history

The Colorado River for centuries, in its wild 1,400-mile descent from the lofty Rocky Mountains to the Pacific Ocean, has gouged great chasms such as Grand Canyon. Fed by melted snows in the spring and summer, the river yearly flooded low-lying farmlands along its route. Then in late summer and fall, the river dried to a trickle. Early settlers diverted water from the river with little success. There was either too much or too little. Floods destroyed crops, lives, and property, and often crops and livestock withered and died when the river ran too low to be diverted.

The disastrous floods in 1905-07 which swept through Imperial Valley in southern California provided added incentive for action. The Colorado River had to be controlled and regulated, but it was a long, drawn-out job.

Representatives of the seven Colorado River Basin States met in Santa Fe, N. Mex., in 1922 and drafted the Colorado River Compact. This agreement divided use of the river's water between the upper and lower basins and paved the way for construction of works to control, regulate, and utilize the stream's natural resources. The Congress in 1928 passed the Boulder Canyon Project Act, authorizing construction of Hoover Dam and the All-American Canal System.

Hoover Dam is the key to all downstream control and regulation. The All-American Canal System takes water, controlled and regulated by Hoover Dam, from Imperial Dam westward to the Yuma, Imperial, and Coachella Valleys—southward and eastward to the valley and mesa lands of the Gila and Yuma Auxiliary Projects. There has never been a flood or drought on lands served by the lower Colorado River since Hoover Dam began storing water in 1935.





The Dam

It is	726.4 feet	t or	221.4	meters	high.
Its crest is	1,244 feet	tor	379.2	meters	long.
At top it is	45 feet	t or	13.7	meters	thick.
At bottom it is	660 feet	t or	201.2	meters	thick.
It contains 3¼ million cut meters of concrete.	bic yards	or	21/2	million	cubic

The Reservoir

Lake Mead when full is 110 miles or 177 kilometers long. Its capacity is 29,755,000 acre-feet or 36,702,251,000 cubic meters.

Its maximum depth is _____500 feet or 152 meters. It covers _____157,900 acres or 639 square kilometers.

All figures are for the reservoir filled to the top of the spillway gates in the raised position—elevation 1,221.4 feet or 372.28 meters.

The Powerplant

Its capacity is ______ 1,344,800 kilowatts Its 17 large generators are rated at:

One	95,000 kilowatts
Fourteen	82,500 kilowatts each
One	50,000 kilowatts
One	40,000 kilowatts

Each of its 2 station service generators is rated at 2,400 kilowatts.

Its 17 large turbines are rated at:

Fifteen 115,000 horsepower or 116,595 metric horsepower each

One 70,000 horsepower or 70,971 metric horsepower One 55,000 horsepower or 55,763 metric horsepower Each of its 2 station service turbines is rated at 3,500 horsepower or 3,549 metric horsepower.



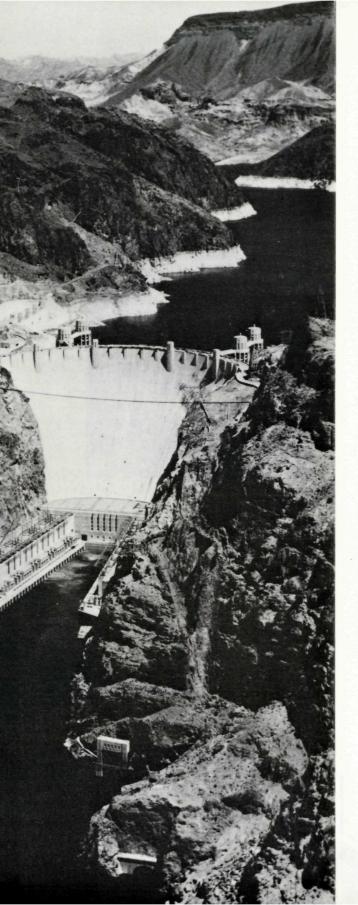
As the Nation's principal conservation agency, the Department of the Interior has responsibility for most of our nationally owned public lands and natural resources. This includes fostering the wisest use of our land and water resources, protecting our fish and wildlife, preserving the environmental and cultural values of our national parks and historical places, and providing for the enjoyment of life through outdoor recreation. The Department assesses our energy and mineral resources and

works to assure that their development is in the best interests of all our people. The Department also has a major responsibility for American Indian reservation communities and for people who live in Island Territories under U.S. administration.

Revised 1976

U.S. Department of the Interior Thomas S. Kleppe, Secretary

Bureau of Reclamation Gilbert G. Stamm, Commissioner



engineering wonder

The American Society of Civil Engineers selected this pioneer Reclamation multipurpose project on the Colorado River in Black Canyon between Nevada and Arizona as one of this country's Seven Modern Civil Engineering Wonders. A bronze plaque—mounted in a concrete pedestal on the upstream roadway parapet at the center of the dam with Arizona on one side and Nevada on the other —records this honor for visitors to see.

