok's territory increased with the coming of the missionaries in the 1700s.

The first recorded sighting of the coast redwoods by Europeans was written by Father Juan Crespi, who accompanied Gaspar de Portola on his explorations from San Diego to Monterey Bay in 1769. On October 10, Crespi wrote: "In this region, there is great abundance of these trees and because none of the expedition recognizes them, they are named red wood (*palo colorado*) from their color." (Barbour *et al.*, 2001).

To the Europeans who came to the coast redwood region in the 1700s and 1800s, the coast redwoods provided an important source of timber. As the Spanish buildings were constructed, pine and cypress were used for rafters and beams. Redwood was used for things such as doors and furniture. In 1775, Captain Juan Bautista de Ayala made a large dugout redwood canoe in the Carmel River area. This was one of the first three Spanish boats to enter San Francisco Bay. At his request, Father Junipero Serra was buried in a redwood coffin in 1784, and the coffin was still in good condition when it was disinterred at the Carmel mission 98 years later (Barbour *et al.*, 2001).

The first mission to use large amounts of redwood lumber was Mission Santa Clara. The redwoods were cut on the east side of the Santa Cruz mountains and dragged to the mission site, where they were used as posts or shaped into beams. Redwood was also used in the construction of other missions in the redwood region. Some missions, in Santa Cruz, San Rafael, and Sonoma, shipped redwood to other missions such as those at Santa Barbara, San Juan Bautista, and Soledad.

Teaching Idea



Many fourth grade students do "mission projects" in which they build models of missions. Sometimes students visit the actual missions. If/when students do visit the missions, have them look for evidence of the use of redwood, and ask them to report back to the class about what they find. When students build mission projects, they can also build models of the Native American villages that were often near the missions.

In sum, though, redwood was not a major commodity or much used resource during the Spanish reign in Alta California, and the Spanish did not have a major impact on the redwood forests.

When Mexico won independence from Spain in 1821, pastureland was the major concern. Redwood continued to be used in relatively small quantities, but the Mexicans were more interested in tallow and hides than in timber.



Figure 74. Tanoak bark was used in the tanning of hides to make leather. (Photo courtesy of Humboldt State University Humboldt Room collection.)

The redwood forest itself was not conducive to growing crops, and the size and numbers of the trees discouraged attempts to clear them for settling. Also, the tendency of the redwoods to stump sprout meant that the settlers had to keep cutting the trees if they wanted to keep the land open for grazing or growing crops. As was the case with the Native Americans, most early European or Mexican settlement occurred along the coast and along rivers, which provided transportation, and in open areas in the forest where the light made it not only more comfortable, but also made it possible to grow some crops.

During the early 1800s some non-Mexicans were living in the redwood forests near Santa Cruz, and some of them were operating commercial redwood logging and milling companies by the 1830s. The trees were felled and cut into boards by hand and then hauled to San Francisco or Monterey Bay to be sold.

Between 1812 and 1841, the Russians on the north coast used redwood from the nearby forests to build Fort Ross. The local Native Americans were the Kashaya, who spoke a form of the Pomo language. With Aleut and Kashaya workers, the Russians felled trees up to 20 feet in diameter and made lumber with which they built the chapel, stockade, two blockhouses and several houses.

The Russian traders, unlike the missionaries to the south, didn't try to convert the Native Americans to Christianity. Rather, they saw the Indians as trading partners and workers, and they tried to establish a business-like relationship (Lightfoot, 2005).

The Russians were mainly interested in the pelts of sea mammals, especially the sea otter, whose pelts were especially valued by Asian rulers. The Russians even brought skilled native Alaskan hunters with them to Fort Ross. They also conscripted local Indians to hunt for the Russian companies. So effective were these otter hunters that the sea otter was rapidly hunted to near extinction in California. The swiftness of the decline was remarkably rapid; by the early 1820s, the sea otter population had declined significantly (Lightfoot, 2005).

The Russians were also interested in establishing agricultural sites, largely to provide food for their hunting colonies in the North Pacific. The Russians grew some of their food, but also produced grain, beef, and manufactured goods to trade with the Franciscan padres to the south. The Spanish, and later the Mexican government, didn't officially recognize the right of the Russians to move into the California territory, but the Spanish governors often negotiated deals that enabled trade, frequently receiving sizeable gifts and payment of taxes and duties (Lightfoot, 2005).

