



*Professor Evan T. Williams
Memorial Tree Walk*

Lewis & Clark College
Portland, Oregon

Tree of All Trees

Like the trees, we are visitors, guests
of earth. The light shines down, and a bud
breaks, branches give way before us, a book's
leaves open, and our eyes look, look again. We
are a grove, companions spared to be on earth
at the same time. The trees—though not our kind—
are kin, elder relatives standing to greet us.

—Kim Stafford

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INTRODUCTION

In 1990, two Lewis&Clark students, Eric Wold '90 and David Craig '90, conducted a comprehensive census of campus trees and wrote *A Natural History Guide to the Lewis & Clark College Campus*. The guide included a tree walk that featured 48 species. In 2002, Evan T. Williams, professor of chemistry and founder and chair of the environmental studies major, inspired students to restore the tree walk and enhance its educational and aesthetic value.

He hoped to incorporate elements of the Lewis and Clark Expedition and tree identifications with a path that would “meander in congruence with the new campus plan and link the residential and academic halves of the campus.” With the passing of Evan in spring 2004, the graduating class dedicated their senior gift to a revived tree walk in his memory.

This tree walk commemorates Evan and his important role at the College, especially as founder of the environmental studies major. For thinking and learning about the environment, he advocated the use of his “environmental tripod,” which incorporates the social sciences, natural sciences, and humanities. Designed with this concept in mind, we hope the tree walk will educate the community about the history of the College, the Lewis and Clark Expedition, and the natural history of the area.

The Professor Evan T. Williams Memorial Tree Walk is now concentrated around Frank Manor House. In the future, the Lewis&Clark College community hopes to be able to incorporate all of Evan’s wishes into a campuswide tree walk.

ACKNOWLEDGMENTS

There are many people without whom the completion of this tree walk would not have been possible. We would like to thank Michael Ford, associate vice president for campus life, and Michael Sestric, campus planner, for their guidance, encouragement, and enthusiasm. Ed Florance, retired professor of biology, helped us identify tree species, as well as Bill Salo, grounds supervisor, and the rest of the grounds crew. We are incredibly grateful to Clara Elias '04 for her preliminary work on this project and to the Class of 2004 for their generous contributions, which have enabled Professor Williams’ vision to come to fruition. Eban Goodstein, professor of economics and director of environmental studies, and the Tree Walk Steering Committee have also been instrumental in the completion of this endeavor. We especially want to thank the Williams family for their support and guidance.

Chris Ragsdale '05, Ashley McElheny '05, and Anna Henry '05



Evan Thomas Williams, 1936-2004

This tree walk is dedicated to Professor Evan T. Williams for his devotion to students and his passion for the environment. In 1992, after 27 years of teaching and research at Brooklyn College, Evan came to Lewis & Clark as the vice president for academic affairs and dean of the College of Arts and Sciences. Evan missed working directly with students and moved back into teaching as a chemistry professor in 1995. Founder of the environmental studies major in 1998, Evan prompted students to address environmental issues through the lenses of the social sciences, natural sciences, and humanities.

Evan had an enormous impact on this campus, creating a sustainability council to encourage more environmental thought in campus policies, promoting a Phi Beta Kappa chapter to honor outstanding students, spearheading numerous environmental projects with the student environmental club, and creating the Lewis & Clark motto, *Explorare, Discere, Sociare* (to explore, to learn, to work together). Evan's largest contribution was to the lives of the many students he challenged and encouraged to perform at high standards: to do more than get by, to be passionate, and to make a difference.

Fascinated by the history of the Lewis and Clark Expedition and a longtime nature lover and walker, Evan had envisioned a campus tree walk for many years. Now, through the generous donations of the Class of 2004 and other members of the community, we have been able to create a living memorial tree walk in honor of Evan that will, in his words, "act as an educational tool, serving as a reminder of the work of Lewis and Clark and connecting it to our campus, [and] inviting members of our community to observe the flora that surrounds them."

