

SHASTA CASCADE



ROBERT W. SCOTT/PHOTOS BY GREG BROWN AND ROBERT W. SCOTT

THE GOAL OF RAILROADS TO TAP THE resource-rich Pacific Northwest has always been challenged by the nearly impenetrable hostile land. Stretching from the beginning of the mountains at the top of California's Sacramento Valley up to and around Mount Shasta into the Cascades of Oregon, the terrain of the Shasta-Cascade Wonderland has been challenging railroads for over a century. To this day, the mountains can prove a headache for moving tonnage between California and the Northwest. Despite the challenges, Union Pacific still moves a dozen trains across these mountains every day. And for the visiting photographer, it's a chance to take a view of one of the greatest railroad routes of the West.

History

Although discussions of construction of a railroad route from near Sacramento,

Calif., to Portland, Ore., surfaced in 1850, it would be more than 30 years before any tracks were laid on this route. The route opened with the last rail being laid in 1887 at Ashland, Ore. Dunsuir, Calif., was established as a division point. As traffic increased, Southern Pacific was unhappy with the operating difficulties and maintenance along the line, especially on the grueling grades south of Ashland in the Siskiyou. There had been preliminary surveys completed for an alternate route via Klamath Falls as early as 1880. However, it wasn't until 1901 that Edward H. Harriman, now in charge of the SP, began upgrading of many areas of the old Central Pacific.

Work began in 1905 on a new route east of Eugene, Ore. Known as the "Natron Cut-off," the goal was to head across central Oregon to meet up with the Union Pacific near Ontario, Ore. By 1912, construction stalled due to anti-

trust litigation forcing Union Pacific to divest itself of SP control. Construction did not resume until 1923, and a new route around the north shoulder of Mount Shasta was built in 1925.

When the Cut-off (renamed the "Cascade Line") opened in 1926, the Siskiyou route via Ashland quickly became a quiet backwater line, although it continued to originate significant traffic. The Cascade Line eliminated the equivalent of 51 complete circles of track and reduced the grade northward from 3.3 percent to 2.2 percent and the southward grade from 2.2 to 1.8 percent compared to the Siskiyou Line. The distance between Black Butte and Springfield was reduced by nearly 24 miles.

A 1938 line relocation was needed on the south end of the line for the Shasta Dam project, requiring several new tunnels and large trestles, creating a

The summer solstice of 2013 finds a power-rich northbound M-RVCO (Roseville, Calif.–Eugene, Ore.) crossing the fill at Cougar (between Andesite and Grass Lake, Calif.) with 14,179-foot-tall Mount Shasta in the background. Although dormant, the volcanic history of the mountain can be seen as the railroad passes through the lahar and lava fields to get around it. ROBERT SCOTT PHOTO

smooth route for freight traffic through the mountains.

The Cascade Line was the primary route for freight trains laden heavy with wood products bound from the Pacific Northwest to California and beyond. The Modoc route siphoned off traffic bound for interchange at the Ogden gateway, but the Cascade Line was a heavy freight route up until the UP purchase in 1996. Daily manifest traffic was also dotted with I-5 corridor intermodal traffic between Portland and California.

Prior to the 1996 merger, all of the lumber and paper traffic off these lines was funneled to the large yard at Eugene or was routed south on the Siskiyou Line to join the SP main at Black Butte. After 1996 traffic destined to the Midwest and beyond was routed to the yard at Hinkle, Ore., for classification and forwarded east on UP's Overland Route. Today, Eugene Yard is a shadow of its former

self with the hump and most of its tracks removed. This line still plays an important role on the west coast, but it's not nearly as busy as it was before the UP takeover.

First Impressions

I first became aware of the Southern Pacific crossing of the Mount Shasta area in the mid-1980s. Living in the San Francisco Bay Area, northern California might have been a world away even though it was just a few short hours' drive north. When thinking of the scarlet-and-gray engines battling against the mountain grades around the northern California volcano, it was just as much a drama as an adventure. My first trip on the line came a few years later with a few rides on Amtrak's *Coast Starlight*. The trips through this area were, unfortunately, during the overnight hours. This didn't deter me from sitting

up all night, leaning intently into the glass of the lounge car trying to stare out into the darkness. Looking ahead along the train, I watched as the head end swung in and out of curves knocking down the searchlight signals from green to red as the train passed.

