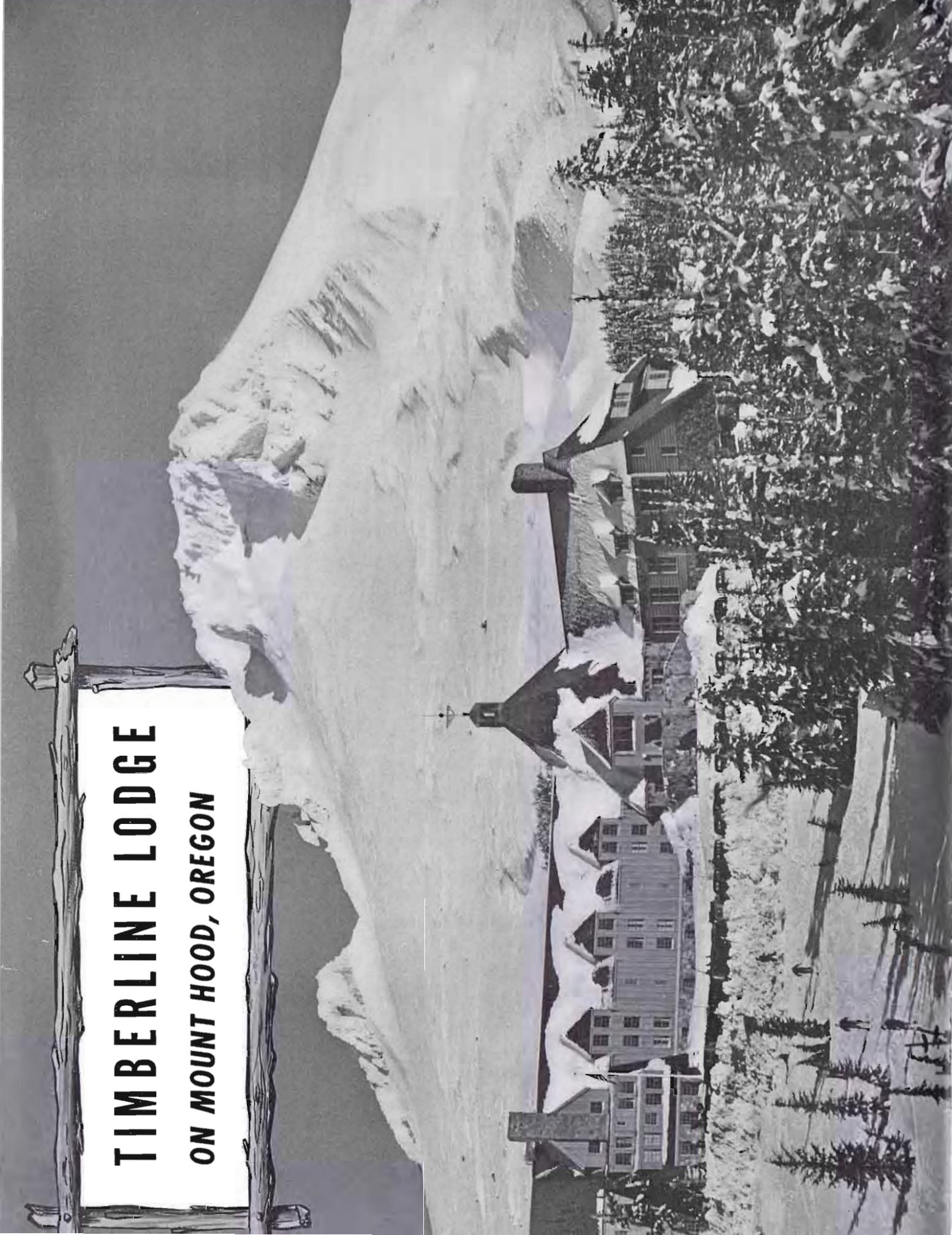


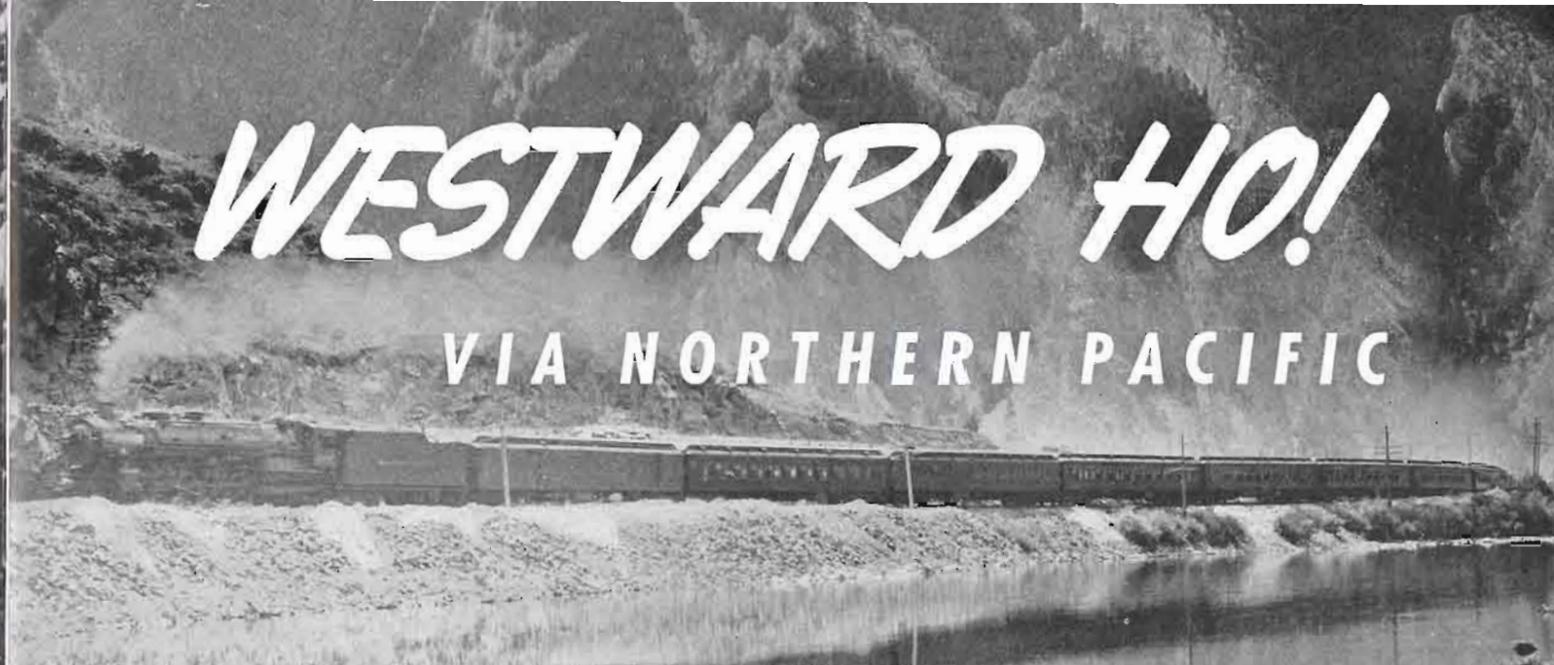


# BALDWIN

## LOCOMOTIVES



**TIMBERLINE LODGE  
ON MOUNT HOOD, OREGON**



# WESTWARD HO!

## VIA NORTHERN PACIFIC

*It is a pleasure to acknowledge the courtesy of the Northern Pacific Railway Company in furnishing material for this article.—EDITOR.*

OVER the Northwest following the historic footsteps of Lewis and Clark "where a woman led the way," Baldwin locomotives power the Northern Pacific's North Coast Limited. Entering its 41st year, this train is one of the few in the world to have operated for so long a period under the same name.

