

*“The world has seven wonders,
the travelers always tell”*

By Dean Boyer

Grand Coulee Dam

Grand Coulee Dam turned 75 this summer. The federal Bureau of Reclamation, which operates the dam as part of the Columbia Basin Project, held a quiet celebration in July that attracted about 100 people, mostly local residents and a few tourists.

The bureau even allowed water to cascade down the spillways to provide a dramatic backdrop for brief comments by Reclamation Commissioner Robert Johnson and Steve Wright, who heads the Bonneville Power Administration, and other dignitaries. But only for about 20 minutes; the water in Lake Roosevelt, the 150-mile-long reservoir behind Grand Coulee Dam, is far too valuable for producing electricity.

Johnson told the small gathering that the Columbia Basin Project is second to none in the benefits it provides, including power for the Northwest, water to irrigate nearly 700,000 acres of arid Eastern Washington farmland, and flood control as far downriver as Portland.

Wright called the Columbia River hydroelectric system, encompassing 29 hydroelectric dams, the “envy of the entire world,” generating 8,700 megawatts of electricity under average water conditions. Grand Coulee Dam by itself produces an average of 2,500 MW of power.

Later that evening, those who hung around were entertained by The Wanderers, a Northwest duo that has revived the Columbia River songs written by folk singer Woody Guthrie for the BPA in 1941, followed by the nightly, summertime laser light show dancing across the mile-wide face of the dam.

Afterwards, life returned to normal in Coulee Dam, Electric City, Grand Coulee and the other communities that developed around the dam, which Guthrie christened the eighth Wonder of the World.

As the Seattle Times noted this summer, “It is still one of the state’s least developed recreational paradises. The pace is slow, the land is affordable and the bars, burger joints and bait shops have yet to be replaced by bistros, breweries and bookstores.”

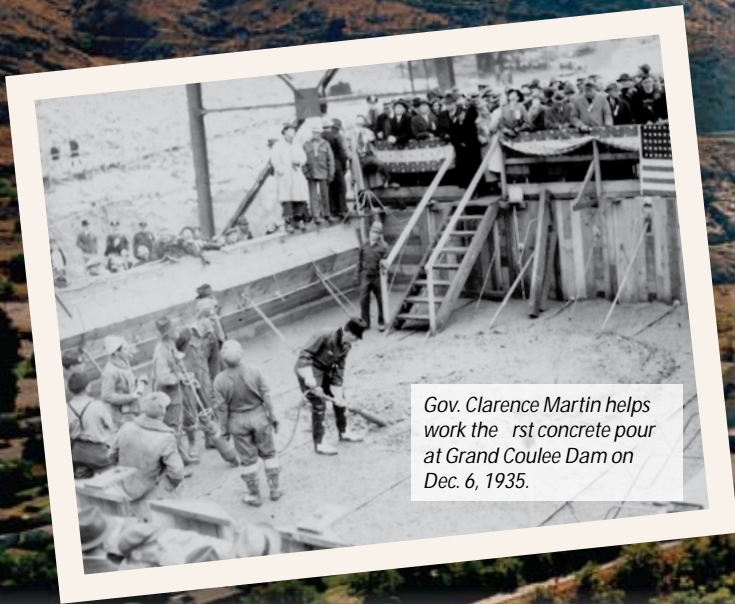
It was a much different scene 75 years ago when a reported 5,000 people made the difficult trek to the remote site, near where the Grant County ferry tied up on the west side of the Columbia River.

“It was Sunday, July 16, 1933,” recalled Edith Scott

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President Franklin Roosevelt approved construction of Grand Coulee Dam in 1933 as part of the Public Works Administration, whose mission was to put jobless Americans to work during the Great Depression. Thousands traveled to the site of the dam to hear Roosevelt speak in August 1934.



Gov. Clarence Martin helps work the first concrete pour at Grand Coulee Dam on Dec. 6, 1935.



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Ailing Lael, writing this summer for the Star newspaper in Grand Coulee. “Only dirt roads converged here and great rolls of dust rose up behind every vehicle.”