Trees and features

A. Introductory Interpretive Sign

- 1. Giant Sequoia *Sequoiadendron giganteum*
- 2. American Beech *Fagus grandifolia*
- 3. Oregon White Oak* *Quercus garryana*
- 4. Loebner Magnolia *Magnolia x loebneri*

B. Sacagawea and Jean Baptiste (statue)

- 5. Bigleaf Maple* *Acer macrophyllum*
- 6. Deodar Cedar *Cedrus deodara*
- 7. Japanese Umbrella-Pine *Sciadopitys verticillata*
- 8. Paperbark Maple *Acer griseum*
- 9. Incense Cedar *Calocedrus decurrens 'Fastigiata'*
(Professor Evan T. Williams Memorial Tree)
- 10. Ponderosa Pine* *Pinus ponderosa*

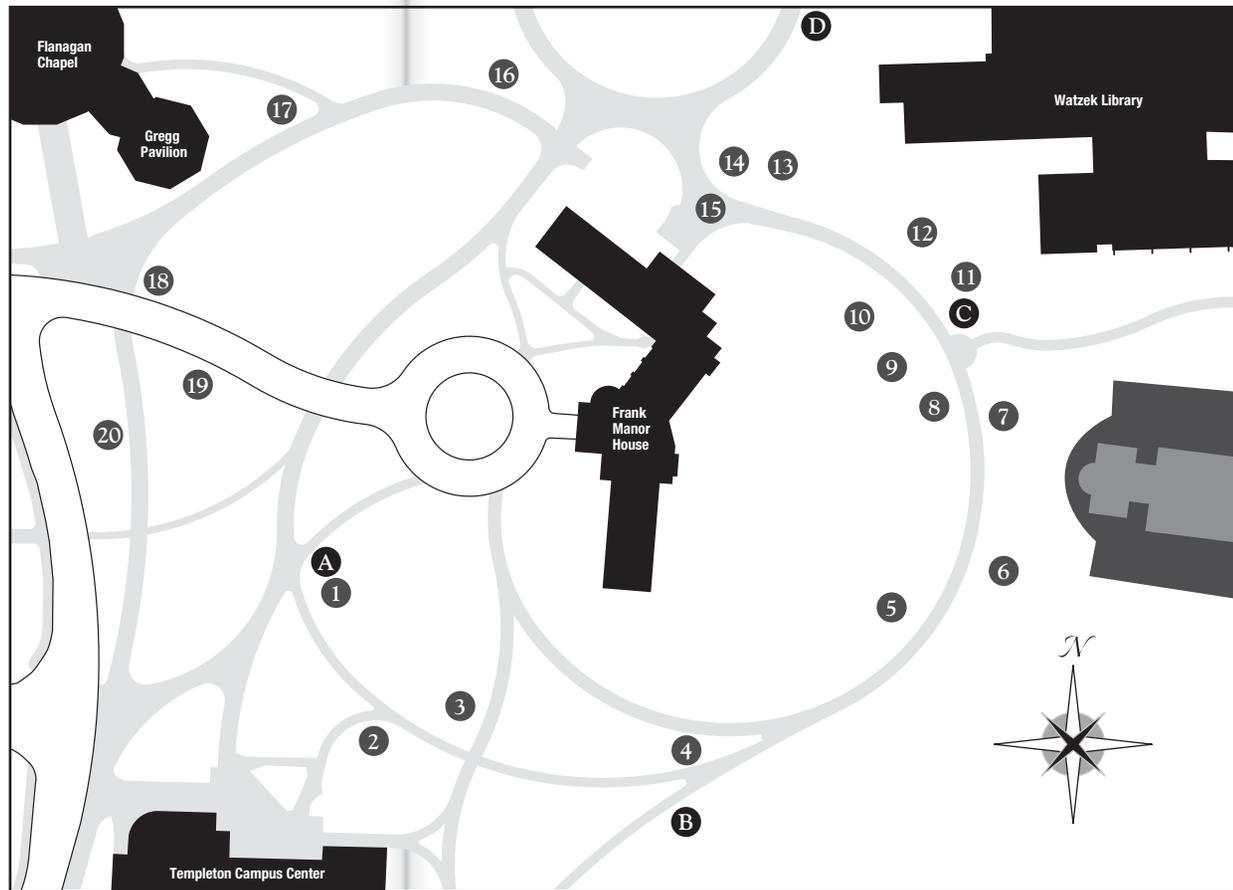
C. "Core" of Discovery Interpretive Sign