My first visit to the division point at Dunsuir was during a heavy snowfall. It was not only dramatic, but the overall stillness and look of the snowfall on the town had a quiet and peaceful quality. It is still a feeling that I can recall to this day, over 30 years later.

After relocating to the Pacific Northwest, an annual summer trip back to California usually meant following the SP line down through Oregon with a stop at Dunsuir. We had always made it a point to stop at the small park in Dunsuir and allow the kids to dip their toes in the cool waters of the Sacramento River near Shasta Retreat, just north of



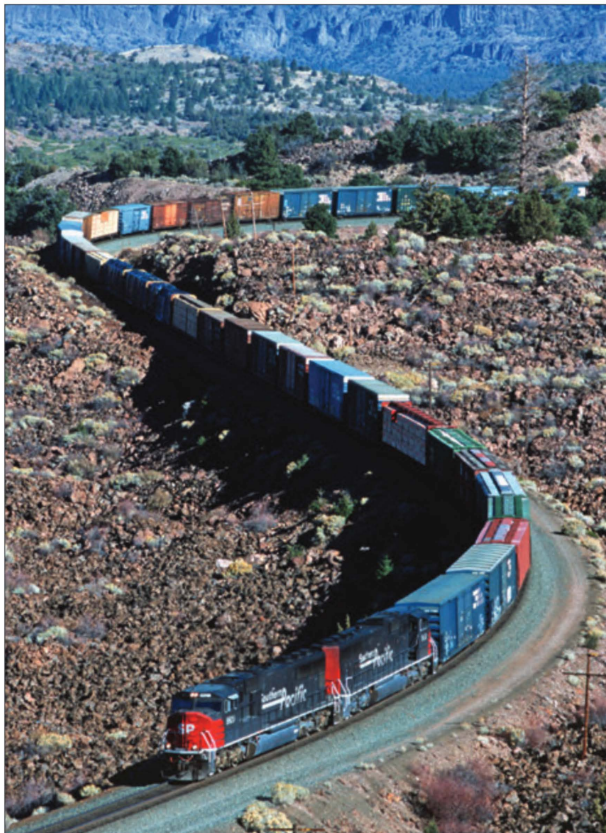
ABOVE: The second SD45T-2 rebuilt by SP's Sacramento Shops emerges from Tunnel 17 at Dorris, Calif., on the point of a lumber drag. Not long after this photo was taken on August 30, 1986, it was renumbered to 6768 to fit in the proposed SP&F merger roster. RIGHT: The definitive image of the mid-'90s SP Black Butte Sub would have to include a pair of SP SD70Ms pulling a long lumber drag. Not much had changed on November 18, 1988, more than two years after the UP takeover. The train is rolling through a lava flow near Hortlum, Calif., known as the "Devil's Garden." BELOW RIGHT: On the first Saturday of summer 1987, two priority trains meet at the Dunsmuir Crossover. The OAPTT (Oakland-Portland Trailers) behind SD45T-2 No. 9213 is waiting in the top end of the old yard. Over on the main, the PTLAT (Portland-Los Angeles Trailers) has just completed a crew change at the depot in downtown Dunsmuir, preparing to depart for Roseville on June 27. GREG BROWN PHOTOS

town. This stop just happened to be right across the river from the rail line.

It was well after the Union Pacific takeover that I started spending more time with a camera around the Mount Shasta area. Although the colors on the engines changed, and the traffic levels had decreased under UP, this line was no less dramatic. The Espee image lives on through colorful murals paying tribute to the line's rich heritage.

Today's Subdivisions

Following the route between Redding and Klamath Falls offers just about every photographic opportunity you could ask for. From the top of the Sacramento Valley at Redding to the yard limits at Klamath Falls, the approximately 166 miles are split between the Valley Sub and the Black Butte Sub with Dunsmuir being the division point between the two. This stretch of railroad has a little bit of everything to offer photographers and historians alike, from the high bridges over Lake Shasta to the snaking course of the Sacramento River it follows up to Dunsmuir. North of Dunsmuir, the grade stiffens and the tracks use a double horseshoe at Cantara Loop and Sawmill Curve to climb out of the Sacramento River Canyon. Beyond Cantara, the line climbs up and around the Black Butte cinder cone before crossing the shoulders of volcanic outflow from Mount Shasta, hugging the north slope of the mountain all the way to the top of the grade near