Lael was there with her mom and dad, arriving in the family’s Ford Model A pickup, to hear then-Gov. Clarence Martin “speak of this project, this dam to put the mighty Columbia River’s water to benefit the people of north-central Washington, producing power and irrigation water for the thirsty lands of the basin.”

The country was in the midst of the Depression and drought had further devastated Eastern Washington farms, just as the Dust Bowl had ravaged agriculture in the Great Plains, and the governor’s message provided hope for the future.

As Guthrie would later write in “the Grand Coulee Dam”:

Uncle Sam took the challenge in the year of ’33

For the farmer and the factory and for all of you and me.

He said, “Roll along Columbia. You can ramble to the sea,

But river while you ramble, you can do some work for me.”

After Martin drove an engineering stake into the ground with “a hefty sledge hammer,” former Sen. Clarence Dill, who would later serve on the Columbia Basin Commission, “pushed the blade of a shovel into the dry, sandy soil and tossed that shovelful of coulee dirt in the direction of the cold, green river.”

Construction took almost a decade.

The dam was completed in January

1942, about a month after the United States entered World War II, following the Japanese attack on Pearl Harbor. The primary goal of irrigating vast reaches of the Columbia Plateau for agriculture was put on hold, but the power produced by the dam was vital to the war effort, especially making aluminum for building aircraft.

As Guthrie also captured it in song:

Now in Washington and Oregon you hear the factories hum,

Making chrome and making manganese and light aluminum.

And the roaring Flying Fortress, wings her way for Uncle Sam

Spawned upon the King Columbia by the big Grand Coulee Dam.

What Guthrie and the rest of the world didn’t know at the time, except for a few people, is that war effort also included the top-secret Manhattan Project to develop the atomic bomb.

The Hanford site in Benton County was established in 1943 and produced the plutonium used in the first atomic bomb, tested in July 1945 at what is now the White Sands Missile Range in New Mexico, and for “Fat Man,” the atomic bomb detonated over Nagasaki, Japan, a few weeks later.

As Seattle Post-Intelligencer columnist Joel Connelly wrote in a retrospective look at the dam in 1989, “A wartime ‘mystery load’ in Southeast Washington consumed

more Grand Coulee kilowatts than all the region’s cities, farms and public utilities.”

The B-Reactor, built at Hanford based on an experimental design by Italian physicist Enrico Fermi, was the first large-scale plutonium production reactor in the world.

After the war, attention again turned to using Grand Coulee Dam to irrigate thousands of acres of farmland – the Columbia Basin Project –