- 11. Pacific Yew *Taxus brevifolia*
- 12. Western Redcedar* *Thuja plicata*
- 13. Chinese Photinia *Photinia serrulata*
- 14. Katsura Tree *Cercidiphyllum japonicum*
- 15. Japanese Stewartia *Stewartia pseudocamellia*

D. York: Terra Incognita (statue)

- 16. Western Hemlock *Tsuga heterophylla*
- 17. Douglas-fir* *Pseudotsuga menziesii*
- 18. Rhododendron* *Rhododendron spp.*
- 19. Scarlet Oak *Quercus coccinea*
- 20. Japanese Flowering Cherry *Prunus serrulata*

* A species noted by the Lewis and Clark Expedition





1. Giant Sequoia *Sequoiadendron giganteum*

The Giant Sequoia is thought to be one of the longest-living trees, reaching up to 3,000 years of age. It is also likely the largest, with heights of up to 330 feet. The Giant Sequoia's dense evergreen foliage is comprised of bluish-green needles that range in length from 1/8 to 1/2 inch. Its cones are reddish-brown, oval with flattened scales, and 1 1/2 to 3 inches long. These cones grow upright in the first year of development and hang suspended by the second. The Giant Sequoia has a clear, straight trunk with reddish-brown, spongy bark. The common name is derived from a Cherokee Indian, Sequoiah, who is recognized as having developed the first alphabet used by the Cherokee people.

➤ *Range:* Native to the western slope of the Sierra Nevada of California.

2. American Beech *Fagus grandifolia*

The ability of this beech to regenerate quickly has aided its widespread distribution. Because they can easily spread through root suckers, American Beeches are able to regenerate after being cut down or suffering severe damage. The majority of beeches do not possess this trait. Early attempts to introduce this species to Europe in the mid-1700s failed, as the species was unpopular and succumbed to the new climate. However, more resistant strains later survived the climate and gained popularity. Mature specimen can grow up to 100 feet tall.

➤ *Range:* The American east coast, from Nova Scotia in the north, west to Texas, and as far south as Florida.

3. Oregon White Oak *Quercus garryana*

This species is very similar to the White Oak found along the east coast of the United States. Its wide range has resulted in a large variety of tree types and sizes. In Oregon this is the most abundant oak, and it is the only oak native to Washington, British Columbia, and eastern Oregon. Generally found in deciduous forests with gravelly soils, it also fairs well on mountain slopes and in rocky valleys. Lewis and Clark gathered samples of the Oregon White Oak from the banks of the Columbia River. This species of oak, which grows to heights of 100 feet, is known for its highly valued timber. Its close grain allows it to be used for structural woodwork such as shipbuilding and furniture making. In addition, the small, sweet acorns are often used to feed domestic livestock. These

oval-shaped acorns are enclosed at the base by a cup and mature in one season. In the spring, the leaves sprout as deep green but turn red in the autumn months before falling off. Notably, the undersides of the leaves are slightly hairy while the tops are glossy.

➤ *Range:* Throughout the west coast of America, reaching as far north as British Columbia and as far south as central California, west of the Rocky Mountains.

4. Loebner Magnolia *Magnolia x loebneri*

This species is named after its creator, Max Loebner, who formed it in Germany by crossing a *Magnolia kobus* with a *Magnolia stellata*. Characterized by narrow leaves that get wider near the top and ovoid tapering flowers, the stems of this species give off a sweet fragrance when bruised or broken. In April, white flowers bloom and begin to buzz with activity as beetles, flies, and bees work to pollinate the flowers. In the fall, the green foliage turns yellow and brown. During winter, buds begin to form and surround themselves with furry casings. Although this species was first created just prior to World War I, fossils found in Dakota, Kansas, and dating back to the Mid-Cretaceous period display magnolia-like features.

➤ *Range:* The Magnolia can be found in moist forests in the northern hemisphere, in Central and North America and Asia from the Himalayas to Japan.