Shasta Route

Illustration by Otto M. Vondrak. Not all lines, stations, and highways shown. Not an official map. ©2016 White River Productions

AMTK - Amtrak
BNSF - BNSF Railway
GN - Great Northern
CORP - Central Oregon & Pacific
MCR - McCloud Railway
SP - Southern Pacific
UP - Union Pacific



"The country traversed by this new road is of exceedingly formidable character, and required the most expensive class of grading in cutting the roadbed along the rugged mountain sides." — William Hood, chief engineer, Central Pacific Railroad, 1886. ABOVE: A northbound BNSF train approaches Grass Lake on May 1, 2004. BNSF has periodically detoured trains on the Shasta Route to accommodate maintenance-of-way projects on their own lines. GREG BROWN PHOTO

Grass Lake. Once over the summit, it's all downgrade to Mount Hebron, before a fast run across the Butte Valley to Dorris, Calif., and then on to Klamath Falls, Ore. Although Interstate 5 and U.S. Highway 97 offer some great views of the action along the line, some of the best shots require work, perseverance, and a touch of luck.

Starting on the south end at Redding, the route picks up on the Shasta Dam relocation crossing the Sacramento River on a 9,500-foot-long trestle. Three sidings are located within a nine-mile stretch at Silverthorn, Central Valley, and Gray Rocks. The first two sidings are under 5,200 feet in length, so Gray Rocks, at 9,350 feet, is usually used for meets. Parallel I-5 is just off to the east but it nears the mainline at Gray Rocks. At the north end of the siding are the first two tunnels on the route.

Emerging from Tunnel 2, the line enters the bottom portion of the Pit River Bridge. Built in 1942, the bridge is a double-deck deck-truss road and rail bridge. The upper portion of the bridge carries I-5 with the railroad on the lower portion. The bridge is built over Lake Shasta, 500 feet above the original river bed. When the lake is at full capacity, the water level is within 40 feet of the bottom of the bridge. It stands as the highest double-deck bridge in the U.S. The two routes split at the north end of the 2,754-foot span with I-5 heading northeast and the railroad northwest.

This separation is just temporary. Tunnel 3 is located just north of the Pit River bridge, and brings the railroad back next to I-5 for a short distance

before taking a canyon west of the interstate. Five tunnels were bored in a three-mile stretch before reaching the 6,120-foot siding at O'Brien. From Redding the tracks have been on a steady climb with the max grade nearing 1 percent in places. North of O'Brien a short downgrade is encountered as the tracks cross an arm of O'Brien Creek Inlet on Lake Shasta, passing through two more tunnels before soaring across a bridge over the Salt Creek Inlet. During low-water seasons, the original route of Highway 99 can be found at the bottom of the lake on a small bridge over the creek. During high water season, the old concrete bridge is under nearly 100 feet of water.

From Salt Creek bridge, the railroad passes through Tunnel 1 before it crosses the upper arm of Lake Shasta and a side tributary near Lakehead. The large bridge at Lakehead has a hidden gem that can be seen during low water in the lake — a tunnel portal from the original pre-dam construction line is sometimes visible with the towering bridge above.

Lakehead is the top of Shasta Lake and has an 8,300-foot siding. Northward from this point, the route follows the curving path of the Sacramento River on the original alignment from the 1800s. Tunnels 11 and 12 are located near the end of the Shasta Dam line relocation. At the passing siding at Delta (5,255 feet), the grade begins in earnest and will closely follow a 1 percent ascent for the next 24 miles to Dunsmuir. Track speed drops from 40 to 25 m.p.h. north of Delta, in deference to the curvature.



Five sidings are located within a 20-mile stretch at Lamoine (5,570 feet), Gibson (4,970 feet), Sims (8,300 feet), Conant (5,385 feet) and Castle Crags (5,805 feet) before reaching the yard and crew change point at Dunsmuir. A small yard is located south of Dunsmuir, with the unique distinction of being constructed on a 1 percent grade. At Dunsmuir proper, a small area is located for engine storage; a turntable is still in place. Most crew changes take place in front of the Amtrak depot in town. Access from Delta to Dunsmuir is from stretches of the old highway, although many good vantage points can be found from the side shoulder of I-5. One unusual location is at Gibson where the old highway and railroad follow the river on a nearly 180-degree curve. High above, I-5 cuts straight across the scene on two large bridges built in the 1980s. North out of Dunsmuir the grade

stiffens to nearly 2 percent as the walls of the river canyon steepen and close in. Five miles north of Dunsmuir, the railroad reaches the bottom of the first horseshoe curve at Cantara Loop where the tracks will leave the Sacramento River, turning north to south. The river crossing is on a bridge that includes a 14-degree curve. The railroad has encountered many problems at this site over the years, the worst being the hazmat spill in 1991 that dumped 20,000 gallons of herbicide into the river. Since then, the bridge has been modified with a superstructure added to the inside of the curve to prevent string-lining cars from ending up in the river. After the incident, overall train tonnage was limited.

