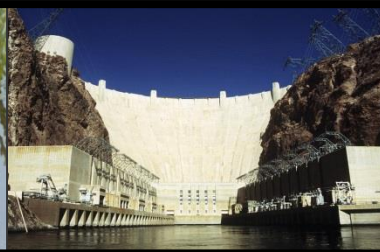


Colorado River Commission of Nevada

Water Education Foundation
Lower Colorado River Water Tour
February 27, 2019



CRCNV Organization

- Created in 1935, as Hoover Dam construction was completed, and contracts for water and hydropower were being executed.
 - ✓ Executive State agency.
 - ✓ Responsible for acquiring and managing Nevada's share of water and hydropower resources from the Colorado River.
- The CRCNV:
 - ✓ Protects the rights and interests for:
 - ❖ Colorado River water (300,000 acre-feet annually).
 - ❖ Hydropower resources.
 - ❖ Environmental resources.
 - ✓ Is funded by its power and water customers; no General Fund monies are used.
 - ✓ Has served the state of Nevada for over 80 years.

Water Rights

In 1928, the Boulder Canyon Project Act authorized the construction of Hoover Dam and the division of Lower Basin water apportionment:

California = 4.4 maf

Arizona = 2.8 maf

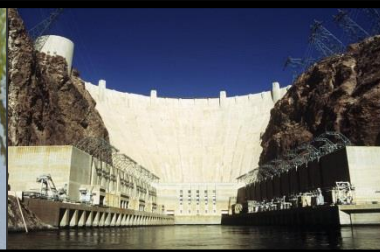
Nevada = 0.3 maf

Nevada gets about 4% of lower basin allocation and less than 2% of entire Colorado River water resources.



Nevada Water Customers

- Southern Nevada Water Authority (Boulder City, City of Henderson, Las Vegas Valley Water District, North Las Vegas)
- Basic Water Company
- PABCO Gypsum Inc
- Big Bend Water District
- Fort Mojave Indian Tribe
- National Park Service
- Nevada Department of Wildlife



Hydropower

- Hydropower is a highly desirable resource because it is clean, low-cost and renewable.
- Cost-based rates typically below market.
- The CRCNV holds contracts for Hoover (25%), Parker-Davis (22%), and Glen Canyon hydropower (SLCAIP 2%).
- Long-term contracts in place to create stability of supply without renegotiating every couple of years.
- Nevada's hydropower is used to the greatest possible benefit to the state (NRS 538.161).
- Hoover Dam provides electricity to over 8 million people in Arizona, Southern California, and Southern Nevada.

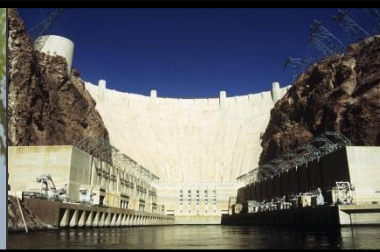
CRCNV Power Delivery

- Owns, operates, and maintains:
 - ✓ 17 high-voltage substations, including 3 serving the Basic Management Industrial Complex.
 - ✓ 32 miles of 230-kV overhead transmission lines.
 - ✓ 4 miles of 69-kV overhead transmission lines.
 - ✓ 11 miles of 69-kV underground transmission lines.
 - ✓ 3 microwave radio sites.
 - ✓ 48 miles of fiber optic cable.
- Provides transmission infrastructure for the Southern Nevada Water Authority (SNWA) water pumping load.
- Operates and maintains 7 substations owned by the SNWA and 3 substations owned by Clark County Water Reclamation District.