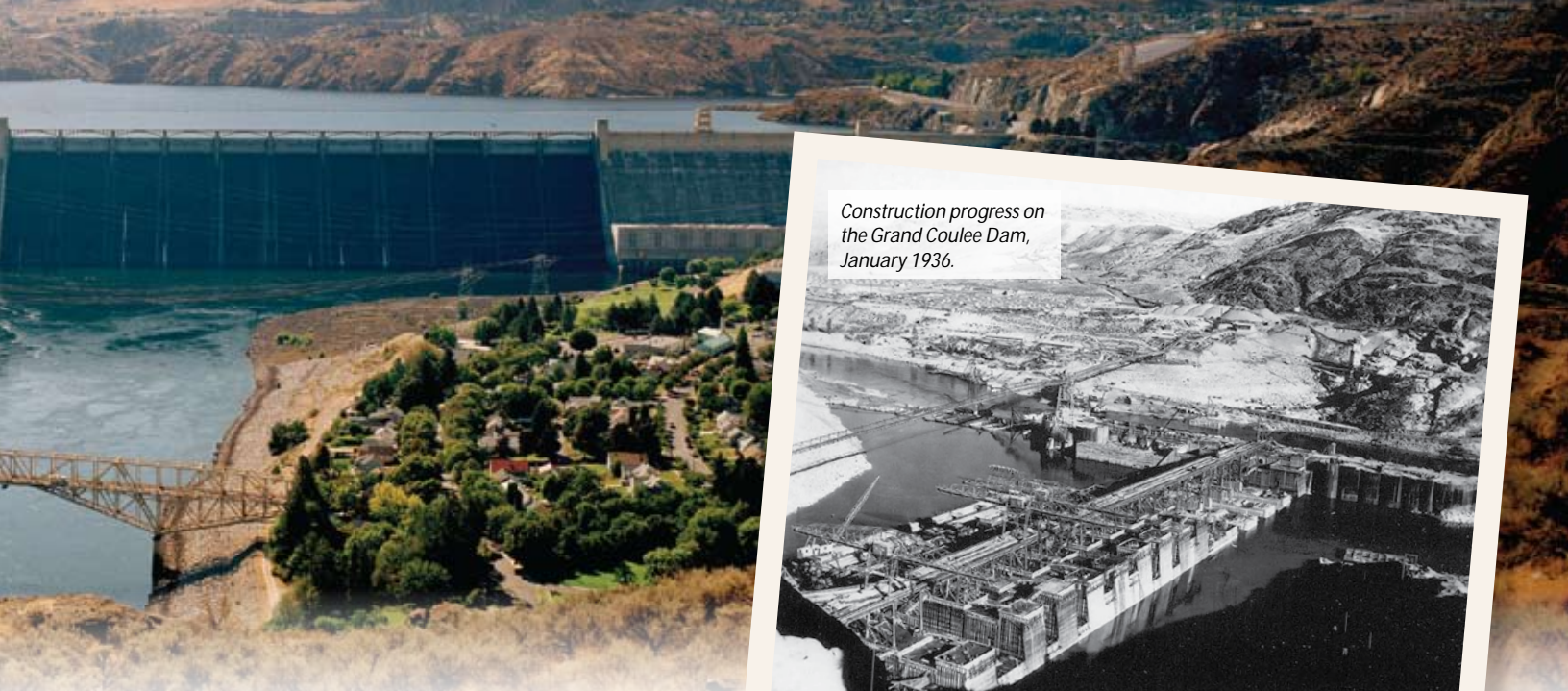
which also involves a series of canals and four smaller dams.

Grand Coulee was an Ice Age channel of the Columbia River that went dry thousands of years ago. Earthen dams were built at either end of the deep, narrow canyon, creating a 27-mile-long impoundment now known as Banks Lake.

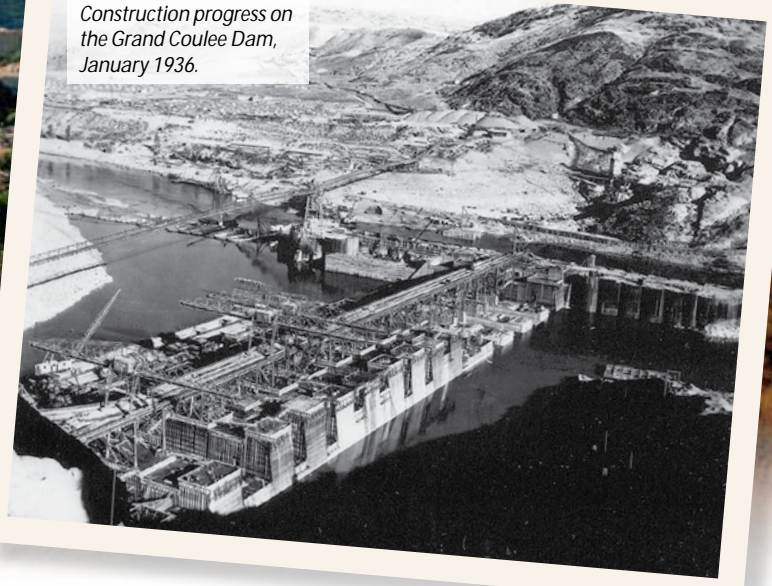
Water is pumped from Lake Roosevelt, the reservoir created by Grand Coulee Dam, into Banks Lake, which is then used to provide water for irrigation. Water flows from the outlet at Dry Falls Dam into the Main Canal and eventually into Billy Clapp Lake, created by the third earthen dam. Water used to irrigate farms in the upper portion of the project is returned to the 28,000-acre Potholes Reservoir, created by O’Sullivan Dam on Crab Creek, and reused for the lower portion of the project.