Some of the redwood used in the building of the missions, houses, and forts 200 to 300 years ago can be seen when one visits the missions, parks, and other places where the structures remain. The chapel at Fort Ross was rebuilt after the 1906 San Andreas earthquake, largely with wood from the original Russian buildings.

Teaching Idea



When visiting historical sites, look for opportunities to point out the spacing of the rings in the logs or wood. Trees that grow slowly produce closely spaced rings. Most of the redwood used in the historical buildings was from "old-growth" forests, which were very shady, resulting in closely spaced rings. (Old-growth trees growing in an opening, however, may have produced widely spaced rings. Trees may also grow slowly for a while, then more rapidly if the forest **canopy** opens, then slow down again when the canopy closes up again.) Most redwood harvested today is from young growth* forests, which are generally more open, resulting in more rapid growth and more widely-spaced rings.*

*** For a discussion of "old-growth" and "young growth", see Section I, Chapter 2 See the activities "Fence Post Studies," and "Slow Growth or Fast Growth?" in Section IV.**

Chapter 3

The Redwoods in the Early American Era

Since the redwood timber industry has been such an important part of the history of the redwood region for the last 150 years, I have included a lot about the history of the timber industry in *Redwood Ed*. One point should be made at the start of this section. The term "logging" refers to the act of cutting and removing timber from the forest. Modern forest resource management involves more than just cutting of trees and hauling of logs to the mill. Modern companies not only log timber, but they must take into consideration and attempt to mitigate the effects of their operations on fish and other wildlife, plan for regeneration of trees, carry out research, hire professional biologists, hydrologists, geologists, archaeologists, and lawyers, and work with many public and private agencies, among other things. They are not only cutters and millers of trees, but growers of trees and managers of the forests.

Among the first Americans to see the north coast redwoods were those in Jedediah Smith's party in 1828. Because of slow progress while following the Trinity River, they tried to reach the coast through the dense forest. The terrain was so rough and densely forested that it took the party nearly 10 days to traverse about 20 miles. Horses and mules died from exhaustion, and the party had to eat their last dog. These trappers had little love for the redwoods (Bearss, 1969).

By the early 1840s, an American merchant named Thomas O. Larkin, who was the U.S. Consul in Monterey, was shipping boards, shingles, and other redwood products from Monterey Bay to Santa Barbara and Los Angeles. He even shipped redwood to Hawaii and Tahiti, where the rot- and termite-resistant wood was especially valued. Larkin shipped over a million board feet of redwood lumber to the east coast of the United States in 1846 (Barbour *et al.*, 2001). The redwood lumber industry had been born. Even in the 1840s, most settlement occurred not in the forests themselves but rather along rivers and the coast. A few small towns such as Guerneville and Boulder Creek grew in open areas near waterways, but the land was too cheap to warrant the effort to clear large forest areas for settlement.

Many early loggers came to California from the woods of Maine or Michigan. With the discovery of gold in 1848, many loggers headed for the gold fields, including some along the Trinity River and, later, on the Smith and Klamath Rivers in the redwood region. Overland access to the Trinity gold fields was made extremely difficult by the vast quantity of fallen redwood trees, which were so resistant to decay and fire that they lay for decades where they fell. In 1849, Josiah Gregg led a party seeking a route from the Trinity gold fields to Humboldt Bay. In the dense redwood forests, the party had to literally cut their way through the fallen trees, which lay on top of each other, sometimes using slabs of redwoods to build ramps to enable their pack animals to get over the huge trees...the first overpasses? Travel was reduced to less than two miles per day, resulting in great hardship on both the men and the animals. Travel by boat was much easier, so miners generally came to Humboldt Bay by sea, prompting the development

of the towns of Eureka and Arcata. Eureka and Arcata were, as one would expect, built primarily with wood from the nearby redwood forests (Wood, date?)