The Northern Pacific route is preeminent as the "First of the Northern Transcontinentals." It was that historic system which in 1883 first spanned the glamorous plains and mountains of the Northwest when Indians and buffalo had the run of the country. Names like Custer, Lewis and Clark, Sitting Bull, Buffalo Bill, Calamity Jane, Jim Bridger, Kit Carson and many more frontier figures are associated with the region. The woman who led the way was the 19-year-old Shoshone Indian mother who in 1805 guided the Lewis and Clark expedition across the Northwest wilderness from the Missouri River to the headwaters of the Columbia. She carried her papoose on her back during the toilsome journey and for her great service to the American nation received exactly nothing, according to Eva Emory Dye, the Oregon historian. Her husband, Charbonneau, however, was paid \$500.

Memorials to the Indian girl, which today dot the route of the North Coast Limited across the Northwest, indicate that although she received no monetary acknowledgment, the present generation appreciates fully the value of her accomplishment. A few of the cities and towns which do her honor are Bismarck, North Dakota; Livingston, Montana; Three Forks, Montana; Pasco, Washington; and Portland, Oregon.

The Northern Pacific opened the Northwest to civilization and settlement. It carried Custer to his Indian wars. It provided a direct route toward the tea and spices of the Orient. Alaska, too, was brought closer by the Northern Pacific. It was the first railroad to connect the nation with its first national park, Yellowstone.

Nowadays the North Coast Limited provides direct Pullman service to four Yellowstone gateways—Gardiner, Cody, Bozeman and Red Lodge. Meanwhile the national park system in Northern Pacific territory has expanded until in addition to Yellowstone it includes Rainier National Park and Olympic National Park, both in the state of Washington.

### *Baldwin Locomotives*

The first Baldwin power on the North Coast Limited when that train began operation was a Class E-3, 4-6-0 type locomotive built in the year 1890, which pulled the train on the western end of the system. Its Baldwin construction number was 11,228 and it originally carried Northern Pacific number 616.

Starting in 1909, when they were built, a fleet of Class Q-3 Baldwin locomotives had the job of powering the Northern Pacific's crack train. These were 4-6-2 Pacific type and their locomotive numbers ranged from 2148 to 2170.

In 1934 ten Class A-2, 4-8-4 type, roller bearing locomotives were built for North Coast Limited service by The Baldwin Locomotive Works. They rank among the largest locomotives but in a few respects are slightly surpassed by eight Class A-3 roller bearing locomotives built at the Baldwin



*A Baldwin-Built Class E-3 Locomotive of the Type Used on the NORTH COAST LIMITED When It Began Operation Forty Years Ago.*

Cylinders .....19" x 24" Steam pressure .....140 lb. Drivers, diameter .....62"  
 Weight on drivers ...80,000 lb. Weight, total engine 105,000 lb.

plant in 1938 and added to the Northern Pacific fleet.

A distinguishing feature of these locomotives is their large coal and water carrying capacities (27 tons of coal and 20,000 gallons of water) which enable them to cover long distances without replenishing supplies. They are therefore adaptable for long runs.

The A-2 and A-3 locomotives were designed to burn a semi-bituminous Montana coal known as "Rosebud," which is strip-mined about 35 miles south of Forsyth, Montana. This coal contains about 8,750 B.T.U. per pound, 25 per cent moisture and 9 per cent ash.

Their larger boiler capacity, resulting in ample steaming margin, has made these locomotives capable of delivering maximum horsepower for sus-

tained periods. By virtue of improved drafting arrangements they have shown remarkable fuel performance.

Roller bearings on the engine trucks, drivers, trailers and tender axles have entirely eliminated trouble from hot bearings. The ten Class A-2 locomotives have made in excess of 4,000,000 miles without a hot bearing while the eight Class A-3 locomotives have made nearly 1,500,000 miles without a bearing failure.

Smooth, silky starts are made possible by the new locomotives and their great power produces rapid acceleration.

In the course of their daily operation these locomotives are obliged to meet all the natural conditions encountered in the West—changes in altitude, in weather, in grade of track and weight of load.



