

American Lung Association of Washington

Big Ride Across America

**Background materials on people, places and things
to be encountered on the Big Ride Across America**

Introduction

These materials have been prepared by two 2007 Big Riders, Jay Carlson and Nick Fels, to provide background information and possible sources for further reading. The intent is to provide these materials to future Big Riders in advance of their trip across America to give them additional context on some of the people, places and things they might see on their splendid journey. These materials are of a general nature, and we suggest that you consult the suggested reading list or other sources for a more detailed and definitive treatment. For daily use on the Big Ride itself, Attachment A contains the 2007 itinerary with cross references to the 12 categories of topics covered by these materials. Finally, there are many fine historical markers and other sources of information along the route of the Big Ride, and they are well worth a brief visit.

November 2007

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1. Wildlife

There is a wide range of wildlife that Big Riders might encounter on their trip across America. Unlike a given historical spot or point of interest, your exposure to wildlife may come in any number of places. You will also see your share of roadkill along the way. We encourage you to be observant and to take the time to appreciate the diversity of wildlife that you will encounter.

I. Overview

This section lists the kinds of animals, birds and reptiles you may encounter. Parts II and III below discuss some specific forms of wildlife that you may see.

In terms of animals, you may see, among other things, the American badger, American beaver, bighorn sheep, bison, black bear, black-tailed prairie dog, coyote, elk, moose, mountain goats, muskrat, porcupine, pronghorn antelope, raccoon, red fox, striped skunk, white-tailed jackrabbit and white-tailed deer. In terms of birds, you may see, among other things, the American goldfinch, American white pelican, bald eagle, belted kingfisher, blue jay, Canada goose, great blue heron, great egret, great horned owl, mallard, peregrine falcon, osprey, red-tailed hawk, red-winged blackbird, sandhill crane and wild turkey. Finally, in terms of snakes, you may see a bullsnake, western garter snake or western rattlesnake. By the way, virtually all of the snakes you will see will be in the form of roadkill, since these snakes tend to use pavement as a place to warm up in the sun, with decidedly adverse consequences.

II. Some Specific Animals

The American beaver can be found along the many waterways passed by the Big Ride Across America. The beaver has particular historical significance, since much of the early exploration of North America was driven by the fur trading business, and beaver fur was a major part of that trade. Although beavers were almost eliminated at one point, their numbers in North America are now estimated at 10-15 million. Beavers subsist mainly on bark, twigs or the roots of water plants.

Bison, the largest terrestrial mammal in North America, likewise played a critical role in our history, first as a source of food and clothing for Native Americans and later for fur traders and explorers moving west. The Lewis and Clark Expedition in 1805-06 had reports of bison herds ranging as high as 10,000. Bison were hunted close to extinction in the 19th century, but have since rebounded. Herds of bison can now be found in western parks, such as Yellowstone National Park (in Montana and Wyoming), the National Bison Range (in Montana), and Custer State Park (in South Dakota and visited by the Big Ride on Day 19).

Black-tailed prairie dogs will be Big Riders' companion through much of Montana, Wyoming and South Dakota. You will see or hear hundreds of them along the way. Their colonies or "towns" will be obvious from the mounds used by the prairie dogs as observation posts as well as for entry into their underground tunnel system. A major challenge will be to get close enough for a photograph before the prairie dog disappears below ground. You will regularly hear their warning call, similar to the bark of a small dog, as they communicate with one another about the arrival of predators (*e.g.*, badger, eagle, fox, hawk) or curious Big Riders. Their diet consists primarily of grasses.

The black bear, the most common bear species in North America, may also be encountered, as was the case during a water stop on Day 8 in the Flathead Indian Reservation. The black bear's diet includes both plants and meats, but mainly herbs, nuts and berries.

Another Big rider companion will be the coyote. From time to time, you may hear their howl at dawn or dusk. You may also see them in the fields or more commonly as roadkill. They are plentiful in numbers and have now become residents in a number of metropolitan areas, including Washington, D.C. They eat other mammals, such as voles, cottontails, ground squirrels and mice.

The last animal to be featured in this section is the pronghorn antelope, the fastest mammal in North America (over 60 mph). Pronghorns live on both sides of the Rockies and can be seen grazing in the high plains. Their diet consists of various grasses and plants, and their numbers in North America exceed 500,000. The pronghorn was first "discovered" by the white man on the Lewis and Clark Expedition in 1805.

III. A Few Specific Birds

The American white pelican may be a surprise to some when found at a freshwater lake in an inland area of North America, but that is commonplace. You may see one on inland lakes or reservoirs, such as the reservoir passed on Day 10 between Missoula and Avon, Montana. These very large birds have a wing span of approximately 3 feet, have black wing tips on their white wings, and are very graceful in flight. Their diet consists mostly of carp, chubs, yellow perch, catfish and the like.

The great blue heron is likewise found in inland areas (as well as coastal areas), often wading along the edge of rivers, lakes or bays. It generally feeds in shallow water

and spears fish or frogs with its long bill. These birds are largely blue-gray, have a wing span of about 70 inches, and can be up to 54 inches from head to tail.

The great horned owl is a very large owl that is adaptable to a vast range of habitats. For example, the great horned owl has been seen in the Badlands National Park (Day 21 of the Big Ride). This bird has an average wingspan of almost 50 inches and an average length of 22 inches. Its diet includes rats, squirrels, weasels, hares, rabbits, and other birds (*e.g.*, coots, ducks).

A final example of a bird to look for is the sandhill crane, which has the oldest fossil history of any bird still in existence. The great sandhill crane can have a wingspan of 7 feet and reach almost 50 inches in length. They are found throughout North America, with a significant population in the Midwest. They are omnivorous, eating insects, aquatic plants and animals, as well as seeds and berries.

IV. Further Reading

For further reading, you may want to consult Long, [Backtracking Along the Lewis and Clark Trail](#) (2000); Fifer & Soderberg, [Along the Trail with Lewis and Clark](#) (1998); Sibley, [The Sibley Guide to Birds](#) (2000); Wikipedia Encyclopedia Website for beaver, bison, black bear, prairie dog, coyote, and pronghorn, as well as for American white pelican, great blue heron, great horned owl and sandhill crane.

2. Lewis and Clark Expedition

There are at least six places where Big Riders might want to contemplate the routes followed westward and eastward by Lewis and Clark in the years 1803-06:

(1) Crossing the Columbia River on Day 3 after leaving Vantage, Washington (lower

sections of the Columbia took Lewis and Clark to the Pacific Ocean); (2) paralleling the Blackfoot River after leaving Missoula, Montana, on Day 9 (Lewis followed the Blackfoot on his return trip eastward in 1806); (3) crossing of the Missouri River shortly before entering Townsend, Montana, on Day 11 (Lewis and Clark came along this stretch of the Missouri in June 1805); (4) crossing of the Yellowstone River after leaving Billings, Montana, on Day 15 (Clark used this stretch of the Yellowstone on his trip eastward in 1806); (5) crossing of the Missouri River, near Pierre, South Dakota, on Day 22 (Lewis and Clark crossed this section of the Missouri going westward in 1805 and eastward in 1806); and, (6) crossing the Ohio River near Pittsburgh on Day 42 (Lewis departed from Pittsburgh on the Ohio River on August 31, 1803, headed to St. Louis).

I. The Organization of the Corps of Discovery

Merriweather Lewis had served as the private secretary to President Thomas Jefferson before being named to lead the so-called Corps of Discovery. Jefferson's chief objective, never realized, was to find the Northwest Passage, a navigation link between the Atlantic and Pacific Oceans. Lewis, who held the rank of Captain in the Army, chose William Clark to be his co-leader, promising him the equal rank of Captain (which was not fulfilled until January 2001, when President Clinton promoted Clark to Captain). Clark was more skilled with boats and navigation, while Lewis was better at overall planning and as a natural historian. Fortunately, their joint leadership worked, and there is little evidence of conflict between them over the 1803-06 time period.

The Louisiana Purchase (which encompassed much of the lands to be traversed by Lewis and Clark) was completed on April 30, 1803. Lewis left Pittsburgh on a keelboat

on August 31, 1803, and was joined by Clark on October 15, 1803, downstream on the Ohio River. They assembled their team of fewer than 40 men, collected necessary supplies, and encamped near St. Louis for the winter. Congress appropriated \$2,500 to cover the cost of the Expedition, but Jefferson also gave Lewis a one-page letter pledging “the faith of the United States” to guarantee reimbursement of costs along the way (an early-day ATM card).

II. The Westward Expedition

The Corps of Discovery left St. Louis on May 14, 1804, and traveled upstream by raft on the Missouri River, reaching Fort Mandan (in today’s North Dakota) on November 2, 1804, and encamping there for the winter. Along the way, there was a confrontation between the Teton Sioux Tribe and Lewis, near present day Pierre, South Dakota, when he drew his sword as they drew their bows. Although this confrontation could have brought the Expedition to a complete standstill, it was resolved amicably with Clark’s intervention, and the Expedition continued its westward movement. A pivotal point in the winter stay at Fort Mandan was the hiring of a French Canadian interpreter, whose young bride was a Shoshone (Sacagawea). She would later prove critical in helping cross the mountains to the west.

Leaving Fort Mandan on April 7, 1805, the Expedition continued along the Missouri River until it encountered the Great Falls (in present day Great Falls, Montana). These Falls were impassable, and the Expedition had to portage around them over a 17-mile stretch. After passing the Falls, the Expedition headed south on the Missouri, past Townsend, Montana, before reaching Three Forks, the confluence of the three branches

that form the Missouri. The three branches were thereafter named after Jefferson (President), Madison (Secretary of State), and Gallatin (Secretary of Treasury).