Teaching Idea



An excellent collection of primary sources, mostly by writers who revered the redwoods, is Giants in the Earth: The California Redwoods, edited by Peter Johnstone. It includes pieces by over three dozen writers and poets, ranging from Walt Whitman and John Muir to Arthur Conan Doyle, Tom Wolfe, and Julia Butterfly Hill. Topics include natural history, Native American legends, exploration, logging (including one called "Women in the Early Logging Camps"), preservation efforts and others. The writing styles are greatly varied, and it is interesting for students to compare the various authors' phraseology and vocabulary to the other authors and to contemporary writing.

Not finding much gold, many loggers-turned-gold miners returned to the redwood region to harvest the "red gold" found in the forests. As California's gold rush-fueled population exploded, the demand for lumber also increased. Seeing the profits to be made by filling the increased demand, some entrepreneurs started lumber companies.

Even as the gold fields played out, demand for redwood continued to increase. Ex-miners provided a labor force that turned to harvesting, milling, and shipping redwood throughout California and around the world. There was a high demand and ample labor, and new technologies enabled the logging companies to access and harvest previously unloggable timber. The costs of transporting both logs and milled lumber inhibited the logging industry, but developing technologies would make logging very profitable.

In the mid-1800s, when California joined the Union, the U.S. government wanted new territories to be settled as quickly as possible. The vast redwood forests were public domain. Laws had been or were soon to be passed to encourage settlement, including the Pre-emption Law of 1841 and the Homestead Act of 1862, which allowed settlers to claim 160 acres of land. Often, the settlers cleared the land of trees as fast as they could to allow the sun in for light and heat, and to enable food crops to grow. (Many of those efforts were in vain, however, because of the redwood's ability to sprout new trees from stumps and roots.) Provisions of the 1862 Homestead Act and the Timber and Stone act of 1878 allowed settlers to sell their land to timber companies, and some companies soon acquired large tracts of land. Sometimes timber companies got sailors to file 160-acre land claims, which the sailors then sold to the timber companies for \$50 (Hewes, 1981).

In the late 1800s, companies owned by investors on the East Coast began to buy up small holdings and companies to acquire huge tracts of redwood forest land. Most of the redwood forests were soon owned by private individuals and timber companies.

Redwood became a major building material throughout California. Continued development of logging and milling technologies made it easier and more profitable to

produce redwood products ranging from siding and framing timber, to decks and water towers, to shingles and grape stakes. The rapidly developing railroad industry not only enabled lumber to be shipped throughout California, but also resulted in a huge demand for redwood for use as railroad ties.

Since the gold rush brought in a population explosion in the San Francisco Bay area, the logging of the coast redwoods first became a major industry in the central region from Sonoma County to Monterey County. The first sawmills were built around the San Francisco Bay. The town of Redwood City developed as a shipping center for redwood in the 1850s, and Woodside and other towns in San Mateo County were founded by the logging industry.

A few small groves of redwoods were found in the hills on the east side of San Francisco Bay. While few in number, many of the trees were magnificent. Some were more than 30 feet in diameter at the base. It is not surprising that the groves were decimated with the building boom that accompanied the gold rush. The approximately five square miles of redwood groves in the East Bay region were among the first to be logged. Much of the wood from the East Bay was used in the construction of buildings in Oakland and Sacramento. By 1860, all of the ancient redwoods in the East Bay had been cut (Barbour *et al.*, 2001).

By the late 1800s, the redwoods near San Francisco Bay were rapidly disappearing before the loggers' axes, especially the trees that were easily accessible to the growing communities along the bay. At the same time that the trees were disappearing, people began to seek recreation in the redwood groves near Santa Cruz. By the 1890s, people started to awaken to the rapid disappearance of the huge trees and a redwood conservation movement began to develop. Alarmed at the loss of the trees, John Muir would state that: "As timber, the redwood is too good to live."

In the later part of the 19th century, the northern redwood region of Humboldt and Del Norte Counties developed into a major source of redwood lumber. Large companies bought up huge tracts of timber, and large-scale operations included logging camps, sawmills, railroads, and even lumber schooners that sailed from Humboldt Bay with boards destined for San Francisco, Los Angeles, and beyond. In 1882, there were about 340 sawmills in California. By 1884, there were at least 400 sawmills operating in the north coast counties alone. In 1853, about 100 ships sailed from Humboldt Bay; in 1876, 1100 ships left Humboldt Bay loaded with redwood and wood products (Barbour *et al.*, 2001). The trees near Humboldt Bay were soon cut. (They eventually re-grew so that the town of Arcata now has its own managed young-growth municipal forest, and many such redwood stands can be found near Humboldt Bay.)