*One of Twenty-three Pacific Type Locomotives, Class Q-3, Built by Baldwin in 1909, and Used on the NORTH COAST LIMITED for Many Years Thereafter.*

Cylinders .....22" x 26" Steam pressure .....200 lb. Drivers, diameter .....69"  
 Weight on drivers ...142,500 lb. Weight, total engine 219,000 lb.



*Class A-2 Locomotive, One of a Lot of Ten Built by Baldwin in 1934 for the NORTH COAST LIMITED.*

Cylinders .....28" x 31"	Grate area .....115 sq. ft.	Wheel Base—	Weight—On drivers 294,400 lb.
Drivers, diameter .....77"	Water heating surface .....4,964 sq. ft.	Driving .....20' 8"	Total engine ....489,400 lb.
Boiler, diameter .....88"	Superheating surface .....2,174 sq. ft.	Rigid .....13' 4"	Total tender
Steam pressure .....260 lb.	Tractive force .....69,800 lb.	Total engine .....48' 5"	( $\frac{2}{3}$ c. & w.) ...314,073 lb.
Firebox, length .....162"		Total engine and tender .....95' 3"	Tank capacity .20,000 U. S. gal.
Firebox, width .....102 $\frac{1}{4}$ "			Fuel capacity .....27 tons

*Picturesque Northwest*

Plateaus, prairies, mountains, deserts, river valleys, lake shores and seashores are all linked in the Northern Pacific system and with this variety of topographical forms naturally goes an ever-changing scenic panorama.

Picturesque Northwest industries — livestock ranching, lumbering, fruit-growing and mining—and their accompanying surroundings furnish fascinating travel color. In fact, the recreations of the region are strikingly molded by the occupations. One example is the rodeo celebrations, America's most exciting sport, held annually at Billings, Miles City, Livingston, Butte and Red Lodge, Montana; Lewiston, Idaho, and Pendleton, Oregon. Another is the log rollo of the lumberjacks held in the big timber country of Washington and Oregon. Loggers and lumbermen compete at tree cutting, tree topping, log-rolling, block turning, log jousting, canoe tilting, axe twirling and other dangerous and sensational feats.

Fruit, nut and flower culture give rise to fruit and flower festivals generously held in Pacific Northwest communities from strawberry time in the spring to English walnut harvest in the fall. Of such is the famous Portland, Oregon, Rose Festival, the Tacoma, Washington, Daffodil Festival and many others.

Cattle ranching's chief recreational offspring is the Dude Ranch vacation, originated near Medora, North Dakota, by Eaton's Custer Trail Ranch in 1876, with the result that Dude Ranches are now scattered all along, not only the Northern Pacific system, but other railroad lines.

*North Coast Limited*

For 1,406 miles, the North Coast Limited follows scenic rivers on its transcontinental run between Chicago, St. Paul, Minneapolis, Fargo, Bismarck, Billings, Butte, Missoula, Spokane, Seattle, Tacoma and Portland. Rivers seen from the Lim-



*Class A-3 Locomotive, Eight of Which Were Built by Baldwin in 1938 and Added to the NORTH COAST LIMITED Fleet.*