Hoover Dam was without precedent—the greatest dam construction of its day. This arch gravity dam —rising 726.4 feet above bedrock—still holds the distinction of being the western hemisphere's highest concrete dam. And its reservoir, Lake Mead backing up 110 miles behind the dam and capable of storing 28.5 million acre-feet of water, including dead storage—is still this country's largest manmade reservoir.

Hoover Dam is 660 feet thick at its base, 45 feet thick at its crest, and stretches 1,244 feet across the canyon. Some 4,400,000 cubic yards of concrete were placed in the dam, powerplant, and related structures.

Bureau of Reclamation engineers designed Hoover Dam. The contract for construction was let to Six Companies, Inc. in 1931. The dam began impounding water in its reservoir February 1, 1935, and the last concrete was placed in the dam proper the following May 29. President Franklin Delano Roosevelt dedicated Hoover Dam on September 30, 1935. The dam was completed 2 years ahead of schedule. The powerplant structures were completed in 1936. and the powerplant's first generator-N-2-went into commercial operation October 26 of that year. The 17th and final generating unit-N-8-went into commercial operation December 1, 1961, to complete the Hoover Powerplant, raising its nameplate capacity to 1,344,800 kilowatts-keeping it as one of the world's largest hydroelectric installations.

In 1930, the Secretary of the Interior named Hoover Dam for Herbert Clark Hoover, 31st President of the United States. Later, the names Boulder Canyon Dam and Boulder Dam were used. Then, in April 1947, by congressional action, the name Hoover Dam was restored.

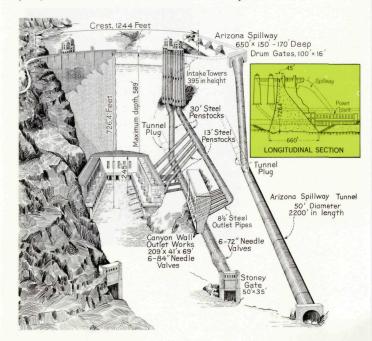
Hoover Dam Film Available

A 28-minute, 16 mm. color film, "THE STORY OF HOOVER DAM," is available upon request for showing to school and civic groups, clubs, and other public gatherings, and on television stations. Prints of this film may be ordered from the U.S. Department of the Interior, Bureau of Reclamation (code 922), Building 67, Denver Federal Center, Denver, Colorado 80225. There is no cost to the borrower except return postage.

The film tells the dramatic story of Hoover Dam's construction and its impact on life in the Pacific Southwest. Pictures of construction of the dam, an internationally known engineering achievement, are supplemented with more recent pictures of the big powerplant, recreation on Lake Mead, and developments downstream.

Guided Tours

Bureau of Reclamation guides conduct visitors through Hoover Dam daily between 7:30 a.m. and 7:15 p.m. from Memorial Day weekend through Labor Day, and from 8:30 a.m. to 4:15 p.m. daily the remainder of the year. In addition, an exhibit building, housing a model of a generating unit and a topographical model of the Colorado River Basin, is open to the public. More than 16 million visitors have gone through the dam and powerplant since the guided tours began in 1937. More than 600,000 people take the conducted tours each year.



This shows how Hoover Dam works.

The Nevada wall of Black Canyon is shown as solid, whereas the Arizona wall is cut away to reveal the intake towers, spillway, penstock pipes, and outlet works. Inside the Nevada wall, a similar set of diversion works has been placed. The principal dimensions are shown.

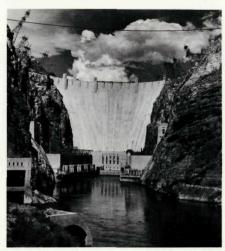
Hoover Dam pioneered Reclamation's present-day giant multiple-purpose developments. Its benefits encompass the whole concept of river control.

The dam controls floods and stores water for irrigation, municipal and industrial uses, hydroelectric power generation, recreation, and fish and wildlife.

Hoover Dam's reservoir—Lake Mead—stores more than 2 years of average Colorado River flow. This water is released in a regulated, year-round flow to farms, homes, and factories downstream. Passing through Hoover's turbines, it generates lowcost hydroelectric energy for markets in Nevada, Arizona, and California.

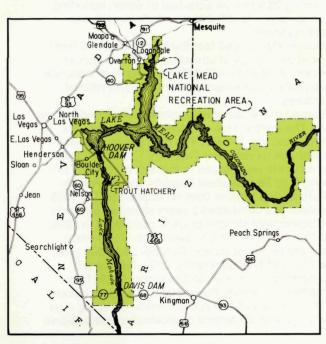
Water stored in Lake Mead irrigates three-fourths of a million acres of land in this country and nearly one-half of a million acres in Mexico. This water supplements the municipal and industrial needs of 10 million residents, and generates about 4 billion kilowatt-hours of hydroelectric energy annually. Sparkling clear reservoirs and river stretches, created by Hoover and other dams on the river, provide recreation for more than 10 million people each year. Fish and other wildlife abound in and around these bodies of water, once muddy and almost barren.

Hoover Dam changed the Colorado River from a natural menace to a national resource-strength ening the economy of the Pacific Southwest and the Nation.