From Three Forks, the Expedition headed upstream on the Jefferson towards the mountains. Now in Shoshone Country, Sacagawea would prove invaluable. The Expedition proceeded west, crossing the Continental Divide at Lemhi Pass (7,372 feet). The Corps eventually encountered the Shoshone, whose Chief was the brother of Sacagawea, and received critical supplies and support from the Shoshone. Having crossed the Continental Divide, they went downstream (on the Lemhi River, the Salmon River and the Bitterroot River) and eventually made a very difficult passage through the Bitterroot Mountains at Lolo Pass. They then followed various rivers westward, including the Clearwater River and the Snake River, before reaching the Columbia River on October 16, 1805, then proceeding downstream on the Columbia to Fort Clatsop on the Pacific Ocean, where they spent the winter from December 7, 1805, until March 23, 1806. (*See Attachment B hereto, a map from pp. 82-83 of Ambrose, Undaunted Courage (1996).*)

III. The Return Trip

The Expedition's return trip is noteworthy for Big Riders in at least two respects. Lewis and Clark split up upon reaching the Continental Divide before reuniting on the Missouri River in present-day North Dakota. Lewis followed the Blackfoot River (as does the Big Ride), through the highly dangerous Blackfoot Indian territory, and explored the Marias River before heading due east on the Missouri. There was one encounter with the Blackfoot that represented the Expedition's only "violent act." One of Lewis' men was struggling with a Blackfoot brave who was trying to steal a rifle. Before all was

done, one Blackfoot lay fatally stabbed and another was cut down by a shot from Lewis's gun. This single encounter only underscores how little violence the Expedition encountered, even though it crossed through the lands of almost 60 Indian tribes.

The other return passage of note is the eastward route taken by Clark on the Yellowstone River (beginning near Three Forks) and extending until the Yellowstone intersects with the Missouri in present-day North Dakota. As earlier noted, the Yellowstone cuts through Billings, Montana, and is crossed by the Big Ride on Day 15. The only physical mark left by the Expedition is found on Pompey's Pillar near Billings, where Clark carved his name on a sandstone outcropping on July 25, 1806.

By the time of their return to St. Louis, Lewis and Clark had covered 8,000 miles over a 28-month period and visited 11 of our states (the Big Ride will visit 12 states). While the objective of finding the Northwest Passage failed, the Expedition brought attention to the west and created an excitement about westward expansion that continued throughout the 1800s. The extensive journals of the Expedition provided a tremendous source of information about the western lands and their residents, as well as on their rivers, mountains, plant life, birds, and animals.

IV. Further Reading

Much has been written about the Lewis and Clark Expedition. If you are interested in more information, you might consider: Ambrose, Undaunted Courage (1996); Hall, I Should Be Extremely Happy in Your Company (2003); Fifer & Soderberg, Along the Trail With Lewis and Clark (1998); Moulton, The Journals of the Lewis & Clark Expedition (13 vols.) (2002); Ronda, Lewis and Clark Among the Indians (1984); Wikipedia Encyclopedia Website on Lewis and Clark Expedition.

3. Westward Expansion and the American Indian

In addition to sites related to the Lewis and Clark Expedition, Big Riders will encounter various locations featuring the American Indian and/or westward expansion. They include: (1) Thompson Falls, Montana and environs (areas traversed by the Canadian Explorer David Thompson and visited on Days 6 and 7); (2) the Flathead Indian Reservation (traversed on Day 8); (3) the Crow Indian Reservation (traversed on Day 16 and adjacent to the site of the 1876 Battle of Little Bighorn (see Topic 6)); (4) the Crazy Horse Monument (a site to visit on Day 20 (a rest day) and covered elsewhere under the heading of Mt. Rushmore and Crazy Horse Monuments (Topic 7)); and (5) New Ulm, Minnesota (Day 26), where part of the so-called Sioux Uprising of 1862 took place.

I. Explorer David Thompson

Canadian David Thompson has been described as the “greatest land geographer who ever lived,” having mapped over 3.9 million square kilometers of North America during the years 1792-1812. Some of Thompson’s surveys along the Missouri River were used during the Lewis and Clark Expedition.

In 1806, concerns about the Lewis and Clark Expedition caused Thompson’s employer (the North West Company) to task Thompson to find a route to the Pacific for the purpose of opening up trading territories in the Pacific Northwest. In the process, Thompson established various trading houses, including Kullyspell House on Lake Pend Oreille in Idaho (Day 6) and Sadeesh House on the Clark Fork River near Thompson

Falls, Montana (Day 7). In July of 1811, Thompson finally made it to Fort Astoria near the mouth of the Columbia River.

II. Fur Trading, the Oregon Trail and Manifest Destiny

The fur trade involved a range of animals, including beaver, muskrat, raccoon, fox, deer and buffalo. Indians, mountain men, explorers and early settlers traded the fur and hide from these animals. Fur traders and mountain men, such as David Thompson, were instrumental in the movement westward. Reports of the Lewis and Clark Expedition and other expeditions provided further momentum. The Astor Expedition in 1810 pursued a route that was south of the Lewis and Clark Expedition to avoid the Blackfoot Tribe. When returning, the Astor Expedition discovered the so-called South Pass through the Rocky Mountains in Wyoming, a wide and low path that could be used by wagons and was far more hospitable than the northern route through the mountains taken by Lewis and Clark.

As early as 1823, fur traders and explorers began to use the route of the Oregon Trail, taking advantage of the South Pass through the Rockies. The first organized wagon train on the Oregon Trail did not occur until 1842. With the prospect of free land in areas of present-day Oregon, the movement west began in earnest. With the discovery of gold in California in 1848, hundreds of thousands moved west. The Oregon Trail remained a popular route until superseded by the completion of the transcontinental railroad in 1869 (see Topic 4).

The Oregon Trail helped implement the doctrine of Manifest Destiny, a phrase coined by John O'Sullivan in 1845, embodying a belief that democracy and freedom, as embodied in the U.S. Constitution, should be spread across North America. The Oregon

Trail spanned over half the continent and encompassed land in six of our current states (Missouri, Kansas, Nebraska, Wyoming, Idaho and Oregon). Although Manifest Destiny marked a new beginning for many, it represented the beginning of the end for the freedoms enjoyed by many Native Americans.

III. Some of the Implications of Westward Expansion

While the early contacts with Native Americans were largely friendly and relatively harmless, as demonstrated by the peaceful passage of the Lewis and Clark Expedition through the lands of almost 60 Indian tribes, the situation changed over time. The introduction of various diseases killed up to 90% of the members of some tribes. With the increased population flow westward, the U.S. Army became the protector of white settlers, and the Indian tribes were forced to abandon the rivers and lands that sustained their way of life and eventually sent to far less desirable reservation lands. Events such as the Sioux Uprising of 1862, the first major military engagement between the U.S. Army and the Sioux, caused the Army to become all the more militant in its contacts with the Indians. The fighting between the Indians and the Army reached its peak during the years 1869-78, with over 200 major battles. The Battle of Wounded Knee in 1890 is considered by many to be the last battle of the so-called Indian Wars.

Life on the reservation has not been a success story for the American Indian, with roughly a third of Native Americans living in poverty and half of them unemployed. The Big Ride passes through two large reservations. The Flathead Indian Reservation, traversed on Day 8, is an area of about 2,000 square miles and has a population of over 25,000. The Crow Indian Reservation, traversed on Day 16, covers an area of approximately 3,500 square miles and has a population of almost 7,000.

IV. Further Reading

For further information on these topics, you may want to consider Ronda, Lewis and Clark Among the Indians (1984); McCart, Joyce and Peter, On the Road with David Thompson (2000); Hafen, Mountain Men and the Fur Trade, Vol. III on David Thompson at pp. 309-337 (1966); Smedley, Across the Plains in '62 (1916); Heidler & Heidler, Manifest Destiny (2003); Sides, Blood and Thunder, An Epic of the American West (2006); Wikipedia Encyclopedia Website on the topics of David Thompson, the Oregon Trail, Manifest Destiny, the Indian Wars, the Flathead Indian Reservation, and the Crow Indian Reservation.

4. Railroads and Rails-to-Trails

Much of the Big Ride route west of Chicago closely parallels or crosses active railroad routes. Trains, tracks, depots, and whistles form an integral part of the Big Rider's daily (and, in places, nocturnal) experience. Farther east, in Pennsylvania, Big Riders follow trails converted from rail to non-motorized recreational use under the national "Rail-to-Trail" program.

I. The Northern Pacific, the Great Northern, the CBQ, and the Milwaukee Road

Crossing Washington, Idaho, and Montana, Big Riders will frequently encounter rail lines originally owned by the Northern Pacific Railroad, or its competitor (and sometime collaborator) the Great Northern. They will also see abandoned right of way once owned by the Chicago Milwaukee, St. Paul and Pacific, the famed "Milwaukee Road." Farther east, in Illinois, the lines most commonly seen are those of the Chicago, Burlington & Quincy.

The Northern Pacific was chartered under legislation signed by President Lincoln in 1864 as the northern transcontinental railroad, to run from Lake Superior to Puget Sound. (Its counterpart to the south, the Union Pacific/Central Pacific line, running from Omaha to Sacramento, was already under construction.) Because of the panic of 1873 as well as the enormous engineering challenges of crossing the Rockies and Cascades, work on the Northern Pacific's main line, running between Duluth and Tacoma, was not completed until 1883. The Northern Pacific was famed for its development of powerful steam locomotives to surmount steep grades in the mountains.

Unlike the Northern Pacific, the Great Northern was built without government subsidies or land grants. The moving force behind the Northern Pacific was the "Empire Builder," James J. Hill. Arriving in St. Paul as an impecunious youth in the 1850's, Hill took various jobs in the river transportation and nascent rail businesses, gradually acquiring experience and wealth. In 1879, Hill became general manager of the moribund St. Paul, Minneapolis and Manitoba Railway, which ultimately became the Great Northern. His vision was to promote farming and business in the Northern tier territories surrounding the line and thus to create a market for its resources. Hill became an expert on advance farming methods such as soil conservation, which his railroad publicized and propagated. As completed in 1893, the Great Northern followed a route north of the Northern Pacific -- largely parallel to today's US Route 2 -- across the Cascades at Stevens Pass to reach Seattle.