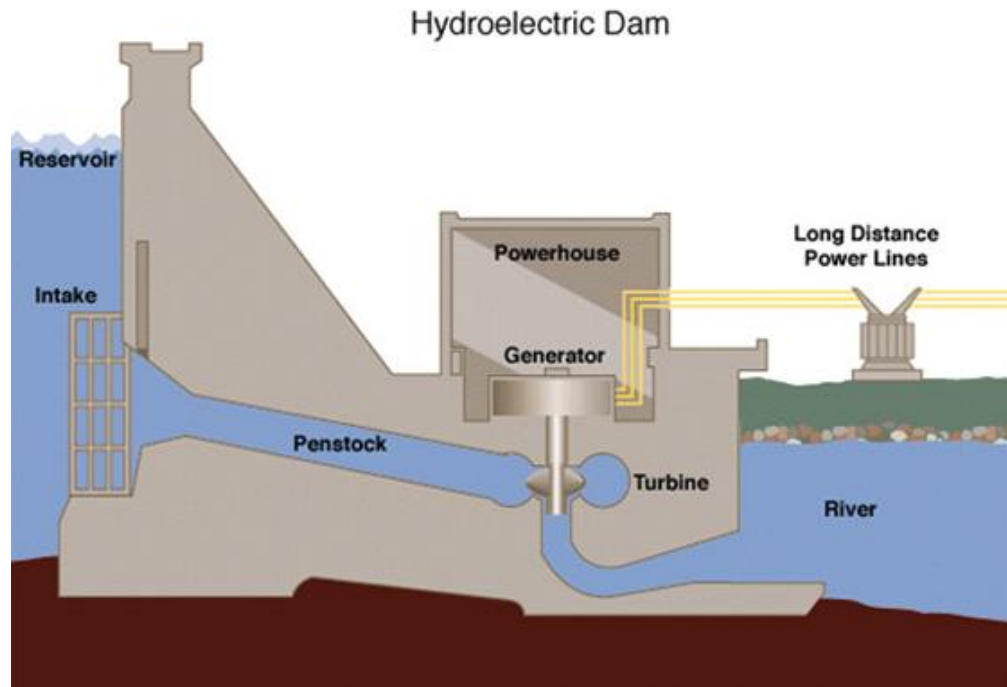
CRC Hydropower Customers

- Southern Nevada Water Authority
- City of Boulder City
- Lincoln County Power District No 1
- Overton Power District No. 5
- Valley Electric Association
- College of Southern Nevada
- American Pacific Corp.
- Basic Water Company
- Lhoist North America
- Titanium Metals Corporation
- Tronox
- NV Energy
- UNLV



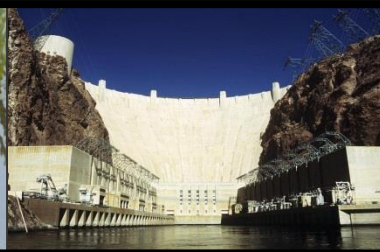
Drought & Hydropower Generation

When water is released from Hoover Dam the water pushes turbines to generate hydropower. Higher lake elevations generate electricity more efficiently. Hydropower generation has decreased as elevations in Lake Mead have dropped.