North from Cantara Loop the tracks are dug into the opposite mountainside, climbing three miles to another horseshoe known as Sawmill Curve. Just ahead is the long siding at Mott-

Azalea. Grades here are the steepest on the line at 2.2 percent northbound. During the SP days, Mott and Azalea were laid out as a lap-siding. A few years ago UP removed the lap switches and distinctive cantilever signal, converting Mott-Azalea into a 2.5-mile stretch of two main tracks.

There is easy access to this area from the area north of Dunsmuir on the old highway. This includes Shasta Retreat, known for its small fishing and vacation cabins along the river across from the railroad. Cantara Loop, Mott, and Azalea can be accessed off Mott Airport Road, South Stage Road and the aptly named Cantara Loop Road. The area around Sawmill Curve is private property and caution should be exercised in respecting those properties.

The area between Shasta Retreat and Cantara Loop was once known for some of the purest spring water around. In the



OPPOSITE: The tallest peak in the Trinity Mountains is Mount Eddy (9,037 feet), providing a snowy backdrop for the "Morning Z" train Z-BRLC on January 17, 2013, as it swings around the curve into the north switch at Azalea, Calif. **ROBERT SCOTT PHOTO** **TOP:** An outstanding geographic feature in the Mount Shasta area is Black Butte, a cluster of overlapping lava domes, lending its name to the nearby junction of the original Siskiyou Line and the Natron Cut-off. In the shadow of its namesake, Central Oregon & Pacific switches the interchange on May 19, 2001. **CRIS BROWN PHOTO** **ABOVE:** During the long days of June, it is possible to capture Amtrak train No. 14, the *Coast Starlight*, in morning sun. This area, known as Cougar, was the site of a siding in SP days, and was the location of many publicity shots for the railroad. **ROBERT SCOTT PHOTO**

early days, passenger trains stopped at Shasta Springs and allowed the patrons to sample the water bubbling out of the springs. A hotel retreat was built on top of the hill above the railroad and an incline railway delivered passengers to and from the resort. The railroad shipped the spring water around the country by rail in special blue boxcars lettered for the Shasta Water Company. Today, the resort is privately owned by the St. Germain Foundation, and not open to the public.

Beyond Azalea, the grade lessens to 1.5 percent and reaches Mount Shasta City, three miles distant, where a little-

used 4,337-foot siding is located. This is the site where the McCloud Railway directly interchanged with the mainline until 2006 when the railroad was shut down. One mile beyond Mount Shasta City is the 8,870-foot siding at Upton. Beyond Upton the railroad crosses under I-5 and around the edge of Black Butte, a volcanic cinder cone, before reaching Black Butte siding (11,760 feet). Black Butte is the location where the Siskiyou Line diverges from the mainline and heads into Weed and across the valley to the north for the climb toward the Siskiyou. Up until recently the Central Oregon & Pacific (current operator of

the Siskiyou Line) based a switcher for the large mill at Weed and interchanged with the UP at Black Butte, as the north end of the line was severed by a tunnel collapse. With the reopening of the Siskiyou Line, traffic from Weed is now routed up and over the Siskiyou for interchange with the UP at Eugene. Access to the area between Mount Shasta City and Black Butte is from good paved roads as well as dirt access roads to Black Butte.