The Milwaukee Road (formerly the Chicago, Milwaukee, St. Paul and Pacific Railroad) was the last of the major lines to be built from the Midwest to the Pacific. Construction began in 1906 and was completed in 1909. The line was distinctive for its

extensive reliance on electrification. Making use of copper mined in Montana and the Northwest's abundant hydroelectric resources, it electrified the segment between Harlowton, Montana (a Big Ride stopover on Day 12) and Avery, Idaho in 1914; other segments followed. The Milwaukee Road was also distinctive in the design of its stations, which often included Italianate towers. (See, for example, the station at Missoula, another Big Ride stopover on Day 9.) Unable to compete with the expanded Burlington Northern (see below), the Milwaukee Road abandoned most of its operations in 1980.

The Chicago Burlington & Quincy ("CBQ") began in Illinois in 1847. In the late 19th and early 20th century, largely led by Boston capitalists, the railroad expanded as far west as Denver. To obtain direct access to Chicago and St. Louis, the Northern Pacific and the Great Northern jointly purchased the CBQ in 1901. Those lines, in turn, along with the Soo Line, were merged with the CBQ in 1970 to form the Burlington Northern. The Burlington Northern acquired the Atchison, Topeka and Santa Fe in 1995 to form today's Burlington Northern Santa Fe ("BNSF"), which, with the Union Pacific, is one of the two large railroads now operating west of the Mississippi.

II. Coal and the Powder River Basin

Railroad activity along the Big Ride reaches its zenith in the Powder River Basin in Wyoming, which includes the Big Ride stopovers at Sheridan (Day 16), Gillette (Day 17), and Newcastle (Day 18). The Basin is largest coal-producing region in the United States, accounting for more than 25 percent of the Nation's production. Powder River coal is particularly valued for its low sulfur and ash content, and used extensively by power plants east of the Rockies. More than 80 trainloads of coal, normally consisting of

125-150 cars each, are shipped from Wyoming mines every day. The BNSF and Union Pacific currently serve the region, but the Dakota Minnesota & Eastern -- which Big Riders will see and hear in Rapid City -- has obtained the necessary federal authorizations to extend its line into the Basin. Coal accounts for about 20 percent of the overall revenue of the two large western railroads, the BNSF and the Union Pacific, and more than 25 percent of the revenues of the two large eastern railroads, the CSX and the Norfolk Southern.

III. Rails-to-Trails

The route of the Big Ride on Days 43 and 44 includes approximately 84 miles between West Newton and Meyersdale, Pennsylvania, on the Youghiogheny River Trail (“YRT”). The YRT is a verdant, evenly graded, limestone-surfaced trail that occupies the former right-of-way of the Western Maryland Railroad along the banks of the Youghiogheny River and its tributary, the Casselman. The stopover at Confluence, as well as the scenic town of Ohiopyle, lie along this segment of the Ride.

The YRT is a section of the 132-mile Great Allegheny Passage (“GAP”), running from Pittsburg south to Cumberland, Maryland, where it connects with the 184-mile Chesapeake & Ohio Canal towpath that terminates in Washington, D.C. Completed in 2006, the GAP is part of the nationwide rails-to-trails network that now includes some 13,000 miles of abandoned or unused railroad right-of-way converted to recreational use. The rail-to-trail movement began in the 1960s, primarily in the Midwest. Under the National Trails System Act, enacted in 1983, railroads can allow local trail agencies to use out-of-service rail corridors for recreational use without having the land revert to adjacent landowners, as it typically would absent the legislation. Some 4,400 miles of

right-of-way have been converted to trails under this legislation. Additionally, converting rail corridors to recreational use is eligible for 80 percent federal funding under the Transportation Enhancement program administered by the U.S. Department of Transportation. The leading advocacy organization for the Rails-to-Trails movement at the national level is the Rails-to-Trails Conservancy.

IV. Further Reading

A good, and colorful, description of the development of U.S. railroads appears in Stewart Holbrook's The Story of American Railroads (1947). Most of the information above was drawn from the following Internet sources. Those sources also contain citations and references for further reading.

Northern Pacific: <http://www.nprha.org/>

Great Northern: http://www.gnrhs.org/gn_history.htm

Milwaukee Road: <http://www.psmre.org/hist-milw.htm>

Burlington Northern: <http://www.bnsf.com/aboutbnsf/history/bn.html>

Powder River Basin: <http://smtc.uwyo.edu/coal/WyomingCoal/mines.asp>

Rails to Trails: <http://www.railtrails.org/whatwedo/railtrailinfo/history.html>

Union Pacific/Central Pacific: Ambrose, Nothing Like It in the World: The Men Who Built the Transcontinental Railroad (2001).

5. Gettysburg, Monocacy, and the Civil War

On Day 45, Big Riders will enter Gettysburg from the west, and on Day 46, a rest day, will have a chance to tour the Civil War Battlefield. Day 47 will bring them to the site of another important Civil War engagement on the banks of the Monocacy River.

I. Gettysburg

A. The Battle

Fought over three days at the beginning of July 1863, the battle of Gettysburg is generally regarded as the turning point of the Civil War. In May 1863, the Confederate Army of Northern Virginia under Robert E. Lee had defeated the Union Army of the Potomac at Chancellorsville, Virginia, albeit with enormous losses (including Stonewall Jackson, shot, in error, by Confederate troops). On the heels of that victory, Jefferson Davis proposed that Lee proceed west to attack Ulysses S. Grant's troops then laying siege to Vicksburg on the Mississippi River. Lee argued, successfully, for an alternative plan: An invasion of the North with the goal of demoralizing the Northern population, encouraging "copperhead" sentiment for peace, eliciting recognition of the Confederacy by Britain and France, and securing much-needed supplies. Lee believed that his army was far superior in skill and morale, if not numbers, to its Union counterpart, now commanded by General George Meade.

Gettysburg lay then (as now) at the junction of roads from all directions. It was also the site of a shoe factory coveted by the Confederates. For that reason, after crossing the Potomac and occupying York and Carlisle, Pennsylvania in late June, the Confederates sent troops under General A.P. Hill to seize the town. The Confederate force of 24,000 met a Union force of 19,000 north and west of Gettysburg and, on July 1, succeeded in driving the northerners south and east through the town to Cemetery Ridge, a fishhook-shaped ridge, the "shank" of which runs generally north-south, with the curved "hook" at the north end.

The remainder of Lee's forces converged on Gettysburg later that day. So too, however, did the larger Union forces under Meade, who proceeded to entrench themselves and their artillery on the high ground along Cemetery Ridge.

Although urged by General James Longstreet to bypass the Union army and advance southeast on Washington, Lee chose to attack the following day, believing that a decisive victory would demoralize his foe. On the afternoon of July 2, Longstreet's forces assaulted Little Round Top, to the south, which, due to the blundering of a Union general, had initially been left unguarded. Meade succeeded in filling the breach and, and in some of the bloodiest fighting of the war, much of it at close range in a peach orchard, Union forces stymied Longstreet's attack. Each side suffered some 9,000 casualties on that day.

Undeterred, Lee planned another assault for July 3. Believing the Union center to be weakened, he ordered a direct attack on that part of the line by troops under Longstreet, a flanking attack to the south by Jeb Stuart's cavalry, and a pincer-like attack by General Richard Ewell on Culp Hill, at the north of the fishhook-shaped ridge. Perceiving the strength of the Union position, Longstreet, again advised unsuccessfully against the attack.

At about 1:00 p.m., the Confederate artillery began a bombardment of Union forces that lasted for two hours and reportedly was heard as far away as Pittsburgh. At about 3:00 p.m., Longstreet's attack began, led by a Virginia battalion under the command of the flamboyant George Pickett. The mile-wide Confederate line had advanced to about 200 yards from the Union positions when the Union infantry and artillery opened fire, with withering effect. Union forces also advanced on the

Southerners' flanks. In less than an hour, the Confederate charge collapsed, and its troops fell back. Of the 14,000 men who had advanced, barely half survived; Pickett's division lost two-thirds of its men. Stuart's cavalry attack to the south was thwarted, thanks in part to the heroism of George Armstrong Custer's troops (see Topic 6), as was Ewell's assault on Culp Hill.

Although his enemy was in disarray, Meade chose not to counterattack, a decision that was later much debated. Lee, recognizing the magnitude of the defeat and the precarious nature of his position, began his withdrawal to Virginia the following day. The three-day toll had been enormous: 28,000 casualties for the South, 23,000 for the North.

Although the war would continue for almost two years, Gettysburg together with the fall of Vicksburg to Grant on July 4, was recognized as the decisive turning point. It eliminated Southern hopes of foreign recognition, severely depleted the Confederate Army, rallied morale in the North, and correspondingly dimmed hopes for victory in the South.

B. The Gettysburg Address

President Lincoln journeyed to Gettysburg on November 19, 1863 to dedicate the cemetery built there for the Union dead. Contrary to what most of us were taught, he wrote the speech at the White House, not on the back of an envelope while on the train en route from Washington. The cemetery, and the spot where Lincoln spoke (for two minutes after the preceding speaker, Edward Everett, had gone on for two hours) , are directly in front of the current National Military Park Visitor Center. (Note: A new

Visitors Center is under construction about a mile from the present one and scheduled to open in the spring 2008.)

C. Touring the Battlefield

The battlefield at Gettysburg can be toured by bus, by car, by foot, or, for those Big Riders who just cannot get enough, by bicycle. A good way to begin a visit, regardless of how (or whether) one chooses to tour the field, is to see the “Electric Map” exhibit at the Visitor Center, which vividly depicts the changing positions of the armies during the three-day battle. Tour maps for cyclists, walkers, and motorists are available at the Center. Guided bus tours leave from the Visitor Center and also from various points in the town of Gettysburg and its environs. The new Visitor Center will also feature the “Gettysburg Cyclorama,” a gigantic depiction by French painter Paul Philippoteaux (and his assistants) of Pickett’s charge. The Cyclorama is four stories high, more than a hundred yards long, and consists of 14 separate panels, each weighing 950 pounds. Originally painted in 1883-84, the Cyclorama has recently been restored at a cost of \$11.2 million.