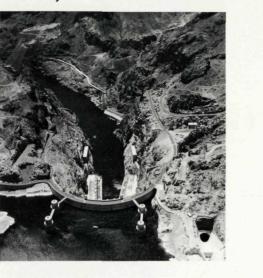
Colorado River water stored behind Hoover Dam irrigates some of America's richest farmlands. Vallev and mesa lands in the warm desert climate along the river grow winter fruits and vegetables and other nonsurplus crops throughout the year for the Nation's dinner tables. Yearly gross income from these crops is high-averaging hundreds of dollars per acre.

Major irrigation developments which benefit from Hoover Dam's control and regulation of the Colorado River include the Palo Verde Valley, the Colorado River Indian Reservation, the Yuma and Gila Projects in Arizona, and the Imperial and Coachella Valleys in California. When water reaches its farthest point on the All-American Canal System-which diverts from the Colorado Biver at Imperial Dam, 300 miles downstream from Hoover Dam-it has traveled some 500 miles since leaving Lake Mead and has required 10 days to make the trip.



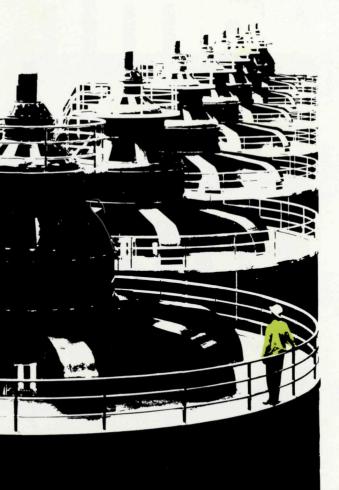
Hoover Dam is still one of the world's largest hydroelectric installations, with a nameplate capacity of 1.344.800 kilowatts, provided by 17 large generating units and two station service units. The Hoover Powerplant became the world's largest plant in 1939 and retained this distinction until 1949.

Hoover Dam's first generator, N-2, began commercial operation October 26, 1936, and the 17th and last generator went on the line December 1. 1961-25 years later.



Hoover Dam's approximate cost of \$175 million Hoover Dam energy is sold to both public and

is being repaid over a 50-year period with the exception of a \$25 million flood control allocation which has been deferred, without interest, until 1987. As of May 31, 1975, the project had grossed approximately \$361 million, with a net return to the Federal Treasury above operating costs of over \$196 million, of which \$78 million has been applied to the principal and \$118 million to interest payments. private agencies under contracts which expire in 1987. This energy is allocated as follows (by percent): States of Arizona and Nevada 17,6259 each. Metropolitan Water District of Southern California 35.2517. City of Burbank 0.5773. City of Glendale 1.8475, City of Pasadena 1.5847, City of Los Angeles 17.5554, and Southern California Edison Co. 7.9316. The City of Los Angeles Department of Water and Power and the Southern California Edison Co. operate Hoover Dam's generating equipment under contract as agents of the Federal Government.





Hoover Dam's regulation of the Colorado River assures municipal and industrial water for Los Angeles, San Diego, and other Pacific Southwest cities.

Since 1941, the Colorado River Aqueduct has delivered water from Lake Havasu behind Parker Dam to the Los Angeles metropolitan area. The San Diego Aqueduct, which began operations in 1947, taps the Colorado River Aqueduct to take water to the San Diego water system.

Parker Dam-155 miles downstream from Hoover Dam-provides a forebay and desilting basin for the Colorado River Aqueduct. Parker Dam was constructed with funds advanced by the Metropolitan Water District of Southern California, Part of the hydroelectric energy generated at Hoover and Parker Dams pumps water along the aqueduct. The 242mile-long aqueduct has an annual capacity of 1.212.-000 acre-feet, or a billion gallons of water a day. Five pumping stations lift this water 1.617 feet over mountain barriers between the Colorado River and the coastal plain.

Like Hoover Dam, the Colorado River Aqueduct was selected by the American Society of Civil Engineers as one of this Nation's Seven Modern Civil Engineering Wonders.

Completed November 1, 1971, by the Bureau of Reclamation, the Southern Nevada Water Project is delivering water from Lake Mead to cities and industries in the Las Vegas metropolitan area.

recreation

Hoover Dam and its Lake Mead have created one of America's most popular recreation areas. A 12-month season attracts more than 5 million visitors each year for swimming, boating, skiing, and fishing, Large-mouth bass, bluegill, black crappie. trout, channel catfish, and other species abound in the lake. There is no closed season on fishing, and anglers take large numbers of game fish each year.

Lake Mead-extending 110 miles upstream into the lower end of Grand Canyon and with a shoreline of 822 miles when full—was named in honor of Dr. Elwood Mead, Commissioner of Reclamation from 1924-36.

The lake and surrounding area are administered by the National Park Service as part of the Lake Mead National Recreation Area. The area also includes Lake Mohave, which extends from the tailrace of Hoover Dam 67 miles downstream to Davis Dam.

The cold waters flowing through Lake Mohavedrawn from the depths of Lake Mead and stocked by the modern Willow Beach National Fish Hatchery-provide excellent trout fishing.