Statue Sacagawea and Jean Baptiste

This bronze statue of Sacagawea and her son Jean Baptiste is the creation of Glenna Goodacre, whose works as both painter and sculptor touch on themes from the nation's history. Goodacre's public art includes Washington, D.C.'s Vietnam Women's Memorial, Philadelphia's Irish Memorial to commemorate the 150th anniversary of the Irish potato famine, and Sacagawea on the obverse side of the millennium golden dollar coin. The sculpture was selected by Richard Berthea and donated to Lewis & Clark in honor of his wife, Hyla, a College trustee, and their daughter, Bay '94.

Sacagawea joined the Corps of Discovery in 1804, when her husband was hired as an interpreter. She eventually became a translator herself. A member of the Lemhi Shoshone Indians, Sacagawea spoke Shoshoni as well as Hidatsa, which she would speak to her husband, Toussaint Charbonneau, who spoke Hidatsa and French. Charbonneau's words

would then be translated from French to English by other members of the Corps. Originally seen as an expendable member of the expedition, Sacagawea's importance to the Corps became evident as she remembered the lay of the land and specific passages that cut days off travel time. Her knowledge of local plants was useful when food was scarce, and, when the group's canoes capsized, Sacagawea saved many valuable documents and notes from the river. Not only did her presence allow the Corps safe passage across many native lands—a woman and child were signals that the expedition was of a peaceful nature—but her connection as a Shoshone allowed them to barter for horses to cross the Shining Mountains, which were impassable on foot.

Her significance was acknowledged by Lewis and Clark on November 24, 1805, when she was asked to vote with the rest of the expedition to determine the location of their winter camp. Despite this recognition, Sacagawea received nothing when the expedition concluded. Her husband received a grant of 320 acres of land, monetary compensation, and recommendation letters from Captain Clark. Today Sacagawea's accomplishments have been widely recognized.

5. Bigleaf Maple *Acer macrophyllum*

Lewis and Clark encountered this tree on April 10, 1806, naming it a large-leaved ash and describing it as “a large timber tree from the grand rapids of the Columbia.” Also called the Oregon Maple, it is one of the most abundant deciduous trees in the coastal regions of the Northwest. Meriwether Lewis collected specimens at the present-day locations of Sauvie Island and the Bonneville Dam. The largest living specimen of this tree is 101 feet tall, 90 feet wide, and located in Clatsop County, Oregon.

As the name suggests, these trees have large leaves 8 to 12 inches wide, with 3 to 5 lobes and distinct veins. The trees grow long whitish-green flowers March through June and disperse their seeds in paired fruits with spreading wings commonly called helicopters.

This tree provides many ecological niches. The inner bark is a food source for beavers, muskrats, and deer. Moss, lichen, and licorice fern grow in the moist crevices of the bark. Birds nest in the hollowed out limbs that have fallen and rotten.

➤ *Range:* From Alaska to California, west of the Cascades and Sierra Nevada Mountains.

6. Deodar Cedar *Cedrus deodara*

This tree is the farthest east-reaching species in the family and is commonly found at elevations of 4,000 to 10,000 feet. While they are able to tolerate dry limestone and mildly acidic soils, the tallest trees are found in less extreme conditions. On average this cedar grows to a height of 100 feet. Young trees are shaped like cones, but as they grow and their branches begin to sag, the trees retain an ovular form. The soft 1 to 2 inch long deciduous needles are often mistaken for those of a larch. They grow singly on new shoots, and then in whorls on branches closer to the trunk. These needles, the longest of any cedar, are initially a blue shade of green and become darker green as the tree ages. The substantial, cylindrical cones (4 by 2 inches) are marked by horizontal ridges and reach maturity after two years. The timber of this tree was used heavily for shipbuilding in India when it was a colony of Britain. However, when transplanted to Britain the trees did not grow large enough because of the colder climate. This prevented Britain from growing this species in their country to build ships.

➤ *Range:* From western Nepal to eastern Afghanistan, and the Himalayan Mountains.