Climbing out of Black Butte the grade begins to be near-continuous as it heads around from the west slope of Mount Shasta to the north side. Extensive



TOP: An hour's drive in the author's Jeep Rubicon across the rugged and snowy road into the Dry Canyon Trestle was rewarded with this view of infrequent train I-LCBR (intermodal, Los Angeles-Portland) on January 17, 2013. The surrounding valley floor is covered in Manzanita bush. **ABOVE:** A rare train to this route is an I-DITA (intermodal, Dallas-Tacoma) hauling Evergreen containers back to the Pacific Northwest. On June 22, 2013, a northbound crosses Dry Canyon Trestle near Hotlum. Beyond the trestle in the valley one can see the hillocks left from the lahars of the volcanic history of Mount Shasta. **OPPOSITE:** After several years of record low rainfall, Shasta Lake can be found to be very empty in many locations. August 17, 2013, finds the roadbed and bridge of the original Pacific Coast Highway exposed below the soaring trestle over the Salt Creek Inlet. Normally the old highway bridge would be under nearly 100 feet of water. This dry day finds the "Afternoon Z" Z-BRLC rolling upgrade just north of the O'Brien siding. **ROBERT SCOTT PHOTOS**

roadbed work was required when the line was built to bring it through volcanic rock and lahar zones. Six miles north of Black Butte is the 5,065-foot siding at Hotlum. To reach this point, the railroad was forced to maneuver through an area known as the Devil's Garden that was thick with large lava flows and volcanic rock. Beyond Hotlum, the railroad was required to bridge across Dry Canyon on a 1,140-foot-long, 160-foot-high steel viaduct. Seven miles farther is the 8,342-foot siding at Andesite, named after the volcanic rock of the region. Above Andesite, another six miles is

needed to reach the top of the grade at Grass Lake and its 5,675-foot siding. Grass Lake, along with Black Butte, has the only remaining steel water tanks from the steam era. A wye was located at Grass Lake to accommodate turning helper locomotives. It is in this stretch where the railroad and Mount Shasta are nearly inseparable. At 14,179 feet tall, Mount Shasta is as close as six miles to the railroad in places with the tracks blasted out of the ancient lava flows.

Summer is often the favorite time to visit due to the access to the tracks in many areas that would otherwise be

covered in snow, and the increased hours of daylight. One location, Dry Canyon Trestle will take some time to drive into, even in good conditions. To call this route a road is to say there is some clearance from the brush, but in places is more like crossing a boulder field. In fact, the road follows a long-abandoned logging rail spur and it wouldn't be surprising to find ties and rail in some places due to the ruggedness of the ground. The road sees no regular maintenance, so getting into and out of there becomes more of a challenge with each passing year due to erosion and snow melt. A four-

wheel-drive vehicle with good ground clearance and patience are needed to find this location. The reward at the end is the dramatic Dry Canyon Trestle, just upgrade from the siding at Hotlum. Prior to 2013, the road was intact and passable all the way under the trestle and up into the canyon. Today the road is full of ruts and washouts. Many roads narrow before disappearing into the Manzanita bushes.

From Grass Lake the railroad starts its descent on a ruling 1.1 percent grade, passing the sidings at Penoyar (5,169 feet) and Kegg (8,343 feet). Between these two sidings is the old town site of Bray which is at the foot of Orr Mountain. The railroad wraps around three sides of the mountain on its way to the siding at Kegg. A large ballast pit is located at Kegg, which the Southern Pacific mined its railroad rock for years for its system. Beyond Kegg, the tracks start to enter the broad Butte Valley at Mount

Hebron (7,286 feet) before a tangent run across the valley floor to Dorris (5,439 feet). Access to this area is from paved and dirt roads off Highway 97. The area around Bray is especially scenic as it crosses a small valley, and many photo opportunities are available in this area. Highway 97 parallels the tracks from outside of Mount Hebron to Dorris.

Tunnel 17 is located at the east end of Dorris and cuts through the south end of Dorris Hill. From there the route starts its descent into the Klamath Basin. The railroad enters Oregon after passing through Tunnel 18, three miles north of Dorris. From there it passes through the small community of Worden (4,858 feet) and runs across the Klamath Basin for the final nine miles to the siding at Texum and the approach to Klamath Falls. Texum is the starting point for the Modoc Line, and a wye is still located there. Highway 97 follows the railroad closely from Dorris into Klamath Falls.

Today's Traffic

Current traffic levels around Mount Shasta are fairly consistent, with an average of ten to 12 trains in a 24-hour period. Heavy manifest traffic is still the norm for this route. Trains from the Pacific Northwest to Roseville Yard (near Sacramento) include Q-HKRV, Q-PTRV, Q-PDRV, M-CORV and Q-PWRV. Northbound trains from Roseville include M-RVHK, M-RVPT, and M-RVCO. Most southbound manifest trains carry distributed power to aid the heavier trains over the route. Northbound manifest trains run as Ms while southbounds run as Qs.