D. Eisenhower Farm

Adjacent to the battlefield at Gettysburg are the home and farm that President Dwight D. Eisenhower purchased in 1950, and lived in after his retirement from office in 1961 until his death in 1969. Guided tours of the Eisenhower farm leave from the National Military Park Visitor Center.

II. Monocacy Battlefield

The Monocacy National Battlefield is located adjacent to Route 355, which the Big Ride follows on its way toward Clarksburg, Maryland on the next-to-last day of the trip. The Visitor Center is located about 4.5 miles northeast of Route 355.

In June 1864, less than a year after Gettysburg, General Jubal Early led a force of some 15,000 Confederate troops north through the Shenandoah Valley, with an eye toward capturing Frederick and then advancing on Washington. Union defeats at Lynchburg and Lexington, further south in the Valley, cleared the way for the advance. On July 9, 1864, Early's troops met a force of some 6,800 Union soldiers commanded by General Lew Wallace (who later wrote "Ben Hur"). The Union force was compelled, after repeated Southern attacks, to withdraw toward Baltimore, but its stiff resistance to a much larger force exhausted Early's troops and allowed the Union to reinforce defensive positions around Washington.

III. Further Reading

An excellent general account of the Civil War may be found in James McPherson's Battle Cry of Freedom (1988). For further information on the Gettysburg and Monocacy battlefields, see the National Park Service website, www.nps.gov.

6. George Armstrong Custer

On Day 16, Big Riders will pass within a few miles of the Little Bighorn Battlefield in south-central Montana, site of "Custer's Last Stand." Either on that day or on the previous day (an off-day in Billings, Montana), they will have an opportunity to tour the battlefield and learn more about the tumultuous life of General George A. Custer.

Again, as they traverse Custer, South Dakota, on the route of the Custer Expedition (Day 19), and on the battlefield at Gettysburg (Day 46), they will be reminded of Custer's exploits and legacy.

I. Custer's Life

Custer was born in New Rumley, Ohio in 1839. His father, a blacksmith and farmer, was of German stock; his mother was of English descent. Custer grew up in Michigan and, after graduating from a teacher's college at the age of 16, taught school in Ohio. There is some suggestion that his appointment to West Point resulted from the efforts of an influential resident who wanted to get Custer away from his daughter.

Custer did not distinguish himself at West Point, graduating last in his class. Shortly after graduation, he was court-martialed for failing to stop a fight between two cadets and spared punishment only because of the pressing need for officers created by the onset of the Civil War.

In contrast, Custer compiled a lustrous record in the Civil War. Commissioned as a second lieutenant in the U.S. Cavalry, Custer carried messages from Commander of the Army Winfield Scott to Major General Irvin McDowell at the First Battle of Bull Run. During the Peninsular Campaign in May 1862, Custer led an attack that captured 50 Confederates, thereby coming to the attention of General George McClellan; he also successfully cultivated a relationship with Major General Alfred Pleasanton of the Cavalry. Flamboyant in dress, Custer displayed courage in his aggressive leadership of his cavalry unit and, three days before the Battle of Gettysburg, was promoted to brevet brigadier general, making him, at least temporarily, a general at the age of 23. Custer distinguished himself at Gettysburg, personally leading a cavalry charge and helping to

turn back a cavalry assault on the Union rear by Jeb Stuart; his unit's losses, however, were the highest of those of any Union cavalry brigade. Custer subsequently served under General Philip Sheridan, who had become Commander of the Army of the Potomac, in the Shenandoah Valley Campaign of 1864, at the Siege of Petersburg, and at Appomattox Court House. Like his predecessors, McClellan and Pleasanton, Sheridan was favorably impressed. Indeed, in recognition of Custer's role, Sheridan bought, and gave to Custer, the table at which the Appomattox surrender had been signed.

After the Civil War, the Army's primary attention turned to the West, and to driving American Indians off the lands that they had allegedly surrendered by treaty. Custer, whose rank had, as a result of the War's end, reverted to captain, initially considered an offer from the Mexican leader Benito Juarez to join the Mexican Army, but was forbidden to do so by Secretary of State Seward. He also considered a run for Congress and toured the South with President Andrew Johnson in support of Johnson's relatively tolerant policies toward the former Confederacy.

Ultimately, Custer accepted a position as Lieutenant Colonel with the Seventh U.S. Cavalry stationed at Fort Riley, Kansas, and in 1867 participated in an unsuccessful campaign against the Lower Cheyenne tribe. He was court-martialed (again) for having abandoned his post to visit his sick wife, at Fort Riley and suspended from duty for one year. In 1868, his former commander General Sheridan cut short the suspension and selected Custer to lead another campaign against the Cheyenne in present-day Oklahoma. At the Battle of Washita (sometimes called the "Washita Massacre") in November 1868, Custer successfully attacked an encampment of Indians led by Cheyenne Chief Black-

Kettle. The Indian losses included women and children, and Custer's claims as to the number of warriors killed were apparently exaggerated.

Sent to the Northern Plains in 1873, Custer participated in small skirmishes with the Lakota. In 1874, he led a reconnaissance expedition through the Black Hills of the Dakota Territory on which gold was discovered. (That expedition traversed present-day Custer, South Dakota, which Big Riders will pass through on Day 19.) The Gold Rush that followed triggered Indian attacks on prospectors, railroad workers, and settlers.

In March 1874, Custer testified before Congress on corruption in the Indian Service and, for that, was temporarily suspended by President Grant. The popular reaction in support of Custer led to his reinstatement.

II. Battle of Little Bighorn

In late 1875, faced with increased Indian hostility arising from the Black Hills gold rush, the U.S. government set a deadline of January 31, 1876 for Lakota Sioux and Northern Cheyenne to return to their designated reservation lands or be considered "hostile." On May 17, 1876, the Seventh Cavalry, led by General Albert Terry and including a force commanded by Custer, moved westward to enforce that dictate. Meanwhile, under the leadership of Sitting Bull and Crazy Horse, the Lakota Sioux, Northern Cheyenne, and Arapahoe tribes encamped near the Little Bighorn River in what is now south-central Montana to discuss strategy.

In advance of the main body of the Seventh Cavalry, Custer (with the help of Crow Indian scouts) detected this encampment on June 24, 1876. Rather than awaiting the larger force under Terry, Custer decided to attack the next day. Custer divided his troops into three groups and led one group of about 200 men northward to the east of the

encampment. When a second group, led by Major Marcus Reno, attacked from the south, the tribes responded and drove Reno's forces back with large losses. The Indians, led by Crazy Horse and White Bull, also discovered, and attacked, Custer's own group, forcing it onto a ridge east of the Little Bighorn River. Custer's force was overwhelmed, and all of its men were killed. Among the dead were Custer's two brothers.

Ultimately, the recalcitrant Indians were forced onto the reservation lands. Spurred on by his widow Elizabeth, who survived him by 57 years, Custer's reputation for bravery grew and flourished after his death, offset in recent years by the growing recognition of his lust for publicity and his tactical blunders at Little Bighorn.

III. Visiting the Little Bighorn Battlefield National Monument

The Little Bighorn Battlefield Visitors Center is approximately 65 miles southeast of Billings via I-90 and State Route 212. Car rentals are available at the Billings airport.

IV. Further Reading

Stephen Ambrose, Crazy Horse and Custer: The Parallel Lives of Two American Warriors (1996);

Jay Monaghan, The Life of General Armstrong Custer (1971);

www.pbs.org/weta/thewest/people/a_c/custer.htm;

en.wikipedia.org/wiki/george_armstrong_custer.

7. Mount Rushmore and Crazy Horse Monuments

On Day 19, the Big Ride leaves Newcastle, Wyoming, crosses the Wyoming-South Dakota border and the southern part of the Black Hills, and proceeds northward into Rapid City. The following day is a rest day in Rapid City. Either by a somewhat demanding detour on Day 19, or by a more leisurely excursion (car or bike) on Day 20,

Big Riders will be able to visit two massive monuments carved into Black Hills mountainsides: Mount Rushmore and Crazy Horse.

I. Mount Rushmore

Mount Rushmore National Memorial is located in the Black Hills National Forest, approximately 20 miles northeast of Custer, South Dakota (through which the Big Ride passes on Day 19) and about 20 miles southwest of Rapid City. By detouring north on U.S. Highway 385/16 Custer, and then east on State Route 244, Big Riders can reach Mount Rushmore on their way to Rapid City on Day 19. Alternatively, they can reach the Memorial from Rapid City on Day 20 by proceeding south on U.S. 16 to Keystone and then west on State Route 244. Rental cars are available at the Rapid City Airport.

A. The Memorial

Mount Rushmore National Memorial features the monumentally-scaled faces of Presidents Washington, Jefferson, Theodore Roosevelt, and Lincoln carved into the mountain side. Each head is approximately 60 feet high, roughly equal to a six-story building. The rock from which they were carved is primarily old granite and even older metamorphic rock. The erosion rate is unhurried: Approximately one inch every 10,000 years, so the faces, for better or worse, will be around for awhile. In addition to the carved mountainside, the National Memorial includes the studio of Gutzon Borglum (see below), a visitor's center describing the history of the project, and an avenue featuring the flags of all of the states.

B. History

South Dakota's State Superintendent of History, Doane Robinson, conceived the idea of the Mount Rushmore Memorial for the unabashed purpose of promoting tourism.

In August 1924, he wrote to Gutzon Borglum, a well-known sculptor, about the opportunity for “heroic sculpture of unusual character” in the Black Hills, and asked whether Borglum would be interested in designing and supervising a “massive sculpture” there.