7. Japanese Umbrella-Pine *Sciadopitys verticillata*

Native only to Japan, where it is called Koya-maki, this tree grows very slowly—about six inches per year—to a height of 20 to 30 feet. The scientific name *Sciadopitys* derives from the Greek *skias* or *skiadon*, an umbrella, and *pitys*, a fir or pine—literally the parasol or umbrella pine, an allusion to the whorls of broad needles. The bark is orange- to reddish-brown and is torn in long shreds. The leaves are dark green and shiny above and stay on for about three years. Some of the leaves are small and scale-like, crowded at the end, with whorl of 20 to 30 flat leaves, each 2 to 5 inches long, in the axils. The needles rotate around the stem, giving the umbrella effect. The cones are oval, 2 to 4 inches long and 1 to 2 inches wide, with scales that have broad, curved back margins. They are green at first, and ripen to brown the second year.

➤ *Range:* Native to Japan on island of Honshu.

8. Paperbark Maple *Acer griseum*

Native to central China, this species was introduced in 1901. Characterized by cinnamon-brown bark that begins to peel off after two

or three years, the Paperbark Maple is an aptly named specimen tree. Shiny green trifoliate leaves that become red in the fall and nut and wing “helicopters” also distinguish this tree. It is difficult to propagate with seeds, but cuttings will root easily even in acidic clay soil.

➤ *Range:* Native to the south, east, southwest, and southeast regions of China.

9. Incense Cedar *Calocedrus decurrens* ‘Fastigiata’

Each fall, Professor Williams invited the Lewis & Clark community to join him on the Frank Manor House patio to watch the sun rise directly over Mount Hood. This tree, a variety of incense cedar found only on the eastern slopes of Mount Hood, memorializes Evan and his sunrise gatherings and is located where it can enjoy the sunrises over Mount Hood for years to come.

10. Ponderosa Pine *Pinus ponderosa*

Lewis and Clark encountered this conifer in 1804, and the Nez Perce taught them to burn out the middle of the tree to make a canoe. The Ponderosa Pine can grow up to 230 feet tall and has a lifespan that can range from 350 to 500 years. The needles are 4 to 11 inches long and grow in bundles of three that create clumps at the end of branches. The cones of the Ponderosa Pine are 3 to 6 inches long and light reddish-brown in color. The seeds are eaten by squirrels and chipmunks, whose winter reserves help the tree’s natural distribution. Also known as the Western Yellow Pine, male flowers of this tree are yellow, while the female flowers are deep red. It requires little soil moisture and has deep root systems. Its lower trunk is usually clear, with dark brown bark that lightens to a cinnamon color with age. The lumber generated from this tree is considered first-rate and has a high commercial value.

➤ *Range:* From southern British Columbia into southern California and northern Mexico.

“Core” of Discovery

Pictured on this sign is a detail from a Douglas-fir that was more than 415 years old when it was cut down on Mount St. Helens. The tree—more than four and a half feet in diameter when it was felled—was already quite large when Meriwether Lewis and William Clark led an expedition to the Pacific Ocean, named the “Corps of Discovery” by President Thomas Jefferson. Late in the summer of 1803, Lewis and

Professor
Evan T.
Williams
Memorial Tree

Sign

Clark began their mission to find a waterway to connect the eastern and western seaboard of the nation. Departing from Camp Dubois in Illinois on August 30, 1803, the explorers traveled halfway across the country before encountering their first Douglas-fir. Two years later at the end of summer in 1805, they reached the Rocky Mountains and the eastern border of Douglas-fir distribution.

After pushing through the Rocky Mountains and the Cascades, the Corps of Discovery reached the Pacific Ocean in the late fall of 1805. Facing the approaching winter, they built and settled for the season into Fort Clatsop, near the Columbia River and Pacific Ocean. During this period, Lewis and Clark had time to note and observe their surroundings. On February 6, 1806, Meriwether Lewis wrote in his journal about the local firs:

a species of fir which one of my men informs me is precisely the same with that called the balsam fir of Canada. It grows here to considerable size, being from 2½ to 4 feet in diameter and rises to the height of eighty or an hundred feet. . . . This tree affords considerable quantities of a fine clear aromatic balsam in appearance and taste like the Canadian balsam.

In fact, grand firs 5 feet in diameter and 200 feet high are common west of the Cascade Range. Balsam, or balm, is an aromatic resin that in biblical times was believed to have potent medicinal properties.