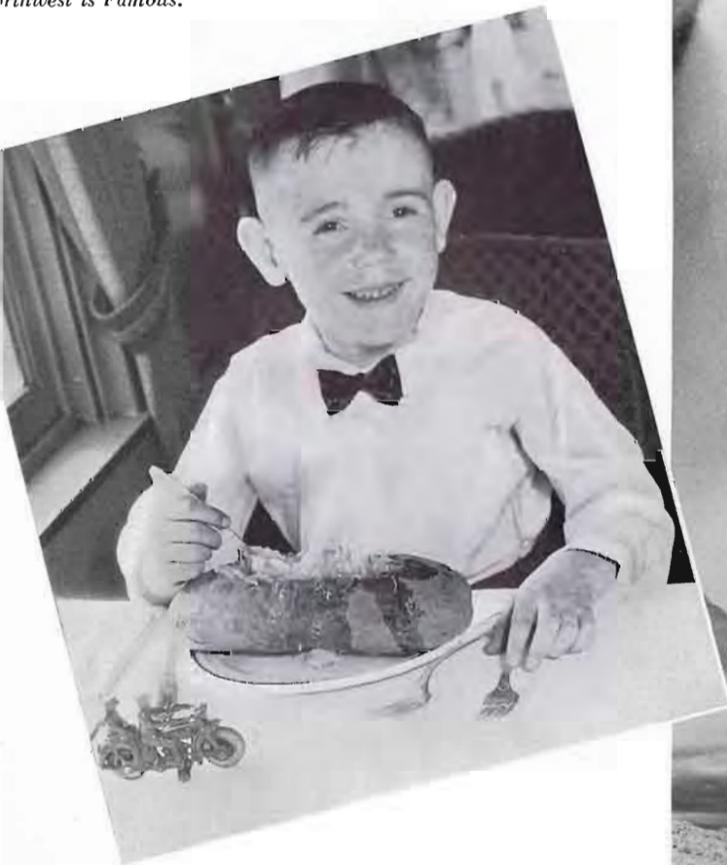
Cylinders .....28" x 31"	Grate area .....115 sq. ft.	Wheel Base—	Weight—On drivers 294,000 lb.
Drivers, diameter .....77"	Water heating surface .....4,746 sq. ft.	Driving .....20' 8"	Total engine ....491,800 lb.
Boiler, diameter .....88"	Superheating surface .....2,026 sq. ft.	Rigid .....13' 4"	Total tender
Steam pressure .....260 lb.	Tractive force .....69,800 lb.	Total engine .....48' 7"	( $\frac{2}{3}$ c. & w.) ...312,523 lb.
Firebox, length .....162"		Total engine and tender .....96' 11"	Tank capacity .20,000 U. S. gal.
Firebox, width .....102 $\frac{1}{4}$ "			Fuel capacity .....27 tons

# The Great Northwest

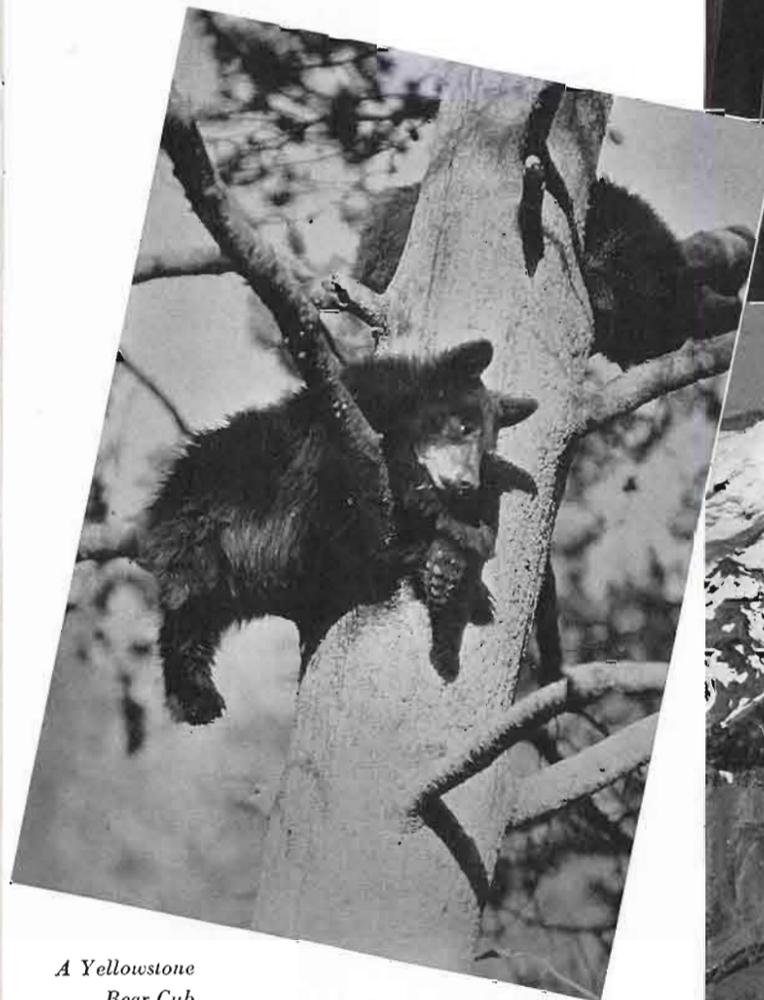
...a wonderland served by the  
North Coast Limited



Young Northern Pacific Passenger Tackles One of the  
Big Baked Potatoes for Which the Great  
Northwest is Famous.