The idea of a “massive sculpture” of heroic figures in a mountainside was not new to Borglum. He had previously undertaken a monumental carving at Stone Mountain, Georgia depicting Jefferson Davis, Robert E. Lee, and Stonewall Jackson leading a column of Confederate troops (a project from which he had been already dismissed, unbeknownst to Robinson, when Robinson contacted him about Mount Rushmore). Born in Idaho in 1867 of Danish immigrants, Borglum had studied in Europe and, after returning to the U.S., gained prominence with sculptures of General Philip Sheridan, Pickett’s Charge, and Abraham Lincoln. He also became involved in public affairs, campaigning for Roosevelt in 1912, and being appointed by President Wilson during the First World War to investigate the aircraft industry. Contemporary accounts describe Borglum as headstrong and temperamental. Borglum’s sculpture of Lincoln led to the Stone Mountain commission, which in turn prompted Robinson’s letter concerning a possible project at Mount Rushmore.

Legislation passed by Congress in 1925 authorized the carving, of a “memorial in heroic figures commemorative of our national history and progress” in the federally-owned Harney National Forest, but provided that none of the cost was to be borne by the federal government. The project was dedicated by Calvin Coolidge in 1927, but Borglum’s promise that private sources would fund the project soon proved inaccurate. After Borglum had enlisted the support of Coolidge’s Treasury Secretary, Andrew

Mellon, the federal government undertook, in 1927, to provide matching funds of up to \$250,000. President Hoover was less supportive, and, by trying to force his way into the White House to see the President, Borglum almost thwarted the plans of South Dakota Senator Williamson to obtain additional federal funding. Ultimately such funding became available and the project was completed in October 1941. While it was under construction, Borglum frequently came into conflict with the National Park Service and members of the federal commission appointed to oversee the project. He died March 1941, a few months before its completion.

More than 3,000,000 people now visit Rushmore each year. Many moviegoers recall it vividly as the site of the climatic moments of Alfred Hitchcock's 1959 thriller, "North by Northwest," with Cary Grant grasping Eva Marie Saint by the wrist as she dangles on the side of the mountain.

II. Crazy Horse Memorial

The Crazy Horse Memorial is located on U.S. Highway 16/385, about 17 miles from Mount Rushmore. It can be reached from Custer by turning north on U.S. Highway 16/385. Coming from Mount Rushmore, Big Riders can proceed west on State Route 244 and south on U.S. Highway 16/385.

The Crazy Horse Memorial was conceived as a monument to the culture and tradition of American Indians. It consists not just of the (partially completed) carving, a massive depiction of Chief Crazy Horse, leader of the Lakota Tribe (see Item on General George Custer) on horseback, but also a museum complex with artifacts and crafts from numerous tribes. The Memorial is owned and operated by a non-profit foundation. It does not accept government funds.

The statue of Crazy Horse was designed by Korczak Ziolkowski. Born and raised in the Boston area in 1908, Ziolkowski was self-taught as an artist. He had some early success as a sculptor, bringing him to the attention of Gutzon Borglum (see above), who asked him to assist at Mount Rushmore. That in turn prompted Lakota Chief Henry Standing Bear to contact Ziolkowski about a mountainside carving of Crazy Horse in the Black Hills. That project was interrupted by the Second World War, but after the war (having been wounded at Omaha Beach), Ziolkowski moved to the Black Hills and dedicated the rest of his life to the Crazy Horse project. The actual carving of the mountainside began in 1948 and continues today. Ziolkowski died in 1982, but his wife Ruth, and several of their children (they had 10 in all), maintain leading roles in managing the project.

Standing Bear said that he chose the Black Hills for the Crazy Horse Memorial because the land was sacred to the Lakotas (and not in an effort to upstage -- or exploit -- nearby Mount Rushmore as a tourist attraction). Since there are no photographs of Crazy Horse, the statue is not a likeness. To date only a fraction of the Crazy Horse sculpture, mainly the face, has been completed. The face alone is 87 feet high. When finished, the sculpture will depict Crazy Horse, seated on a horse, with one arm pointing forward. The entire statue will be 641 feet long and 563 high. (By way of comparison the Washington Monument is 555 feet in height). The horse's head, currently being carved, will be 219 feet.

The Indian Museum of North America, located near the Crazy Horse carving, was designed and built by Ziolkowski and opened in 1973. In addition to artifacts donated by

various tribes and individuals collectors, it also houses an exhibition of photographs showing Native American life in the 19th and early 20th centuries.

It should be noted that some Native Americans have opposed the memorial. Russell Means compared it to carving up a mountain in Israel: “an insult to our entire being.” And a Lakota medicine man called it “a pollution of the landscape . . . against the spirit of Crazy Horse.”

III. Further Reading and Information

More information on Mount Rushmore can be found at: www.nps.gov; or www.pbs.org/wgbh/amex/rushmore. To find out more about the Crazy Horse Memorial, you might try: www.crazyhouse.org; ; www.travelsd.com.

8. The Amish and Mennonites

Big Riders may encounter the Amish or Mennonites in a number of states, but particularly in Indiana (Day 36) and in Ohio (Days 39 - 41). You may see them riding in horse-drawn buggies, selling fruits and pies at stands along the way or working in restaurants, laundries and the like in towns such as Burton, Ohio (Days 39 - 40). The Amish and Mennonites are quite friendly and pleasant, but Big Riders are urged to avoid taking photographs of them, as that is contrary to the strict beliefs of the more conservative Amish and Mennonite groups.

I. The Mennonites

The Mennonites are a group of Christian Anabaptist denominations that date from the 16th century and are named after Menno Simons. They began in the German and

Dutch-speaking parts of Europe. There are now approximately 1.5 million Mennonites throughout the world, with around 500,000 in North America.

The Amish movement is the result of a split from the Mennonite Church led by Jacob Amman in 1693. After unsuccessful attempts to reform the Mennonites, Amman led a new movement that became known as the Amish (discussed in Part II, below).

To avoid persecution in Europe and to find employment, Mennonites began emigrating to the United States in the late 17th century. Over time, there have been many splits within the Mennonite Church, and there is a significant variation in the doctrine and traditions of Mennonites. For example, the Stauffer Mennonites are the most conservative form of the so-called Horse and Buggy Mennonites and adhere strictly to separation from the normal world of cars, dress and technology. The Conservative Mennonites maintain conservative dress but carefully choose among available forms of technology. The Old Order Mennonites can vary from those who use the horse and buggy and speak German to those who drive cars and speak English. Moderate Mennonites, the largest denomination, have no special form of dress and use modern technology.

With the range of Mennonite groups, it is difficult to generalize, but on the whole the Mennonites are less strict and more amenable to the use of modern technology than the Amish. A number of Mennonite groups have their own schools, colleges and seminaries and encourage higher education. In recent years, some Mennonite groups have become actively involved in issues related to peace and social justice.

II. The Amish

The Amish are the people that are most often associated with a strict dress code and the avoidance of modern conveniences (*e.g.*, cars, electricity, telephones). But even then, generalizations can be off the mark. The Old Order Amish embrace what most people consider the “Amish” and have over 200,000 members in the United States, with the State of Ohio having the largest population, followed by Pennsylvania and then Indiana. The New Order Amish and Beachy Amish are less strict in their rules and traditions. We will focus on the more traditional Old Order Amish.

The Old Order Amish (hereafter, the Amish) do not have churches, but instead have services in private homes every other Sunday. The Amish are baptized as adults once they decide to join the faith on a formal basis. Two critical concepts in understanding the Amish are their rejection of characteristics such as pride and arrogance (*Hochmut*) and their embrace of the characteristic of humility (*Demut*). As a result, the Amish have a strong group orientation and reject an orientation based on competition, self-reliance and individualism. They generally attempt to separate from the outside world to the fullest practicable extent, preferring to work at home and on the farm. However, recognizing that economic pressures may require work in factories, stores and the like, the concept of separation is a somewhat flexible one. This flexibility is also found in areas such as transportation, allowing the Amish to hire drivers and vans for certain needs and even condoning the use of regular bus service in some communities.

The Amish speak a German dialect (*Deutsch*) in their homes, but also learn English. The Amish educate their children through eighth grade in their own schools, and most Amish do not go to high school or college. Aside from their use of horse-drawn

buggies, the dress of the Amish is perhaps their most distinctive feature. Women usually wear long dresses, aprons and black bonnets. Men wear black suits and flat-brimmed hats of felt or straw. Married men grow beards, but shave their mustaches.

The Amish are hard-working people, treat others very politely, and are a pleasure to be around. In this day and age of high technology, rugged individualism and impatience, it is truly inspiring to be around a people who are so comfortable with, and devoted to, their own simple way of life and who are able to interact with the outside world in such a reasonable and welcoming fashion.

III. Further Reading and Information

For further reading and information, consider the following: Kraybill and Bowman, On the Backroad to Heaven: Older Order Hutterites, Mennonites, Amish and Brethren (2001); Smith, Smith's Story of the Mennonites (1981); Hostetler, Amish Society (1993); Kraybill and Olshan, The Amish Struggle with Modernity (1994); website of Pa. Dutch Country Welcome Center (PaDutch.com); Wikipedia Encyclopedia Website on the Amish and the Mennonite; Witness, a mid-1980s movie starring Harrison Ford and Kelly McGillis.

9. Bob Marshall Wilderness and Other Federal Lands and Irrigation Projects

The Big Ride passes by the Bob Marshall Wilderness Area on Day 9 and traverses or comes near a number of National Forests, including the Wenatchee National Forest (Day 1), the Kootenai National Forest (Day 7), the Bighorn National Forest (Day 16), and the Black Hills National Forest (Day 19). It passes through the Badlands National Park on Day 21. There are also a number of other Federal properties covered under separate

topics (Little Bighorn Battlefield, Topic 6; Mt. Rushmore, Topic 7; Gettysburg and Monocacy Battlefields, Topic 5). Finally, the Big Ride comes near a number of significant federal irrigation projects, including the Columbia Basin Project in the State of Washington. We will feature that project and Grant County (Day 3) in Part IV, below.

