Burn Lake

- History
- Water Quality Grant
- Water Trust Board Grant
- Proposed projects
- Current projects

City of Las Cruces Public Works, Engineering Services, 2011
History

Late 1960s
Burn Construction contracted to provide millions of cubic yards of soil for development of a section of Interstate 10.

Burn Construction purchased land at the lake’s current location and began excavating soil. When the hole filled in with water they installed temporary pumps and pumped water into the Mesilla drain. Over 3.25 million cubic yards of dirt were removed from the site.

The water table quickly filled the borrow pit after excavation was finished and Burn Lake was formed as a result.
Burn Lake

Capacity
283 acre ft

Stormwater Inflows
El Molino Drain
Mesilla Drain
Las Cruces Outfall Channel

Stormwater Outflows
none

City of Las Cruces Public Works, Engineering Services, 2011
History Continued

1971
The Las Cruces City Commission rezoned the land and permitted the land owners to operate a recreational lake. On August 8 Burn Lake opened to the public. Admission was $1 and activities included fishing, boat rentals, swimming, water slides, and two crane boom swings that extended over the water.

1973
Burn Lake was sold to the City of Las Cruces for $125,000 which included 38 acres of land. At the time City leaders thought the lake would one day play a vital role in the El Molino Flood Control Project.
History Continued

1980s
Soccer fields were developed north of the lake.

2004
14 ducks and geese were found dead at the lake. The city closed the lake for several months. State health officials determined that the waterfowl were killed by botulism as a result of poor water quality.

2005
The city council approved a preliminary conceptual plan that involved the Mesilla Lateral Pipeline Project that would incorporate pumps in order to regulate flows to and from the lake. The city did not secure the funding for this project.
History Continued

2008

New Mexico Environment Department did a water quality assessment for Burn Lake. An exceedance in aluminum and E.coli was discovered.

The City of Las Cruces and EBID retained a grant from NMED and began their own water quality planning project to verify and monitor their own data for Burn Lake.
NMED’s report prompted the water quality planning project?

- NMED in its 2010 305(b) list to US EPA included Burn Lake as a water of the State that does not meet federal water quality standards

- Burn Lake is Non-supporting for marginal cold-water aquatic life and warm-water aquatic life

- The Reason --- high dissolved aluminum levels

- NMED set for monitoring 2012 --- TMDL’s in 2017
A one-year data collection and planning grant

• An NMED grant of $8,000 was used to collect water samples from Burn Lake and its sources of recharge.

• Data to be used in water quality planning and management of the in-flows into Burn Lake. The goal is to improve and monitor water quality and achieve all designated water uses.

• A proposal was submitted by EBID who acted as fiscal manager of the Project.

• Fiscal Years: 2010-2011, Project to began June 1, 2010 and ends in May 2011.
History Continued

2010
Improvements around Burn Lake including new bathroom facilities, playground, landscaping, and road upgrades.

The City applied for the 2011 Water Trust Board Grant/Loan Program in order to regulate and improve the water quality and aesthetic appearance of Burn Lake.
2011 Water Trust Board Grant/Loan

A Program Cooperative with the New Mexico Finance Authority (NMFA) for $1,219,441 with a cash in-kind match minimum of 20% and possible loan up-to 40% from NMFA.
2011 Water Trust Board Grant/Loan

Includes match portion from the city

- Construction $1,535,000
- Inspection of Construction $184,247
- Engineering Services $7,681
- Environmental Surveys $6,000
- Archaeological Surveys $5,800

Total Project Cost: $1,756,888
Water Trust Board Grant Projects

If the project is fully funded, it will include:

• **Regulating pumps** to move water in and out of the lake

• **Pole planting** (planting branches of willows and cottonwoods near the water line) for erosion control

• **Bank stabilization**, and water quality improvements

• **landscape improvements** at the top of the bank which should improve the water quality and slow the velocity of water entering the lake.
Water Trust Board Grant

• The Water Trust bill was passed and signed by the governor.

• City of Las Cruces presented the scope of the project to the New Mexico Finance Authority on April 27, 2011 in Santa Fe.

• The board will tentatively meet again on June 1 to finalize the list of projects that will receive funding.

• The city may only receive partial funding if any, for this project.
Current Projects

- New bathrooms
- New playground
- Sidewalks/Trails
- Landscaping
Current Projects

New bathrooms
Current Projects

New playground
Current Projects

Sidewalks/Trails
Current Projects

Landscaping
Considerations for Burn Lake

• To continue use for recreation and fishing, aluminum must be reduced below 0.087 mg/L.

• E. Coli must be maintained at a lower level in the small part of the lake, or this part of the lake should be excluded from public access.

• Water must be added to maintain a depth of 8-9 feet in the deep part of the lake.

• This would require approximately 400 acre feet per year of Rio Grande water.

• EBID’s has an interest in using Burn Lake as an operating reservoir by providing river water to supplement storm water runoff and then using the mixed Lake waters for irrigation when appropriate

(Dr. John Hernandez, EBID consultant)
Questions?