Figure 75. Logged forest near Trinidad (north of Arcata), 1919. It appears that slash and underbrush have been cleared by burning. Note the building to the left of center. This same photograph appears in *The Redwood Forester*, Volume II, Number One, published circa 1933. It is accompanied by a photograph of the same area taken fourteen years later (1933?) showing how "natural second growth made farming almost impossible." (*The Redwood Forester*, 1933?) (Photo courtesy of the California Redwood Association.)

Logging of the redwoods in Mendocino County began in the 1850s, and several towns such as Fort Bragg, Mendocino, and Albion developed around the industry. Since that portion of the coast has no sizeable harbors, the logs were shipped to the San Francisco Bay area on small lumber schooners. Intricate systems of cables and chutes were used to transfer the wood from the shore to the ships. (Figure 76.)

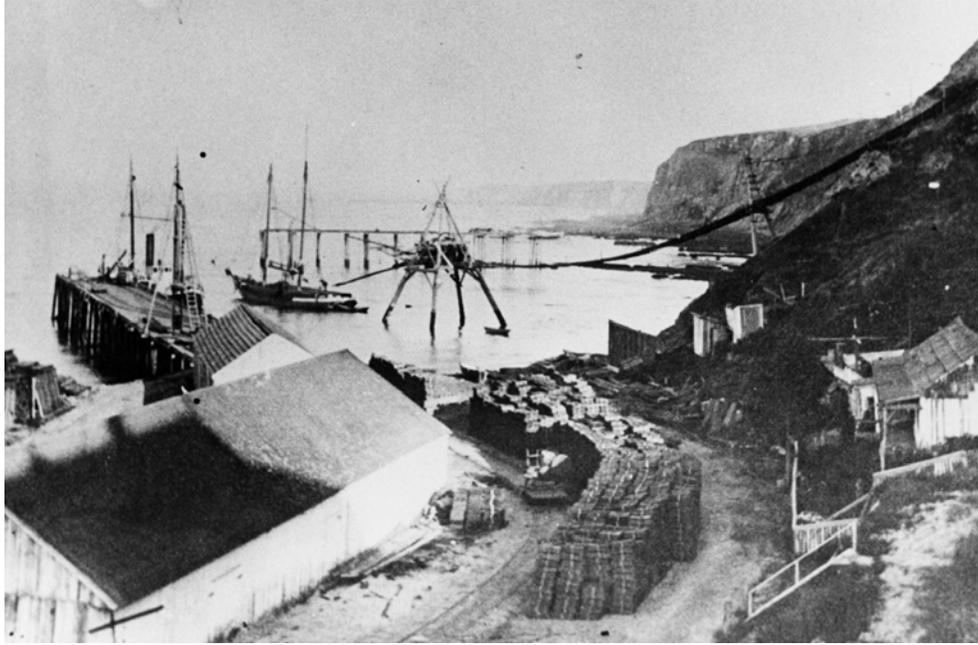


Figure 76. Schooner taking on lumber in a "doghole" port...probably in Mendocino County. The coves were called "dogholes" because "a dog couldn't turn around in one." (Photo courtesy of Humboldt State University Escola collection.)



Figure 77. Schooners lined up to take on lumber, probably in Arcata. (Photo courtesy of the Clarke Museum.)

When the redwood logging industry developed in the 1850s, north coast Native Americans often used boards that were discarded by sawmills and boards that washed ashore from shipwrecked lumber schooners.

Some very large trees were cut in Sonoma County, especially along the Russian River. One near Guerneville was measured at 367 feet tall and 45 feet in circumference (between 13 and 14 feet in diameter) at its base. It was cut for lumber about 1875 (Schubert, 2005). Another was 23 feet in diameter and the man who cut it down spent two years converting it into 600,000 shingles (Andrews, 1985).

Teaching Idea



Provide students with a series of tree diameters and have them calculate circumferences and areas of circles. Then give circumferences and teach how to calculate diameters from them.

See the activities "Making a Forester's Diameter Tape" and "Redwood Pi" in Section IV.