I. Bob Marshall Wilderness

The U.S. Congress designated the Bob Marshall Wilderness under the Wilderness Act of 1964. It is named after Bob Marshall, the co-founder of the Wilderness Society, who died at the age of 38 after a distinguished career as a conservationist and forester.

Along with the Scapegoat and Great Bear Wilderness Areas, the three areas now make up the so-called Bob Marshall Wilderness Complex, extending into four National Forests (Lolo, Flathead, Helena and Lewis & Clark) and totaling 1,535,352 acres. The “Bob,” as it is known to some, ranges in altitude from 4,000 to over 9,000 feet and has remarkable waterfalls, lakes and dense forests. In addition to moose, elk, black bear, mountain goat, bighorn sheep, wolverine, mountain lion, lynx and wolf, the Bob reportedly has the highest population density of grizzly bear of any location in the lower 48. Wilderness areas are important because of their prohibition on the construction of new roads or structures and on the use of vehicles and other mechanical equipment.

II. National Forests

As already noted, the Big Ride will traverse a number of National Forests, including the Wenatchee, Kootenai, Bighorn and Black Hills National Forests. These lands are managed by the National Forest Service, an agency within the Department of Agriculture. Generally speaking, permits are not required to camp on Forest Service lands, unless the lands are part of a designated Wilderness Area, in which event a

Wilderness Visitor's Permit is required. Reservations are required for Forest Service lodging facilities, such as cabins and lookout towers, and can be arranged online at www.fs.fed.us/recreation/reservations.

The Wenatchee National Forest will stick in your mind because it serves as your passage through the Cascade Mountains on Day 1. The Kootenai National Forest will welcome you to Montana on Day 7. The Bighorn National Forest will welcome you to Wyoming on Day 16. The Black Hills National Forest will greet you on your arrival in South Dakota on Day 19.

III. Badlands National Park

The Badlands National Park (Day 21) is managed by the National Park Service, an agency within the Department of Interior, and contains almost 250,000 acres of incredible buttes, spires and pinnacles interspersed with a large area of grass prairie. The Park contains fossil beds dating from 25 to 35 million years ago. The Park includes a Badlands Wilderness area that is being used to reintroduce the most endangered land mammal in North America (the black-footed ferret). The Park also has a population of bison, bighorn sheep, and swift fox. The Badlands have unpredictable weather temperatures, ranging from -40° F to 116° F. The Big Ride should expect temperatures in the high end of that range. The 1990 Kevin Costner movie, *Dances with Wolves*, will give you a good feel for what you will experience in the Badlands, as well as in succeeding days.

IV. Federal Irrigation Projects

The National Reclamation Act of 1902 was passed to encourage settlement in the West by converting arid federal lands into productive agricultural lands. Over time, the

Bureau of Reclamation, an agency within the Department of Interior, has overseen the construction and management of major public works projects, including the Hoover Dam, Shasta Dam and the Grand Coulee Dam as well as related irrigation projects. Today, approximately 330 dams, reservoirs and dikes are employed to irrigate about 4,000,000 acres of land in 17 Western states. U.S. taxpayers continue to cover the so-called interest subsidy (interest-free repayment of the substantial capital costs incurred in building these facilities over the last century).

Although you will see irrigation projects at work in various Western states (*e.g.*, Washington, Montana, South Dakota), we will feature Grant County and the Columbia Basin Project. Construction of the Grand Coulee Dam was begun in 1933 and completed in 1942. At the time, it was the largest dam in the world. By 1950, the Columbia Basin Project was the largest single reclamation project in the U.S., with about 2,300 miles of canals and laterals and about 3,200 miles of drains and wasteways. At present, the Project serves over 550,000 acres and approximately 6,000 farms.

Fertile soil and abundant water resources have made Grant County (Day 3) a rich agricultural center for fruits and vegetables. Indeed, Grant County produces more potatoes than any other county in the entire U.S.

V. Further Reading

For further information, you may want to consult the National Forest Service website (www.fs.fed.us), the National Park Service website (www.NPS.gov) or the Wikipedia Encyclopedia website on the above-mentioned national forests and the Badlands National Park. You may also want to consider Molvar, Hiking Montana's Bob Marshall Wilderness (2001) and Cerney, Badlands National Park (2004). Finally, with

respect to Grant County and the Columbia Basin Project, you may want to consult the Grant County tourism cite (www.tourgrantcounty.com), the website for the U.S. Bureau of Reclamation (www.usbr.gov) or the Wikipedia Encyclopedia website.

10. Laura Ingalls Wilder

When they reach the stopover at De Smet, South Dakota (Day 24), Big Riders will encounter buildings inhabited by the family of Laura Ingalls Wilder, whose “Little House” books about her childhood on the prairies in the late 19th century have been immensely popular with children -- and adults -- since the 1940’s. As *Washington Post* critic Jonathan Yardley noted in November 2007, the Wilder books “have penetrated the popular imagination as have few other books for readers of any age.”

I. Laura Wilder’s Life

Wilder was born in 1867 in the backwoods of Wisconsin, about 70 miles northwest of where the Big Ride crosses the Mississippi at La Crosse. Her childhood was punctuated by incessant family moves. Her father, a native of upstate New York, (and “Pa,” in the Little House books), was, by turns, a farmer, hunter, trapper, hotel manager, railroad worker, and storekeeper. The Ingalls family moved to north-central Missouri less than a year after Laura’s birth, but stayed only briefly. Pa took 160 acres near Independence, Kansas (within the Osage Indian Diminished Reservation) under the Homestead Act of 1862, where he built a house and commenced farming. In 1870, concerned that the federal government would revoke homestead rights within the Osage reservation, he took the family back to its former farmhouse in Wisconsin. Four years later, they moved again, this time to Walnut Grove, Minnesota (which Big Riders pass through on Day 26), where Pa built a new house, and raised wheat. After a grasshopper

infestation destroyed the crop for two consecutive years, and Laura's infant brother died of illness, however, the family moved again, this time to Burr City, Iowa, where Pa and Laura's mother ("Ma") helped manage a hotel. Unhappy with this work, the Wilders returned to Walnut Grove for two years and then moved for the last time to a homestead south of De Smet, in what was then the Dakota Territory.

Despite the itinerant nature after of her upbringing, Laura was an attentive student and at the age of 15 earned her teacher's certificate. At 18, after teaching school for three years, she married Almanzo Wilder, a local farmer. The couple had a daughter when Laura was 19, but was met with a variety of misfortunes: the death of a second child in 1899, diphtheria which crippled Almanzo, hail and drought that ruined their crops, and a kitchen fire that destroyed their house. The Wilders moved to Florida in 1890 for the sake of Almanzo's health, but Laura disliked the heat. They returned to De Smet in 1892, and then decamped once more, this time to the Ozarks in Mansfield, Missouri, where they bought a farm. Mansfield remained Laura's home until her death in 1957.

II. The Little House Books

Laura's daughter, Rose, was the first successful writer in the family. After completing high school, she got a job with Western Union in Kansas City, moved to San Francisco, married, and in 1915 got a job writing for the San Francisco Bulletin. She went on to publish short stories and articles for various magazines, as well as books on Henry Ford and Herbert Hoover.

It was Rose who encouraged Laura Wilder to record the stories of her childhood that she had recounted to Rose orally. After publishers had rejected Laura's autobiographic manuscript, Rose edited a portion of it into what became Little House in the Big Woods, published in 1932. That book covered 1871-72, when Laura was four

and five. It was an immense public success. Six “Little House” books followed: Little House on the Prairie (published in 1935, covering Laura’s ages 5-7); On the Banks of Plum Creek (published 1937, covering Laura’s ages 7-9); By the Shores of Silver Lake (1939, covering Laura’s ages 12-13); The Long Winter (1940, covering Laura’s ages 13-14); Little Town on the Prairie (1941, covering Laura’s ages 14-15); and Those Happy Golden Years (1943, covering Laura’s ages 15-18). Additionally, Farmer Boy, published in 1933, described the childhood of Almanzo Wilder in upstate New York.

Although Laura Wilder’s books are fictional, they are closely based on her own experiences. Thus they depict both the difficult life that the Ingalls family led, and the strength of the family ties.

The “Little House” books have been translated into 40 languages. A television series based on the books appeared in the 1970’s and 1980’s.

III. De Smet and the Historical Sites

At the De Smet stopover, Big Riders will find a museum and a self-guided tour that includes two houses occupied by the Ingalls family, items owned by the family, photographs of family members and the grave sites of various family members. In addition, you will encounter the Laura Ingalls Wilder Historic Highway as you journey along U.S. Route 14 near De Smet and well into the State of Minnesota.

IV. Further Reading

The “Little House” books, published by HarperCollins, are listed above. See also, William Anderson, Laura Ingalls Wilder: A Biography (1992) and the following websites:

www.lauraingallswilder.com;

11. Buildings of Note on the Big Ride

In contemplating the Big Ride route from Seattle to Washington, D.C., one initially thinks of the glorious open spaces of the West, the farmland of the plains states and Midwest, and the forested hills of Pennsylvania and Maryland. Notable architecture does not seem likely to divert the Big Rider along the way. Nonetheless, the route goes past, or near to, buildings designed by some of America's best-known architects: Daniel Burnham, Louis Sullivan, Frank Lloyd Wright, I.M. Pei, and Frank Gehry. Brief descriptions of the buildings and their designers appear below.

I. Daniel Burnham (1846-1912)

On Days 4 and 5, Big Riders will have a chance to explore Spokane. Among the buildings they will find there is the U.S. Bank Building designed by Daniel Burnham.

A. Career

Trained in Chicago, Burnham established an office there with John Root in 1873. He pioneered in modern structural techniques for tall buildings and designed some of the best-known office buildings in Chicago: the Monadnock Building, the Masonic Temple Building, the Reliance Building, and the Rookery. Burnham's most celebrated buildings outside of Chicago include the Flatiron Building in New York, Pittsburgh's Pennsylvania Station, and Union Station in Washington. Burnham also was famed as an urban planner. One of the most prominent figures in the neo-classical "City Beautiful" movement that influenced city planning and architecture in the late 19th and early 20th century,

Burnham prepared the general plan for the World's Columbian Exposition at Chicago (1893), and a city plan for Chicago (1907) that was later largely implemented.