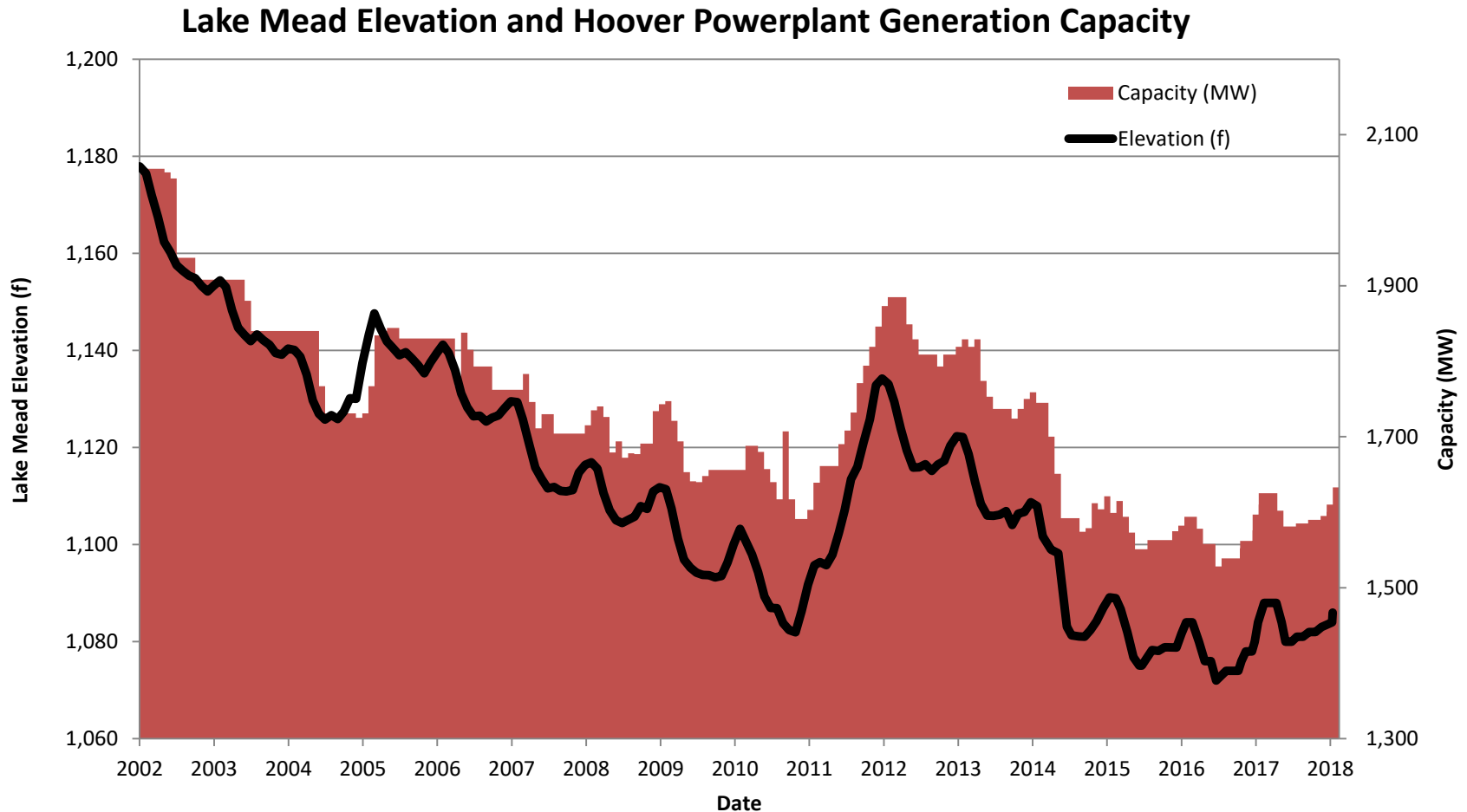


Drought Impacts to Hydropower

- Customers have contracted amounts that need to be met.
- If energy is not available, purchases from open market are costly.
- Uncertainty in generation at low lake levels.
- Reduced funding for the Salinity Control Program that funds projects to reduce salt loading from agriculture along the Colorado River.
- Bureau of Reclamation has installed wide head turbines that are more efficient at low elevations.



Impact to Hydropower

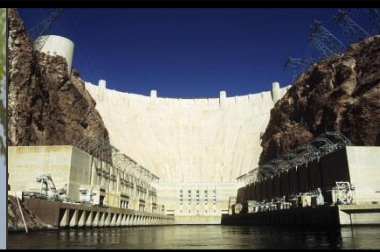


Maximum Capacity = 2,074 MW

Current Capacity = 1,610 MW – 583 MW (outages) = 1,023 MW

Operations Impact to Hydropower

- The coordinated operations of Lake Mead and Lake Powell are governed by the Interim 2007 Guidelines.
- Releases are determined based on elevations.
- Reductions in water allocations for Arizona, Nevada, and Mexico are required if critical elevations are reached.
- The conserved water remains in Lake Mead to maintain elevation.
- Less water going through the turbines reduces generation.
- The Drought Contingency Plan (DCP) will increase the water allocation reductions, but will decrease the chances of Lake Mead going below power pool.



Lower Colorado River Multi-Species Conservation Program

- Partnership of Federal and non-Federal stakeholders.
- Balance the use of Colorado River water and conservation of native species to comply with the Endangered Species Act (ESA).
- Long-term (50 year) program.
- Implemented through Habitat Conservation Program.



LCR MSCP

- 26 Federal or State listed, candidate, and sensitive species and their associated habitats are covered
 - Mammals
 - Birds
 - Fishes
 - Amphibians
 - Invertebrates
 - Reptiles
 - Plants



MSCP Benefits

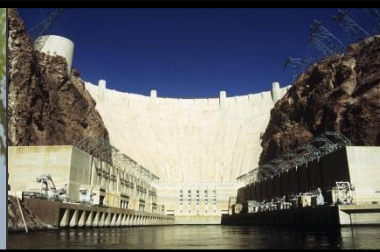
MSCP program implementation will create through 2055:

- 8,132 acres of new habitat (70% complete)
- 512 acres of marsh (70% complete)
- 360 acres of backwater (26% complete)
- 660,000 Razorback Suckers (27% complete)
- 620,000 Bonytail (14% complete)