GREAT FALLS in the Grand Can-



A Yellowstone  
Bear Cub  
in a  
Thoughtful  
Mood.



Vacation Bound Over the  
Transcontinental Lines of  
the Northern Pacific.



In the Shadow of Mt. Rainier,  
Washington, Which Towers  
14,408 Feet Above Sea Level.



Sioux Indians from the Standing Rock  
Reservation as Seen by the Northern



*Northern Pacific Class A-2 Locomotive on Exhibition at A CENTURY OF PROGRESS Exposition at Chicago in 1934.*

ited's windows include the Mississippi, the "Father of Waters"; the Missouri, "the longest river in America"; the Yellowstone, famous in frontier his-



*The NORTH COAST LIMITED Leaving St. Paul, Powered by One of the Class A-3 Locomotives.*

tory; and the Columbia, the nation's greatest power stream.

The first day out of Chicago leads across Minnesota's "Land of Ten Thousand Lakes." For miles beyond St. Paul and Minneapolis the train follows the evergreen-deciduous tree boundary in the land of Hiawatha and Minnehaha. Then it crosses the Red River Valley, once famed as the "Bread basket of the world," and speeds across the plains of North Dakota where in a few short decades the sod houses of the pioneers have been replaced by comfortable farm homes. Eight Baldwin Class A-3 locomotives furnish the power on the 344-mile lap of the system between St. Paul, Minnesota, and Jamestown, North Dakota.

Buffalo grass, the first sagebrush, the first jack rabbit, the first prairie dog standing inquisitively at his burrow are objects of interest as the train speeds westward. At Mandan, North Dakota, Sioux Indians in full regalia dance for travelers while the train stops.

In the 664-mile stretch of the Northern Pacific lying between Jamestown, North Dakota, and Livingston, Montana, six Class A-2 Baldwin locomotives are in service. They operate over grades up



*A Young Engineer Checks His Locomotive Against the Class A-2.*

to 1 per cent while handling North Coast Limited trains consisting of as many as 20 cars. A speed of approximately 60 m.p.h. is maintained where grades will permit.

Some of the heaviest grades are in western North Dakota. There the panorama seen from the car windows presents the "war-painted" Bad Lands appropriately located in what was once Sioux Indian country fought over by Sully, traversed by Custer, ranched by Theodore Roosevelt and industrially baptized by the dashing French marquis, De Mores.

The latter entertained the scheme of packing meats at Medora, North Dakota, right at the point of origin in the heart of the western cattle country. In connection with his unsuccessful venture he founded the Northern Pacific Refrigerator Car Company in

1883, both for the hauling of meat and the hauling of salmon from the Columbia River and Puget Sound. His meat packing enterprise failed, because, it is said, Easterners of that period were wary of frozen meat and because his beef was grass-fed.