In its entirety, the Columbia Basin Project involves more than 300 miles of main canals, 2,000 miles of laterals, and 3,500 miles of drains and wasteways, turning a parched

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Construction progress on the Grand Coulee Dam, January 1936.



expanse of the Columbia River plateau in Eastern Washington into one of the most fertile crop-growing regions in the world.

According to HistoryLink.org, the possibility of building a dam at Grand Coulee surfaced as early as 1892, three years after Washington became a state. In 1902, the federal government created the Bureau of Reclamation to develop large-scale irrigation projects in the West. The bureau investigated several possibilities for the Columbia Basin, but nothing was immediately pursued.

The Quincy Valley Water Users Association developed a proposal to build a series of pumping stations to siphon water from the Columbia River at the Grand Coulee to irrigate 435,000 acres of farmland, but the Bureau of Reclamation said it was too expensive and Washington voters defeated a \$40 million bond issue to finance the plan in 1914.

A few years later, William “Billy” Clapp, an attorney in the small Grant County town of Ephrata, organized an effort to convince the county commissioners to fund a study of how high a dam was needed to push the Columbia River back into the Grand Coulee.

They tried to keep the study secret, but in July 1918, Rufus Woods, the editor of the *Wenatchee World* and later a champion of public utility districts, broke the story in a page 7 article headlined “Formulate Brand New Idea for Irrigation Grant, Adams, Franklin Counties Covering Million Acres or More.”

Although Woods later admitted he initially thought it was a harebrained idea, he described the plan as the “latest, newest;

the most ambitious idea in the way of reclamation and development of water power ever formulated.” He would go on to become president of the Columbia River Development League and cheerleader for the Grand Coulee Dam project.

Two plans eventually emerged. One idea, known as the “gravity plan” and promoted by a group of businessmen in Spokane, called for building a dam on the Pend Oreille River in Idaho and diverting water to Eastern Washington through some 130 miles of gravity-fed canals, tunnels, aqueducts and reservoirs. The “pumping plan” called for construction of a 550-foot high dam on the Columbia River, with power from the dam used to pump water uphill from the reservoir to a storage lake created by damming both ends of the Grand Coulee.

The two plans were debated until 1926, when Congress appropriated \$600,000 for a comprehensive study of irrigation, flood control, power and navigation on the Columbia River above the confluence with the Snake River. In 1929, while the study was underway, a drought crippled production at hydroelectric dams in the Puget Sound area and swirling towers of topsoil reaching thousands of feet into the sky began blowing away in Eastern Washington. With the collapse of Wall Street, the nation was also plunged into the Great Depression.

In 1932, the Army Corps of Engineers released a report favoring the pumping plan, largely because the sale of electricity from a dam at Grand Coulee would offset the cost of delivering water for irrigation.

Critics scoffed, calling the project a waste of money and predicting nobody would want to buy power generated by the dam. President Herbert Hoover rejected the project.

But a year later, newly elected President Franklin D. Roosevelt included the Grand Coulee project in a massive public works program to put jobless Americans to work. Initially, he called for a much lower dam – 290 feet – but it was a start. A few months later, at the groundbreaking ceremony attended by Edith Lael as a little girl, Gov. Martin drove a symbolic engineering stake into the ground, officially launching what was known as “Public Works Project No. 9.”

Roosevelt, who visited the site in August 1934, drawing a crowd of 20,000 people, had authorized construction of the project through the Public Works Administration. But in 1935, the U.S. Supreme Court ruled only Congress could authorize the construction of dams across navigable rivers. The White House quickly rushed a bill through Congress to authorize Grand Coulee Dam and more than 20 other projects that were already built or under construction.

In 1935, then Interior Secretary Harold Ickes signed the first change order, directing contractors to build a base that could accommodate a much higher dam – topping off at the mile-wide, 550-foot high dam we see today. Approval of the Columbia Basin Project, however, would not come until 1943, and work on the irrigation project

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would wait until after the war.

