PROJECT DESCRIPTION

♦ Located on the North Fork of the Musselshell River in Meagher County, Approximately ¾ mile upstream of Checkerboard
♦ Construction completed in 1939
♦ Owned by DNRC & managed by SWPB
♦ Operated by Upper Musselshell Water Users Association (UMWUA) since 1940
♦ Project consists of:
  • Earthfill dam, 106 ft high, 580 ft long
  • Ogee crest with concrete chute spillway
  • 54-inch reinforced concrete outlet conduit, with two 48-inch diameter gates (butterfly operating gate and slide guard gate) with manual operators located in the gate house (on the dam crest) and bottom of the gate tower.
♦ Normal storage at full pool is 7,300 acre-feet, covering 280 surface acres
♦ The dam is a “high hazard” structure which means that its failure could cause loss of life, 94 people would potentially be impacted; Checkerboard, numerous houses, roads, bridges, and utilities are located in the flood plain

WATER USE

♦ One of three dams (two reservoirs) that provides 21,718 acre-feet for the UMWUA
♦ Project irrigates approximately 4,100 acres with two canals: Northfork Diversion Canal (11.7 miles long) and Two Dot Canal (32.2 miles long)
♦ Reservoir also used for water-based recreation
REHABILITATION SUMMARY
Bair Dam was rehabilitated in 2001 – 2003. The rehabilitation project consisted of the following:

♦ Construction of a new structural concrete spillway in the same location as the old one.
♦ Excavation of the steep slope above the spillway to arrest slope failure and mitigate creep and rock fall.
♦ Replacement of the outlet terminal structure.
♦ Construction of a toe berm to buttress the downstream embankment.
♦ Construction of a new gate house, fence, security gates and access road.

Total project cost (design and construction): $2,738,562 (2004)

FUTURE NEEDS
The project was rehabilitated in 2001 – 2003 and meets or exceeds current dam safety standards. No deficiencies currently exist.