

PAINTED ROCKS DAM

Fact Sheet

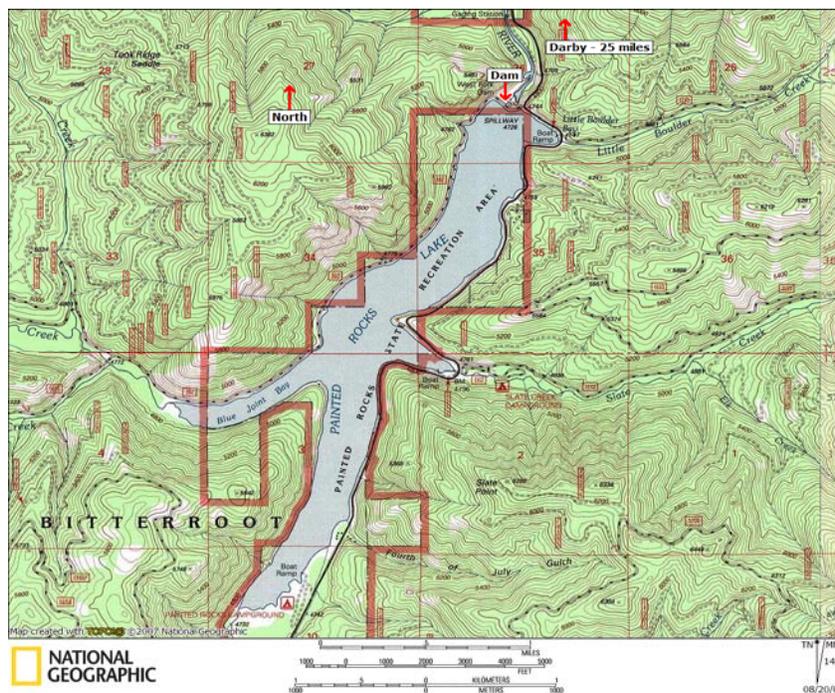
PROJECT DESCRIPTION

- ◆ Located on the West Fork of the Bitterroot River in Ravalli County, approximately 30 miles southwest of Darby
- ◆ Constructed in 1939
- ◆ Owned by DNRC & managed and operated by SWPB
- ◆ Operated by Painted Rocks Water Users Association (PRWUA) since 1939
- ◆ Project consists of:
 - 143 foot-high, 800 foot-long rolled earthfill dam
 - Reinforced concrete chute spillway
 - 10-foot diameter, horseshoe shaped reinforced concrete tunnel, with two 5 foot by 8 foot gates (one operating and one guard), located at the bottom of a vertical wet tower
- ◆ Storage at full pool is 32,362 acre-feet, covering 655 surface acres
- ◆ The dam is a “high hazard” structure which means that its failure could cause loss of life. Farms, ranches, numerous homes, roads, bridges, and utilities are located in the flood plain.



WATER USE

- ◆ MT Fish, Wildlife and Parks (MT FWP) purchases 15,000 acre-feet of water for downstream fisheries; PRWUA has 41 contracts for 10,000 acre-feet of water
- ◆ Operating and maintenance costs are shared between the MT Fish, Wildlife and Parks and the Painted Rocks Water Users Association
- ◆ Water from the reservoir is primarily used for irrigation and fisheries water supply. The reservoir is also used for water based recreation and the regulation of instream flow rates.



REHABILITATION SUMMARY

Repairs and maintenance are on-going and have included the following:

- ◆ A new log boom and security fence was installed in 2004. Project Costs: \$21,000 for the log boom (paid by PRWUA & MT FWP) & \$4,900 for the fence (paid by DNRC).
- ◆ The gate hoist mechanism was rehabilitated in 2005. Project cost: \$23,000 (paid by PRWUA & MT FWP).
- ◆ The guard gate roller chain was replaced in 2006. Project cost: \$50,000 (paid primarily by PRWUA & MT FWP).
- ◆ Feasibility study that assessed the condition of the spillway and identified alternatives to rehabilitate the outlet conduit and gates was completed in 2007. Project cost: \$130,000 (paid by the DNRC).
- ◆ The operating gate was repaired in 2008. Project cost: \$53,000 (paid by PRWUA & MT FWP).
- ◆ Repairs were made in 2013 to the concrete on the spillway and within the outlet tunnel.
- ◆ The wire rope for the gate hoist is scheduled for replacement in 2014.
- ◆ The spillway bridge railing is scheduled to be replaced in 2014.

FUTURE NEEDS

- ◆ Spillway stilling basin floor is severely eroded. Periodic dive inspections are required. Repairs will be necessary in the future.
- ◆ Spillway chute concrete is deteriorated. Increased monitoring and periodic repairs are on-going in the short term. Replacement will likely be necessary in the future. In addition, the spillway has undesirable flow characteristics that reduce its safe capacity.
- ◆ The outlet conduit discharges in the spillway chute, making it difficult to conduct outlet repairs without impacting downstream flows. Future modifications may be required.
- ◆ The outlet gates have exceeded their design life and do not close reliably. Replacement is recommended.
- ◆ There is no access to the toe of the dam, increasing the difficulty of repairs. The development of downstream toe access is recommended.
- ◆ Preliminary cost estimates for rehabilitation includes \$26 million for gates, \$15 million for the spillway, and \$1.9 million for the interim stilling basin repairs.



Forest Service access road across dam



Spillway and Outlet