B. U.S. Bank Building

Located at 422 Riverside Avenue in the heart of Spokane's downtown, this 16-story office building with a glazed terra-cotta exterior exemplifies the Chicago School of architecture. The commission was awarded to Burnham after a nationwide competition, and it was completed in 1910, near the end of Spokane's early-century building boom. (As an aside, Spokane hosted the 1974 World's Fair, and you may want to visit the site of the Fair.)

II. Louis Sullivan (1856-1924)

Day 28 will bring Big Riders to Owatonna, Minnesota, home of Louis Sullivan's famed National Farmers Bank of Owatonna. The bank is located on the town square less than two miles from the Big Ride campground at the County Fairground.

A. Career

Trained at MIT, Sullivan worked in the Chicago office of Williams Janney, the designer of the first steel-skeleton skyscraper, and then in the office of Adler & Sullivan. Although celebrated for the observation that "Form ever follows function" (*i.e.*, that design should accommodate the use to which space or spaces within the building are put), Sullivan designed a series of buildings celebrated for their ornamentation as well as their design, *e.g.*, the Wainwright Building (St. Louis), the Auditorium Building (Chicago), and the Guaranty Building (Buffalo). Other famed Sullivan designs were the Transportation Building at the World Columbian Exposition (notable for departing from the Exposition's neoclassical theme prescribed in Daniel Burnham's plan) and the Getty

Tomb in Chicago. He also designed a series of small-town bank buildings, notably the one in Clinton, Iowa, and in Owatonna.

B. The National Farmers Bank of Owatonna

Completed in 1908, this square, red brick building is striking for the large arched windows that dominate its two facades, for the vertical and horizontal terra cotta stripes on each façade, and for its elaborate ornamentation. It is located at Broadway Street and Cedar Street.

The National Farmers Bank building in Owatonna should be compared with the Merchants National Bank building in downtown (102 East 3rd Street) Winona, Minnesota, which Big Riders will reach on Day 29. The Winona bank building bears certain obvious resemblance to its Owatonna counterpart. It was designed by George Grant Elmslie, who later claimed that, as an employee of Adler & Sullivan, he had also designed the decorative elements of the Owatonna bank.

III. F. L. Wright (1867-1959)

On Day 31, Big Riders will pass through Spring Green, Wisconsin, where Wright's long-time home, Taliesin, is found. On Day 32, the Big Ride stops in Belvidere, Illinois, site of the Pettit Chapel, designed by Wright. And, on Day 43, the Big Ride traverses Ohiopyle, Pennsylvania, about five miles from Wright's celebrated Fallingwater.

A. Career

Raised on a farm 20 miles west of Spring Green, Wright studied civil engineering at the University of Wisconsin and worked for several years under Louis Sullivan in Chicago, until he was fired for accepting independent commissions. After establishing

his own practice in Oak Park, Illinois and later at Taliesin, Wright designed a series of residences with low horizontal lines and prominent projecting eaves. Among the best known of these are the Willitts (1902), Coonley (1908), and Robie houses (1909), all in the Chicago area, and prototypes of what came to be called the Prairie Style. Wright's residential interiors favored freely-flowing, unobstructed spaces and low ceilings. Occupants of his houses have sometimes complained of limited storage space, but Wright apparently considered that problem theirs rather than his.

As Wright's reputation grew, he also received commissions for non-residential buildings, notably the monumental Larkin Building in Buffalo (1904), the Imperial Hotel in Tokyo (1916-22), famed for withstanding the earthquake of 1923), Midway Gardens in Chicago (1906), and Oak Park Unity Temple (1906). His best-known later works included Fallingwater (see below); the Johnson Wax Building and tower (1936-39, 1950) in Racine, Wisconsin; Taliesin West (1936-59) in Scottsdale, Arizona; and the Guggenheim Museum (1946-59) in New York City. Wright was active until his death in 1959. Eccentric in character and a man of no small ego, Wright is widely considered the most influential of American architects.

B. Taliesin

The Big Ride route passes Spring Green on Route 14. To visit Taliesin, take a right (south) on Route 23, and proceed to the Frank Lloyd Wright Visitor Center, open daily from 9 a.m. to 5:30 p.m. during the summer. Tours begin at the Center.

Wright began work on Taliesin in 1911 as a house for himself and the woman for whom he had left his wife and six children. In 1914, while Wright was away on business, a servant killed the woman, her two children, and four others, and set fire to the house.

Wright rebuilt the house, but it was partially destroyed again by fire in 1925. Wright again rebuilt the house and lived there during the summer for the rest of his life.

C. The Pettit Chapel

Located in the Belvidere Cemetery, the Pettit Chapel is the only cemetery chapel designed by Wright. It was commissioned by Emma Pettit to commemorate her brother, for whom Wright had designed a house in 1905. It is one of the early examples of Wright's Prairie Style.

D. Fallingwater

Fallingwater, the country retreat designed by Wright for a Pittsburgh department store owner, can be reached by proceeding north from Ohiopyle about five miles on Route 381. Completed in 1939, the building features the strong horizontal lines characteristic of Wright's houses. It is cantilevered to extend over a stream and waterfall, and, seen from outside, seems to defy gravity.

IV. I.M. Pei (1917-)

Day 39 brings the Big Ride through Cleveland and directly past I.M. Pei's Rock and Roll Hall of Fame and Museum at 251 Erieside Avenue.

A. Career

Pei was born in China, and moved to the United States to study architecture in 1934. After receiving his degree from MIT, he studied under Walter Gropius at Harvard, and then taught there, while starting his own firm. Among his most celebrated works are the National Center for Atmospheric Research in Boulder, Colorado (1967); the East Building of the National Gallery of Art in Washington (1978); the John F. Kennedy Library in Boston (1979); and the Fragrant Hill Hotel in Beijing (1982).

B. Rock and Roll Hall of Fame and Museum

The building was designed by Pei to convey a sense of the vitality of rock and roll music. Completed in 1995, it contains exhibit space, the Hall of Fame itself, and a theater cantilevered out over Lake Erie.

V. **Frank Gehry (1929-)**

On Day 39, having traversed a portion of Cleveland's downtown and lakefront, Big Riders will pass through Case Western Reserve University, on the eastern edge of the city. Among the university buildings along the route is the Peter B. Lewis Building designed by Frank Gehry.

A. Career

Born in Canada, Gehry moved to California and worked as a truck driver before graduating from USC's School of Architecture in 1954. After working with several Los Angeles firms, Gehry went out on his own in 1967. Beginning with the redesign of his own (originally Dutch colonial) house in Santa Monica in the 1970s, Gehry sought to move beyond the modernist phase of architecture. The result was the use of massive curved metal shapes often appearing to have been dropped onto one another, or onto a pre-existing conventional structure. This "Deconstructionist" style characterizes the Lewis Building at Case Western and such celebrated Gehry works as the Guggenheim Museum in Bilbao (1997), the Disney Concert Hall in Los Angeles (2001), the University of Minnesota Art Museum in Minneapolis (1990), the Dancing House in Prague (1998), the Experience Music Project in Seattle (2000), and the Stata Center at MIT (2004). Perhaps the best-known architect of the 21st century, Gehry continues to practice in Los Angeles.

B. Peter B. Lewis Building

Located at 10900 Euclid Avenue, the Lewis Building houses the Case Western business school. It was completed in 2002, and has been commended, in particular, for the manner in which interior light changes throughout the day. The exterior is perhaps most striking for the manner in which the curved metal forms appear to have invaded the brick elements of the building. Gehry's style is not universally admired. Labeling the Lewis Building the "Eyesore of the Month," critic James Kunstler compared the juxtaposition of metal and brick to a cancerous invasion: "If your dog has a tumor like this, the vets would just shake their heads and put him to sleep."

VI. Further Reading and Information

Brendan Gill, Many Masks: A Life of Frank Lloyd Wright (1987); David Van Zantzer, Sullivan's City (2000); Kristen Schaffer, Daniel H. Burnham, Visionary Architect and Planner (2003.); www.greatbuildings.com/architects; 2005 Documentary by Sidney Pollock entitled Sketches of Frank Gehry.

12. Wind, Wind Power and Biofuels

You are likely to encounter wind of some sort on almost every day of the Big Ride. A good indication of the amount of wind you may encounter is the number of significant wind power farms along the way, such as the Wild Horse Wind Farm on Day 2 and the Lake Benton Wind Farm on Day 25. Also, at various points on the Big Ride, you may encounter biofuels projects, such as the ethanol project seen on Day 31 in route to Madison, Wisconsin.

I. Wind

It is often said that the winds blow from west to east. While it is true that major storm systems and the jet stream typically move from west to east, they are not the major determinant of wind direction on the ground. Facing steady headwinds for much of the 2007 Big Ride across the State of South Dakota, for example, makes one a believer that some other forces are at work.

Wind is the flow of air over a surface, and wind direction is determined by the direction from which it comes (e.g., easterly wind comes from the east). At or near ground level, air normally flows from a high pressure zone to a low-pressure zone. In the Northern Hemisphere, wind flows in a clockwise direction in a high-pressure zone and a counter clockwise direction in a low pressure zone. Wind direction can also be affected in areas of high ground by temperature changes. For example, when air in the valleys is warmed by the sun, the warmer air rises into the hills. As the sun goes down and temperatures fall, the air flows back down into the valleys.

With all of these variables, it is difficult to generalize on the direction of the winds, since it is often determined by day-to-day changes in the relative positioning of high-and lower-pressure zones, as well as other factors. As discussed further below, test information collected for wind farm projects shows a wide dispersion in wind direction, and wind turbines are built to accommodate regular changes in wind direction. The 2007 Big Ride is a testament to the variability in wind directions, with at least as many headwinds as tailwinds over the course of the ride.