In another entry (February 5, 1806) Lewis described how Douglas-fir cones have distinctive, pointed bracts protruding from the scales. This distinguishes the Douglas-fir from other conifers.

On September 22, 1806, the Corps of Discovery reached Fort Bellefontaine, the first fort built west of the Mississippi. Their mission was complete, but it was not a total success. A waterway between the west and east coast was not found. However, the secondary pursuits of botany, geography, ethnology, and zoology proved valuable.

11. Pacific Yew *Taxus brevifolia*

Pollen records indicate that this species grew in moist riparian areas on the west coast up to 5,000 years ago. Recent history points to Lewis and Clark's reference to this species as one of eight types of pine they observed on the Lolo Trail in September 1805. Distinguished by flat, soft

needles that are dark green on the top and paler below, reddish-brown bark, and red fruit, this genus has many practical uses. Robin Hood is said to have made his bows out of its European ancestor, the English Yew, and Native Americans may have used the Northwest version to make canoe paddles. A tree with the potential to kill and cure, the seeds of the Pacific Yew are poisonous, and the leaves are toxic to horses and cattle. However, its bark contains paclitaxel (Taxol), a chemical used to treat ovarian cancer, and the Pacific Yew has provided a valuable example of the importance of biodiversity.

➤ *Range:* The Yew genus is found in many parts of the world, but this species is found only on the west coast of the United States.

12. Western Redcedar *Thuja plicata*

The Western Redcedar was first described in the journals of the Lewis and Clark Expedition on September 14, 1805. Entries describe Native American uses for the wood of this tree such as canoes, clothing, and lodging. William Clark wrote, "The wind which is the cause of our delay, does not retard the motions of those people at all, as their canoes are calculated to ride the highest waves, they are built of white cedar [Western Redcedar] or Pine very light wide in the middle and tapers at each end, with aperns [aprons, rims on the gunnels], and heads of animals carved on the bow, which is generally raised."

This straight-stemmed forest tree is distinguishable by its narrow to broad pyramidal shape, reddish-brown bark, ½ inch long cones which are green in summer and brown in winter, winged seeds, yellow male flowers, and pink female flowers. Also notable is that in native areas of the Pacific Northwest the Western Redcedar can reach heights of 180 to 200 feet. This tree is commonly used today in construction.

➤ *Range:* Native to western North America, from Alaska and British Columbia to California and Montana.

13. Chinese Photinia *Photinia serrulata*

Native to China, this species was introduced to the United States in 1804. Characterized by alternating, oblong green leaves that turn red in the winter, black bark that exfoliates, and white, five-petaled flowers that bloom in the spring, this specimen is handsome year-round. Often planted near buildings or as privacy hedges, these trees can withstand areas of full sun and partial shade.

➤ *Range:* Japan and China.

14. Katsura Tree *Cercidiphyllum japonicum*

This ornamental tree is found in the same region as the Japanese Stewartia and was first introduced to America in 1865. Just before the start of spring, small red flowers sprout, followed by light purplish-pink, heart-shaped leaves. In autumn, these leaves turn from green to shades of yellow and pink, and as they fall the leaves produce a slight aroma similar to burnt sugar or caramel. Female Katsura Trees develop winged seeds that are dispensed late in the season. Generally a small tree at 40 to 50 feet tall, an occasional Katsura Tree reaches heights of 100 feet.

➤ *Range:* Japan and eastern China.

15. Japanese Stewartia *Stewartia pseudocamellia*

The Japanese Stewartia was first introduced to America in 1874. Its late introduction reflects how difficult it is to transplant and establish this species in a new environment. This small (15 feet) ornamental tree is valued for stunning summer flowers, vibrant autumn colors, and fascinating winter bark. In winter, the bark on the stem and larger branches, which is normally gray-brown, flakes off in small patches to reveal shades of light brown and light red, comparable to Eucalyptus trees. By midsummer the leaves have grown anew and the flowers are beginning to blossom. The flower's petals are a brilliant white and its abundant anthers are a bright orange-yellow. After three weeks the two inch flower falls off in one whole piece as the petals are fused together. As the season moves toward fall, the green leaves become more vibrant, changing to orange and red and sometimes even purple. Up to 4 inches long, the leaves are also elliptic and pointed.

