

# BAIR DAM

## Fact Sheet

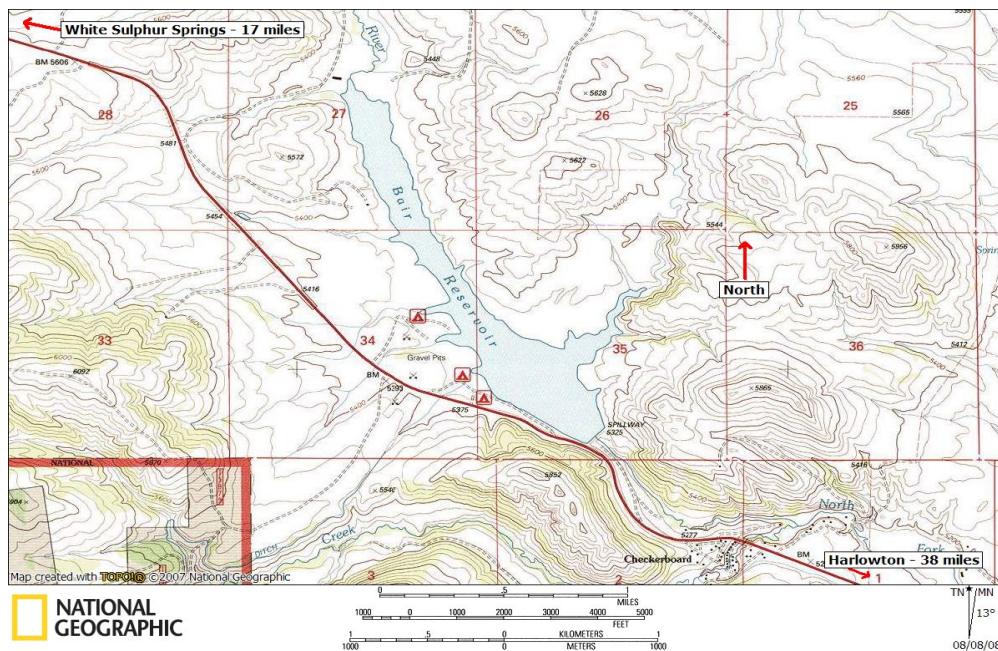
### PROJECT DESCRIPTION

- ◆ Located on the North Fork of the Musselshell River in Meagher County, Approximately  $\frac{3}{4}$  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.



Spillway and Gatehouse



Outlet Structure