II. Wind Power Farms

Faced with the challenges of climate change, renewable energy sources have become increasingly popular. Some utilities have taken voluntary steps to develop wind power as a part of their energy portfolio, while others have done so in response to state legislation mandating a certain level of output from renewable energy sources (*e.g.*, by a date certain, 10% of all energy sources must be in the form of renewables). In addition, firms such as General Electric have undertaken to improve the equipment and technology for wind power to make it more effective and cost efficient.

The Wild Horse Wind Farm near Vantage, Washington, has enough capacity to generate about 230 megawatts of renewable energy for approximately 70,000 homes. The project's footprint is about 165 acres spread across almost 9,000 acres. The wind turbines are designed to generate power in winds beginning at 9 mph and achieving full output at about 30 mph. The turbines produce energy about 75 percent of the time.

The Lake Benton Wind Farm is located near Lake Benton, Minnesota. This area, known as Buffalo Ridge, is the premier wind resource area in the State of Minnesota. The wind generation capacity for this project is about 230 megawatts. The turbines sit atop a lattice tower, and each blade spans approximately 80 feet. The test runs for this project show a wide dispersion in wind direction. The continuous monitoring of wind direction allows the turbines to be reset on a regular basis to achieve maximum energy output.

III. Biofuels

Biofuels have become very popular in recent years as a means of solving the problems of climate change and reducing our reliance upon foreign oil. Although

biofuels have some benefits, they also have some distinct costs. For example, ethanol producers receive a tax credit of 51 cents per gallon. Corn ethanol produces about 13% less greenhouse gas emissions than gasoline, but can be up to 20% worse for the environment if the ethanol refineries use coal as their principal source of heat for fermentation. Other costs include a dramatic rise in the price of corn, affecting prices throughout the food chain, which can be all the more serious if the portion of the corn crop going to ethanol production rises from 20% (2006) to 40% (projected for 2010). In just the last two years, for example, the price of corn has doubled.

Possible alternatives, however, are in the works. So-called cellulosic ethanol uses corn stalks rather than corn kernels and may be expanded to rely upon non-food plants such as switchgrass. In this manner, pressure is taken off corn prices. In addition, once the technology is fully developed, cellulosic ethanol offers the potential for an 80% improvement over the greenhouse gas emissions of conventional gasoline. But even under the best of circumstances, realistic production levels for cellulosic ethanol might produce only an eighth of projected energy consumption by 2025.

Another promising source of biofuels is sugar cane. Brazil is a major producer of sugar-cane based ethanol, accounting for almost 40% of the non-diesel fuel used in Brazilian vehicles. Imports of sugar cane are limited under U.S. law. Continued high crude oil prices could well entice sugar cane and sugar beet growers in the U.S. to turn to ethanol production as another market for their products.

Under the conventional form of corn ethanol production used today, the process is known as dry milling. The corn kernel is ground into flour and processed into a form of mash. The mash is converted to a form of simple sugar and eventually fermented to

convert the sugar to ethanol. The ethanol eventually reaches a concentration of about 200 proof. It is then ready for shipment to gasoline terminals or retailers. The types of ethanol production facilities you may see on the Big Ride include grinders, cookers, fermenters, and ethanol storage tanks.

IV. Further Reading

For further reading on wind, you may want to consult Geoff Butler's Flight School on the avsim.com/geoffschool/winds website or Wikipedia Encyclopedia website on wind. On the Wild Horse Wind Farm, you may want to consult the Puget Sound Energy website or the Horizon Wind Energy website. On the Lake Benton Wind Farm, you might review the website of the Department of Energy/National Renewable Energy Laboratory, and their July 2000-2001 Annual Report on Wind Farm Monitoring (2001). Finally, on biofuels, you may want to review the website of the Renewable Fuels Association (ethanol/rfa.org) on how ethanol is made, the article in the November 2007 issue of Smithsonian Magazine entitled Who's Fueling Whom by Richard Conniff, and the website of Clean Energy (cleanhouston.org) for a discussion of the sugar cane alternative for ethanol production.

American Lung Association of Washington**Big Ride Across America 2007 Itinerary
And Topical Cross References**

Day **Destination** **Relevant Topic(s)**

0	Seattle, WA	
1	Easton, WA	9
2	Vantage, WA	12
3	Odessa, WA	2, 9
4	Spokane, WA	11
5	Spokane, WA	11
6	Sandpoint, ID	3
7	Thompson Falls, MT	3, 9
8	Missoula, MT	1, 3
9	Missoula, MT	2, 9
10	Avon, MT	1
11	Townsend, MT	2
12	Harlowton, MT	
13	Billings, MT	4
14	Billings, MT	2, 3, 4, 6
15	Hardin, MT	2, 6
16	Sheridan, WY	3, 4, 9
17	Gillette, WY	4
18	Newcastle, WY	4
19	Rapid City, SD	1, 6, 7, 9
20	Rapid City, SD	7
21	Kadoka, SD	1, 9
22	Pierre, SD	2
23	Miller, SD	
24	De Smet, SD	10
25	Tyler, MN	12
26	New Ulm, MN	3
27	New Ulm, MN	3
28	Owatonna, MN	11
29	Winona, MN	

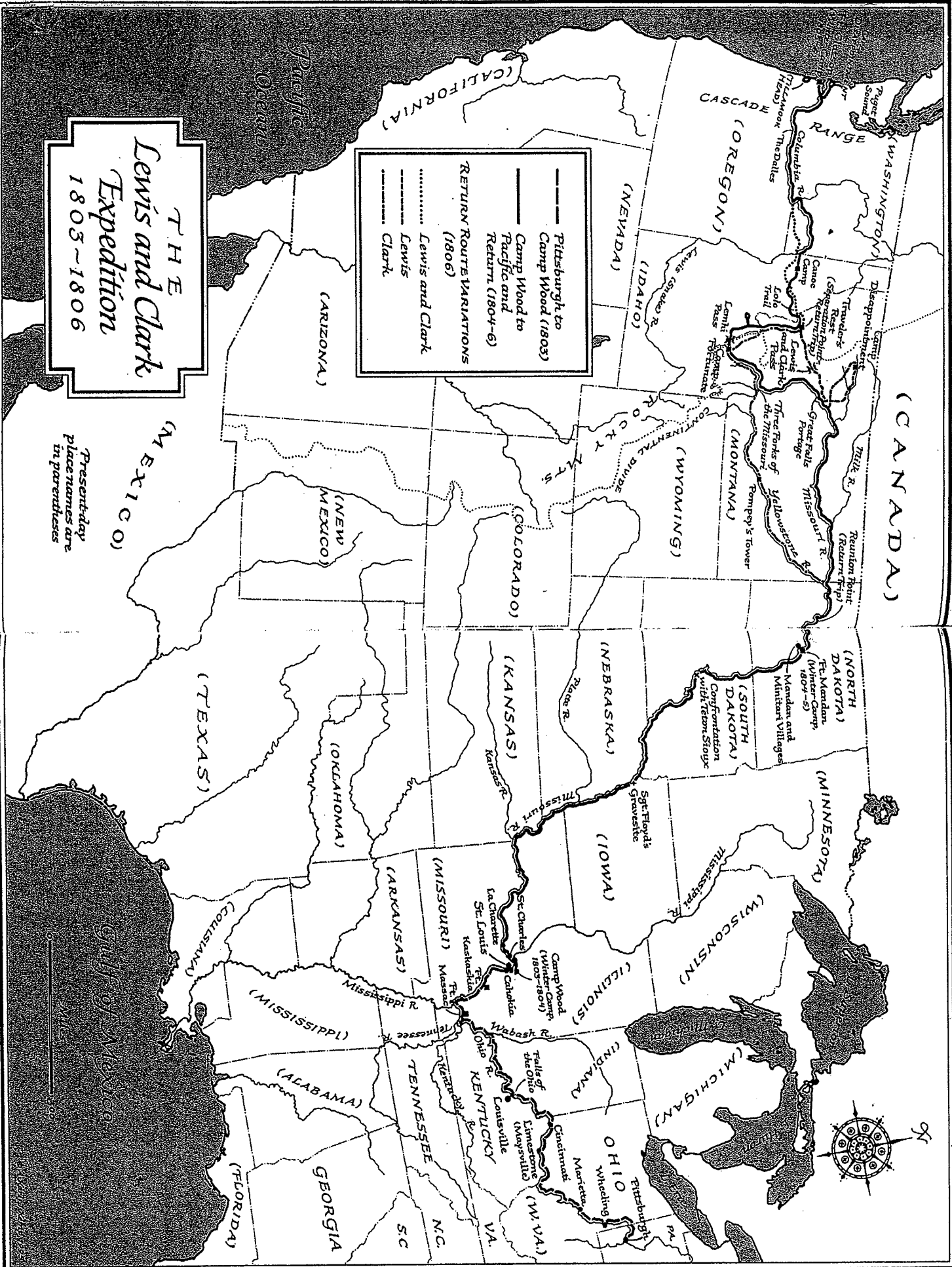
Day **Destination** **Relevant Topic(s)**

30	Viroqua, WI	
31	Madison, WI	11, 12
32	Belvidere, IL	11
33	Morris, IL	
34	Valparaiso, IN	
35	Valparaiso, IN	
36	Kendallville, IN	8
37	Napoleon, OH	
38	Sandusky, OH	
39	Burton, OH	8, 11
40	Burton, OH	8
41	New Waterford, OH	8
42	Washington, PA	2
43	Confluence, PA	4, 11
44	Bedford, PA	4
45	Gettysburg, PA	5, 6
46	Gettysburg, PA	5, 6
47	Clarksburg, MD	5
48	Washington, DC	

THE Lewis and Clark Expedition 1803-1806

———— Pittsburgh to
Camp Wood (1803)
 ———— Camp Wood to
Pacific and
Return (1804-6)
 RETURN ROUTE VARIATIONS
 (1806)
 Lewis and Clark
 Lewis
 Clark

Present-day
place names are
in parentheses



Gulf of Mexico

Scale