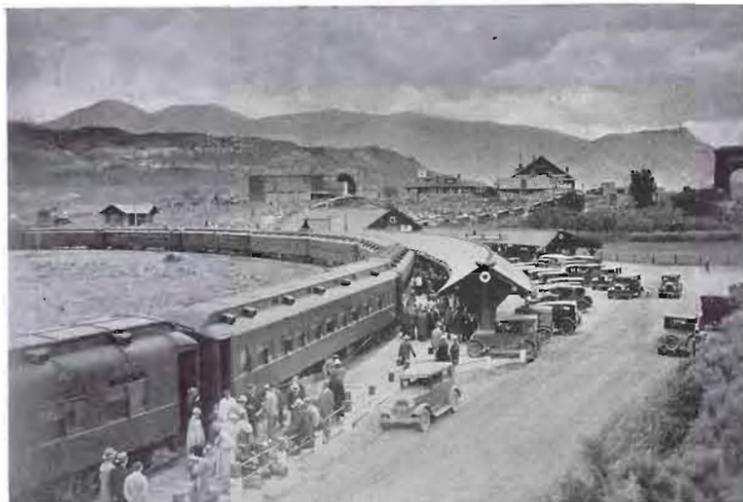
### *Crossing the Rockies*

At Billings, Montana, westbound Northern Pacific trains first come into sight of the Rocky Mountains. From there westward, 23 mountain ranges are passed by the North Coast Limited in a single day and a total of 28 ranges border the transcontinental route. The Beartooth Range is the first one sighted and is the locale of the lofty new Red Lodge High Road which leads into Yellowstone Park from Red Lodge, Montana.

Actual train entry into the Rockies takes place at Bozeman Pass, Montana, and traces the first wagon road built into the mountains in 1864 by Capt. John M. Bozeman. Then follows 500 miles of continuous travel through Rocky Mountain grandeur. The entire mountain system from Livingston, Montana, to Cabinet, Idaho, is crossed by the North Coast Limited in daylight. Near Sappington, Montana, a rugged mountainside reveals a glimpse of the mouth of Lewis and Clark cavern, a remarkable curiosity now open to the public as Morrison Cave State Park. In the same territory, John Colter successfully ran the gauntlet of the Blackfoot tribe.



*The NORTH COAST LIMITED Burrows Into the Rockies Near Missoula, Montana.*



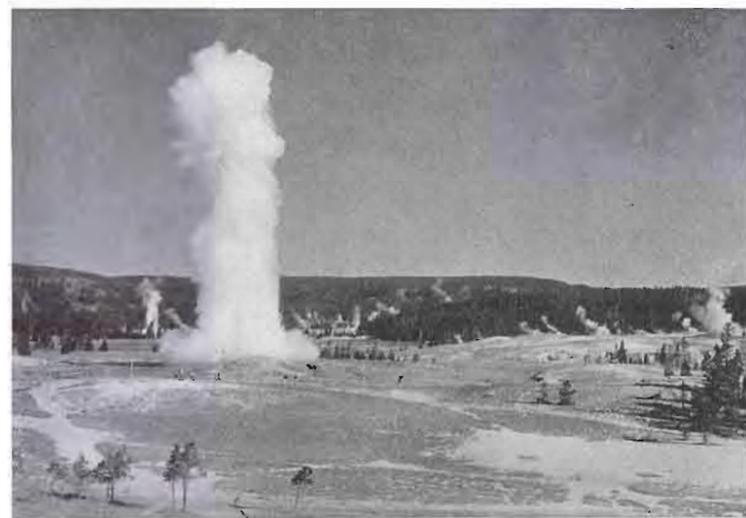
*Gardiner Gateway, the North Entrance to Yellowstone Park, Which Has Been Served by the Northern Pacific Since 1883.*

The top thrill of the day comes when the train winds up and over the main range of the Rockies or Continental Divide just east of Butte, Montana. The summit, 6,356 feet above sea level, is the highest point on the line.

Through Butte and the heart of the Rockies four Class A-2 locomotives are in operation. Their run extends from Livingston to Missoula, Montana, a distance of 240 miles. In that territory, maximum grades of 2.2 per cent and curves up to 13 degrees are encountered. Nevertheless, the Class A-2 power is capable of maintaining North Coast Limited schedules pulling nine steel cars without a helper. Trains up to sixteen cars are frequently handled over the heavy grades with a Mikado type locomotive as a helper.

Not far west of the great copper mining city of Butte is Gold Creek, site of Montana's first gold discovery in 1852 and the place where General U. S. Grant helped drive the last spike in the Northern Pacific transcontinental line in 1883.

