

PAINTED ROCKS DAM

Fact Sheet

PROJECT DESCRIPTION

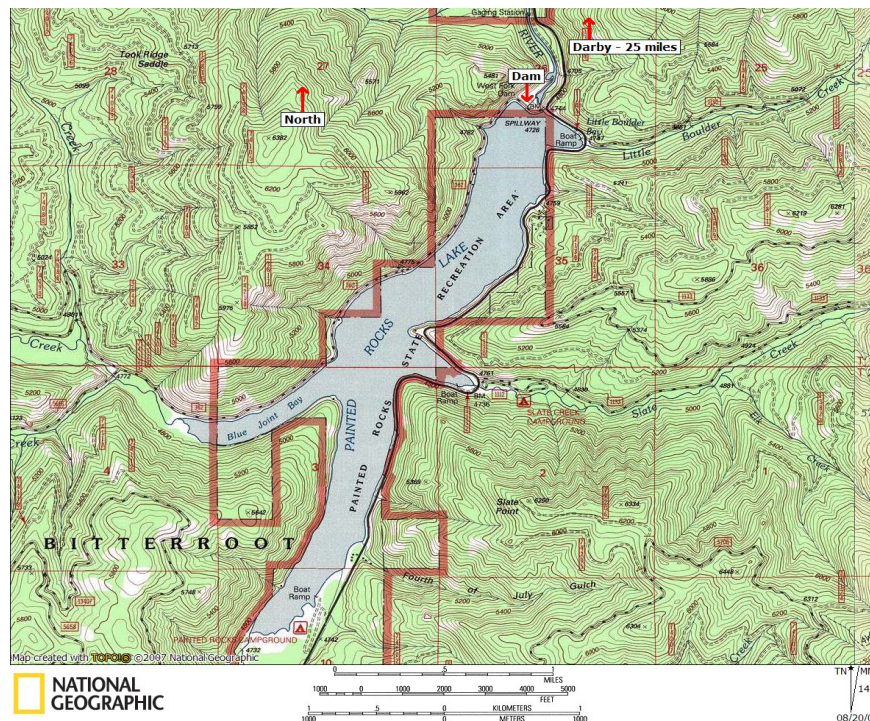
- ◆ Located on the West Fork of the Bitterroot River in Ravalli County, approximately 30 miles southwest of Darby;
- ◆ Constructed in 1939;
- ◆ Owned, managed and operated by DNRC;
- ◆ Project consists of:
 - 143 foot-high, 800 foot-long earthfill dam;
 - Reinforced concrete chute spillway;
 - 10-foot diameter, horseshoe shaped reinforced concrete tunnel, with two 5 feet 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 in the flood plain.



Painted Rocks Reservoir

WATER USE

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



FUTURE NEEDS

- ◆ The spillway stilling basin floor is severely eroded. Periodic dive inspections are required. Repairs or replacement will be necessary in the future.
- ◆ The 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 or replacement 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 maintenance and repairs. The development of downstream toe access is under construction and will be completed by 2022 (Cost \$1,167,000).

REPAIRS, MAINTENANCE, STUDIES AND ANALYSIS

- ◆ Two spillway stilling basin studies were completed in 2016. Cost: \$26,143.
- ◆ Bathometric, Cadastral, and LIDAR surveys of the reservoir were completed in 2016-2017. Total cost of the three surveys: \$119,856.
- ◆ A detailed survey and analysis of the spillway chute was completed in 2017-2018. Cost: \$74,745.
- ◆ A Rehabilitation Feasibility study is ongoing. Preliminary cost estimates for rehabilitation includes \$17 million for gates and \$17 million for the spillway.



Forest Service road across dam



Spillway