Looking back, some critics say the social and environmental impacts of building Grand Coulee Dam outweigh the benefits. And it's true that we aren't likely to see any more massive hydroelectric projects built in the United States. But Grand Coulee needs to be viewed from the perspective of the 1930s, the decades of low-cost electricity that has been at the core of regional economic development, and the bounty that local agriculture produces.

In addition, after the Vanport Flood in 1948, which destroyed Oregon's second-largest city at the time, the Bureau of Reclamation also made flood control a priority in its management of the dam, and more than 3 million visitors a year now enjoy the Lake Roosevelt National Recreation Area.

And then there's the majesty of Grand Coulee, still the largest hydroelectric dam in North America, although it has fallen to No. 4 in the world, and the vision shown by those early backers.

As Scott Hunter, editor of *The Star* and president of the Grand Coulee Area Chamber of Commerce, wrote in a special section celebrating the 75th anniversary, "When we look at Grand Coulee Dam, we should see more than the massive concrete structure that allows the U.S. Bureau of Reclamation to prevent floods in Portland, irrigate hundreds of thousands of acres to produce food, and provide electricity to millions. It is the most tangible evidence possible of the American ingenuity of our past that continues to provide benefits, inspiration and power for our future."

Hunter acknowledges some disappointment with the turnout for this summer's 75th anniversary celebration. *The Chamber of Commerce* had thought about bringing in Arlo Guthrie to sing the songs his father wrote for the BPA in a span of 30 days back in 1941, but that proved too expensive for a small town chamber. *The dam* did regain the national spotlight briefly this spring when it was featured in an Earth Day segment for an NBC series on "Green Energy Today" for the Today Show.

But in a way, the turnout illustrates how much people in Washington have come to take Grand Coulee Dam for granted. *The massive hydroelectric dam* – 12 million cubic yards of concrete and as high as a 46-story building – just goes about its business of producing electricity and providing water for irrigation.

Reps. Cathy McMorris Rogers and Doc Hastings, whose districts encompass the Columbia Basin Project, also tried to focus some attention on Grand Coulee for its 75th anniversary, introducing a House resolution that recognizes "its critical role in the national and economic security of the United States and the contributions of hydroelectric power to the reduction of greenhouse gas emissions."

All nine of Washington's representatives eventually signed onto the resolution, which finally passed in late September.

In addition to paying tribute to those who built the dam, including the 81 workers who were killed, the resolution recognizes Grand Coulee as the "cornerstone of the electric power system" in Washington.

The resolution notes that "hydroelectric power is a clean, renewable resource that plays a major role in controlling emissions of greenhouse gases" and that "having clean, affordable hydroelectric power helps reduce the reliance of the United States on foreign oil imports and supports the successful wind power industry in the [Northwest] by ensuring the availability of electricity in the absence of sufficient wind power."

This is likely to be the last time that dignitaries gather at Grand Coulee to celebrate the decision 75 years ago to build the massive hydroelectric facility – at least until 2033, when the dam turns 100. But the dam will continue to churn out power for the Northwest, and it will continue to be remembered in song.

Ten years ago, when the U.S. Postal Service honored Woody Guthrie with a first class stamp, Arlo Guthrie and longtime friends the Dillards – known to fans of the old

Andy Griffith Show as the "Darlin' Boys" – recorded 13 of his father's songs for an album to be called "32¢."

The album was finally released this summer with the title "32¢/Postage Due," since, as Arlo Guthrie noted, postage rates have gone up considerably since 1998. It leads off with "Grand Coulee Dam."

*Well the world has seven wonders,
the travelers always tell:*

*Some gardens and some towers,
I guess you know them well.*

*But the greatest wonder is in Uncle
Sam's fair land.*

*It's that King Columbia River and
the big Grand Coulee Dam.* 

Dean Boyer is Director of Communications for the Washington PUD Association and editor of Connections magazine. Some material for this article came from HistoryLink.org and is used with permission. The lyrics for "The Grand Coulee Dam" are those recorded by Woody Guthrie.