Miles and miles of pungent pine forests, filled with big wild game—grizzly bears, black bears, deer, elk, wolf, and cougar—swing past the train windows. Sometimes deer are seen bounding away from the track. In winter particularly is this said to be true when big game is attracted to the railroad by salt used to thaw the switches.



*OLD FAITHFUL Puts on Its Hourly Display in Yellowstone Park.*

Forest lookout posts perch at dizzy heights on tall peaks, sometimes robed in clouds. Green rivers glitter alongside in the sun and the general wildness of the country evokes astonished comment. Tepees of Flathead Indians are seen at Arlee, Montana, and nearby is the National Bison Range where Uncle Sam perpetuates the monarchs of the plains for future generations. "Hellgate" canyon, strangely enough, leads to the town of "Paradise" and a paradise of scenic grandeur. Dim Indian trails and the paths of early missionaries slip under the train wheels as the 200-mile canyon of the Clark's Fork River reels away. One of the most scenic rivers

of the West, the Clark's Fork is named for Capt. William Clark of the Lewis and Clark expedition. Its vivid green waters reflect the frowning ramparts of nature's Rocky Mountain stronghold. Explored in 1809 by David Thompson, British trader and agent of the Hudson Bay Company, it perpetuates his name in Thompson Falls, where a buried glacier furnishes natural refrigeration and a hydro-electric plant produces 50,000 horsepower.

#### *Down to the Pacific*

Great blue mountain lakes lie in forest-garnished bowls in northern Idaho—some of the scores of mountain lakes which make Spokane a mountain

vacation headquarters. At Spokane the westbound North Coast Limited steams out of the Rockies and crosses the mountain-walled Columbia River basin, part of which was once novelized as the "Desert of Wheat." There the colossal Grand Coulee Dam is being built to harness the Columbia, the nation's greatest power stream. The dam will ultimately develop electricity sufficient for eight New Yorks and will irrigate 1,200,000 acres of land.

What irrigation can actually do is demonstrated by the nearby Yakima Valley, one of the greatest fruit-producing centers in the United States. Among its products it boasts the "great big potatoes" which the Northern Pacific Railway features on its dining cars.

Since 1934 the loveliness of Yakima's far-spreading orchards has led summer vacationers to the alpine magnificence of Mt. Rainier, Washington, America's noblest peak. The Yakima approach to the park, established that year, made accessible the impressive "sunrise" side of the mountain.

Climaxing the Northern Pacific transcontinental run is the climb over the Cascade Range in Washington. Nearing the summit the train passes through Martin, site of an exceptional ski course, and then steams through Stampede Tunnel, nearly two miles long and 2,852 feet above sea level.



*The Northern Pacific Runs Through the Badlands of Western North Dakota, Where Theodore Roosevelt Runched.*

Presto, chango! When the Limited emerges on the western side, the climate and the scenery have changed! The air is milder, moister, the timber bigger, vegetation denser and flowers more numerous. At once is felt the influence of the warm Japan current which laves the shores of the nearby Pacific.

Soon the Northern Pacific iron trail terminates at three cities—Seattle, Tacoma and Portland—in a land of eternally snow-clad peaks, roses, big timber, fruit and holly. Each city has its own individual claim to fame—Portland as "The City of Roses," Tacoma as the "Lumber Capital of America" and Seattle as "The Gateway to Alaska and the Orient."

A whole chain of snow-capped mountain peaks rival one another. To the north of massive Mt. Rainier is Mt. Baker, Washington. To the south of Rainier is Mt. Adams and Mt. St. Helens in Washington and Mt. Hood in Oregon.

On Mt. Rainier, Mt. Baker and Mt. Hood, particularly, snow sports persist even in summer, while not far away are trout and salmon fishing, camping and surf bathing. A new national park area, the Olympic National Park, thrills its visitors with mighty forests, appropriately called "America's Last Wilderness."

Train and ship connections lead on to California, Alaska, the far-away Philippines and the Orient.



*The NORTH COAST LIMITED Takes a Sky Ride Crossing Marent Trestle in Western Montana.*