➤ *Range:* Throughout Japan.

Statue York: Terra Incognita

In her proposal to the York Committee, artist Alison Saar wrote, "I have a personal interest in the recognition of unsung heroes, particularly those who have been overlooked due to their race or gender."

Lewis & Clark College's permanent memorial to York honors a key member of the Corps of Discovery too long ignored by history. Through the display of this powerful sculpture by Saar, Lewis & Clark remembers a man who served on the expedition as the slave of William Clark, who became a crucial contributor to the expedition's success—and who, after

the completion of the journey, shared in none of the fame and fortune enjoyed by other members of the corps.

Dedicated on May 8, 2010, the York sculpture stands six feet tall and is mounted on an approximately two-foot bronze base. Neither the physique nor facial features of the sculpture claim to represent what York actually looked like. "Because there are no known images of York," Saar explains, "I felt a realistic portrait would only continue to misrepresent the man." Partly for this reason, Saar made the sculpture's back a focal point and a symbol of the burden borne by York during the Lewis and Clark expedition. One of William Clark's maps is inscribed—"scarred" might be more accurate—on the sculpture's back and shoulders.

By funding and commissioning this work by a nationally recognized artist, Lewis & Clark strives to welcome people from minority populations to our campus community and to join the ongoing work to recognize historical figures, like York, who contributed greatly to our country but without acknowledgment or reward.

16. Western Hemlock *Tsuga heterophylla*

David Douglas encountered this tree in 1828, and Lewis and Clark described it in their expedition journals. It is distinguishable by its straight trunk, drooping branches, narrow pyramidal crown, and height of up to 250 feet. The male flowers of this tree are yellow, and the female flowers are purple. It is used for timber production in Oregon and Washington because of its superb quality. The Western Hemlock is also commercially valued because its pulp yields high-grade cellulose material used in the production of cellophane and rayon.

➤ *Range:* Native from Alaska along the Pacific coast to Northern California and the Rocky Mountains.

17. Douglas-fir *Pseudotsuga menziesii*

Botanist Archibald Menzies encountered this tree in 1792 at Nootka Sound in British Columbia. It was later introduced to Europe by its namesake, David Douglas, in 1817. The Douglas-fir has a straight trunk and a conical top until it reaches extreme heights where wind exposure causes breakage. Its soft, flexible evergreen needles and 2-to-3 inch leathery cones with prominent bracts can help to identify it. The higher branches of the Doug Fir point upward while lower branches bow. Also notable are its red male flowers and

green female flowers. This tree prefers moist soil but can adapt. It is commonly used as a Christmas tree and is also known as Oregon Pine, fitting because it is the Oregon state tree.

➤ *Range:* From British Columbia down the Pacific side of the Rocky Mountains and into California.

18. Rhododendron *Rhododendron spp.*

First classified by Linnaeus in 1753, the Rhododendron was likely referred to by Lewis and Clark as a Lorel existing near Fort Clatsop, their winter camp on the Pacific Coast, about five miles south of present-day Astoria. A large genus containing over 900 species, 20 of which grow in North America, the Rhododendron is characterized by its beautiful trumpet shaped flowers and its shiny evergreen leaves. The rhododendron is toxic to sheep but also contains certain medicinal properties. Ranging from small shrubs to trees up to 60 feet tall, these plants grow best with moist, well draining soil containing organics and acids.

➤ *Range:* Rhododendron are found in North America, Europe, and much of Eastern Asia.

19. Scarlet Oak *Quercus coccinea*

This species grows on a wide variety of soils and terrain, including sandy ridges and hillsides. This has enabled it to thrive in mixed forests throughout the east coast of North America and in Europe. Reflected in its name, the leaves turn a deep red in the autumn. The leaves cut sharply to the center, are bristle-tipped, and hold a deep green color in the spring and summer seasons. The glossier upper surface of the leaves is an important distinguishing difference from the similar Red Oak. Approximately an inch long, acorns from this tree are small. They are enclosed halfway by a cup with shiny scales and reach maturity after two years. The bark, while mostly smooth and dark gray, roughens closer to the stem. Though not the tallest oak, the Scarlet Oak can reach 80 feet when mature. Its timber is most often used for practical applications such as construction and shipbuilding.