Grain trains appear once or twice a week. Usually one comes from Eastport, Idaho, and the other from Canadian National in Vancouver, B.C., with run-through CN power. Destinations include Modesto, Fresno, and the San Joaquin Valley Railroad. Oil trains from Eastport destined for Bakersfield, Calif., appear

sporadically and are symbolized OCAAC southbound and OACCA northbound. Northbound extra manifest trains run with an X at the end of the symbol; the most common are the MRVPWX and MRVPWX, each about once a week.

Intermodal trains between Los Angeles and Portland travel each direction (Z-LCBB and Z-BRLC). Amtrak's *Coast Starlight*, Nos. 11 and 14, pass through the area during the overnight and early morning hours. It is possible to catch 14 during the early morning summer light in the upper reaches of Mount Shasta. This route also serves as a secondary option for BNSF when issues arise on its Feather River line to access California from the Northwest.

For the past few years, traffic levels have been fairly consistent with a morning fleet of trains followed by a mid-day lull, and then an afternoon and evening fleet. The southbound Z-BRLC train is usually one of the first trains to arrive after its previous evening departure out of Portland's Brooklyn Yard. Early evening will usually find its northbound counterpart, the Z-LCBB, arriving after its Los Angeles departure the evening before.

Crew changes take place either at the Amtrak depot in Dunsuir or down in the yard, which is inaccessible without trespassing. Dunsuir is a great location to use as a base while visiting the area. The quaint small town has been a draw for many people over the years for recreation, fishing, and camping. Those planning to visit can get an idea of the train traffic by watching the web camera that is hosted by *TrainOrders.com*. This camera captures sound and movement at the location where crew changes takes place in Dunsuir.

On occasion, BNSF uses this route as a detour between the Pacific Northwest and California when either there is a derailment or a large work project on the former Great Northern/Western Pacific Inside Gateway route south from Klamath Falls.

ABOVE RIGHT: Another location that the SP used for its publicity shots was the old site of Pioneer, which is located just downgrade from Mount Shasta City. Set on a set of reverse curves and on a 1.4 percent downgrade, it is a perfect location to frame a train with Mount Shasta in the background. June 21, 2013, finds a Q-PDRV with three units on the head end winding through the curves. **RIGHT:** Always a good bet for the first southbound train of the morning, a Z-BRLC (Portland-Los Angeles, Calif.) high-priority train scoots downgrade at the end of the siding at Mott with a mountain full of snow as a backdrop on January 17, 2013. ROBERT SCOTT PHOTOS



Most of this region is a "four-season" area with warm summers that can be interrupted by thunderstorms. In the past, stationary strong thunderstorms have caused flash flooding issues on the north slope of Mount Shasta between Hothum and Andesite as well as strong downslope winds. Snowfall can vary in the winter from a few inches to a few feet. The frequency of traffic keeps the line clear in all but the heaviest of snows. During the heavy snow years, access is limited since

access roads are not routinely cleared by either road or railroad crews.

There are plenty of defect detectors that will announce the locations of trains. Also, as crews near the crew change point, they will radio the oncoming personnel about their location. This stretch of railroad is covered on radio channel 45 (160.785). ATCS is in place on part of the route for those photographers who are set up to monitor those radio channels.

The Mountain Battle Continues

This area offers a unique perspective on today's railroading. The battle of mountain grades and river routes in spectacular scenery can both be experienced in just a couple hundred miles. From open expanse of valleys to stands of timber, lava flows, and a twisting and winding river course, this railroad has it all — not to mention one picturesque mountain to use as a backdrop for your photos. Although the railroad may be yellow in color, the spirit of the Southern Pacific can still be found in places along the railroad. ■

The author would like to thank Bob Morris and Greg Brown for their assistance preparing this article.



LEFT: After bringing their train north from Roseville, the off-duty crew is headed for the hotel at Dunsuir, as the engineer of the Klamath Falls-based crew boards the lead loco. Total elapsed time for this crew change was less than five minutes. **BELOW:** A few miles south of Dunsuir near Castle Crags, Castle Creek provides a brief respite from the warm summers in the Sacramento River Valley. It is also a great location to catch a passing train like this southbound Q-PDRV on June 20, 2015. ROBERT SCOTT PHOTOS