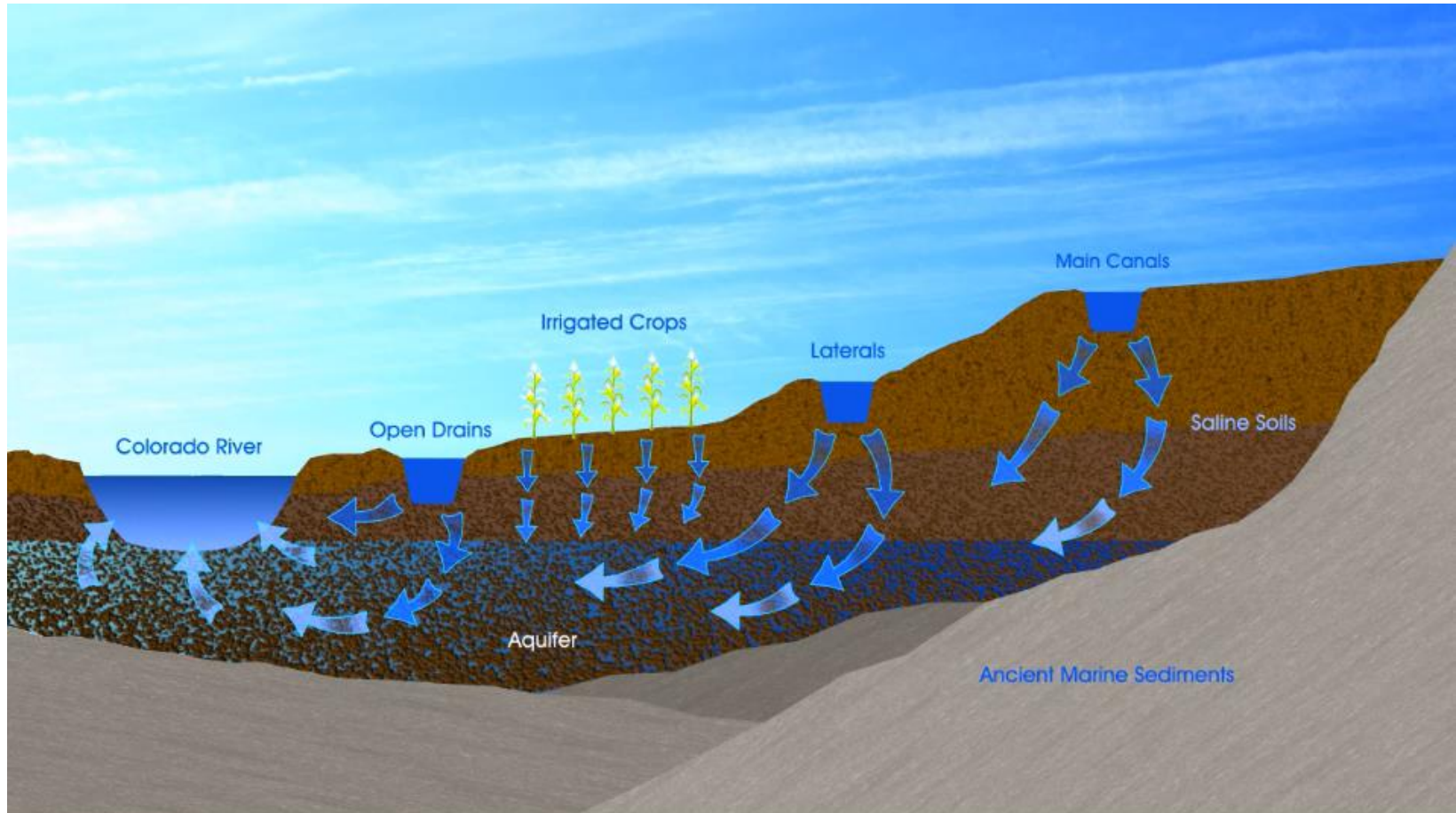


Salinity Control Program

- Salinity Control Act of 1974 created the Salinity Control Program and directed the Secretary of Interior to implement salinity control projects.
- The Salinity Control Program reduces salinity through on-farm and off-farm project efficiencies that reduce water leaching.
- Salty water reduces crop yields and damages residential and industrial plumbing.



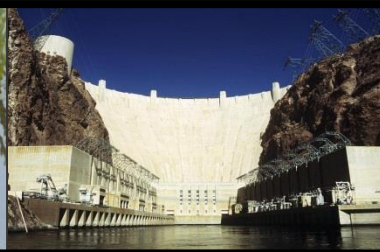
Colorado River Salinity



- Salinity increases as water dissolves minerals in the ground.
- Historically 9 million tons of salt passes Lees Ferry every year.
- 47% occurs naturally and 53% is from human activity.

Salinity Program

- Program is implemented through grant funding opportunity announcement where applicants can be funded for improving flood irrigations systems or converting to sprinkler irrigation
- Reclamation, NRCS, and BLM get funding through appropriations.
- Program is partially funded through a charge to hydropower customers of Hoover and Parker Dams.
- Current salinity damages are \$454 million per year.
- Over 1.3 million tons controlled annually.
- The program has reduced salinity by 100 mg/L in Colorado River.



Colorado River Commission of Nevada



Warren Turkett

(702) 486-2670

COLORADO RIVER COMMISSION OF NEVADA
555 EAST WASHINGTON AVE., Suite 3100
LAS VEGAS, NV 89101

CRC Website:
crc.nv.gov