➤ *Range:* Naturally found on the east coast of America from Georgia to Maine, and west to Mississippi and Indiana.

20. Japanese Flowering Cherry *Prunus serrulata*

A relatively large Asian cherry, this tree grows 15 to 20 feet high and has a more broad, spreading shape than most. Its leaves are ovoid, usually 2 to 5 inches long with serrated teeth on the edges. The new foliage is green becoming bronze and red in the fall. The flower buds are deep pink turning white when they open up into flowers ½ to 2½ inches in diameter. Not only attractive to humans, cherry trees are particularly susceptible to insects and diseases.

The smaller specimen located to your southwest on the steps near Templeton are grafted onto the trunks of Mazzard or Sweet Cherry (*Prunus avium*). This species is commonly used as a grafter because of its ornamental reddish-brown bark. It also produces dark wood that is often used to make valuable furniture.

➤ *Range:* Throughout the northern hemisphere, with particular abundance in Central Asia and Western China.

REFERENCES

- Ambrose, Stephen E. *Undaunted Courage*. New York: Simon and Schuster, 1996.
- Anzinger, Dawn, and Gail Wells. *Lewis and Clark Meet Oregon's Forests: Lessons From Dynamic Nature*. Portland: Oregon Forest Resources Institute, 2001.
- Baerg, Harry J. *How to Know the Western Trees*. Dubuque, Iowa: W.C. Brown Co, 1973.
- Beckham, Stephen Dow. *Lewis & Clark College*. Portland: Lewis & Clark College, 1991.
- Botkin, Daniel B. *Our Natural History: The Lessons of Lewis and Clark*. New York: Berkeley Publishing Group, 1995.
- Dirr, Michael A. *Dirr's Hardy Trees and Shrubs*. Portland: Timberland Press, 1997.
- . *Manual of Woody Landscape Plants*. Champaign, Ill.: Stipes Publishing, 1998.
- Discovering Lewis and Clark. www.lewis-clark.org.
- Fifer, B., and V. Soderberg. "Along the Trail with Lewis and Clark." Great Falls: Montana Magazine, 1998.
- Haney, Rich. *Sacajawea: Her True Story*. United States: Rich Haney, 1999.
- Hunsaker, Joyce Badgley. *Sacagawea Speaks: Beyond the Shining Mountains With Lewis and Clark*. Guilford, Conn.: Globe Pequot Press, 2001.
- J.P. Ronda. "Finding the West: Explorations With Lewis and Clark." Albuquerque: University of New Mexico Press, 2001.
- Johnsgard, Paul A. *Lewis and Clark on the Great Plains: A Natural History*. Lincoln: University of Nebraska Press, 2003.
- Link, Russell. *Landscaping for Wildlife in the Pacific Northwest*. Seattle: University of Washington Press, 1999.
- Montague, Martha Francis. *Lewis & Clark College, 1867-1967*. Portland: Binfords & Mork Publishers, 1968.
- More, D., and J. White. *The Illustrated Encyclopedia of Trees*. Portland: Timber Press, 2002.
- Patent, Dorothy Hinshaw. *Plants on the Trail With Lewis and Clark*. New York: Clarion Books, 2003.
- Phillips, Roger, and Martyn Rix. *The Botanical Garden, Volume 1: Trees and Shrubs*. Buffalo: Firefly Books, 2002.
- Phillips, Wayne, H. *Plants of the Lewis & Clark Expedition*. Missoula, Montana: Mountain Press Publishing Company, 2003.
- Reveal, James L., Gary E. Moulton, and Alfred E. Schuyler. *The Lewis and Clark Collections of Vascular Plants: Names, Types, and Comments*. Philadelphia: Academy of Natural Sciences of Philadelphia, 1999.
- Tribute to Evan Williams, www.lclark.edu/dept/esm/evan_williams.html.
- Wold, Eric A., and David P. Craig. *A Natural History Guide to the Lewis & Clark College Campus*. Portland: Mudflat Press, 1990.

