

RECLAMATION

Managing Water in the West

July 2008
Dakotas Area Office

Angostura Resource Management Plan

Angostura Operations

Angostura Dam and Reservoir construction was completed in 1949, with the first delivery of irrigation water in 1953. The primary purpose of the reservoir is to store water for irrigation. There are 12,218 acres of land within the district, which extends 24 miles downstream of the dam along the Cheyenne River.

Through continued operation and maintenance Angostura Irrigation District strives to improve efficiency and conserve water through multiple activities, some of which are shown below. In addition to improved efficiency and water conservation downstream of the reservoir, upstream land management within Angostura Reservoir watershed has reduced sedimentation inflows. Between 1949 and 2004 actual sedimentation inflows were 670 acre-feet per year, prior to dam construction estimates for sedimentation rates were 1700 acre-feet per year. Sedimentation inflows continue to decrease as time goes on.



Between 2001 and 2007 there have been 38 center pivots installed, bringing the total number of pivots on the project to 48. This is estimated to save 2,081 acre feet of water per year through pivot installation.



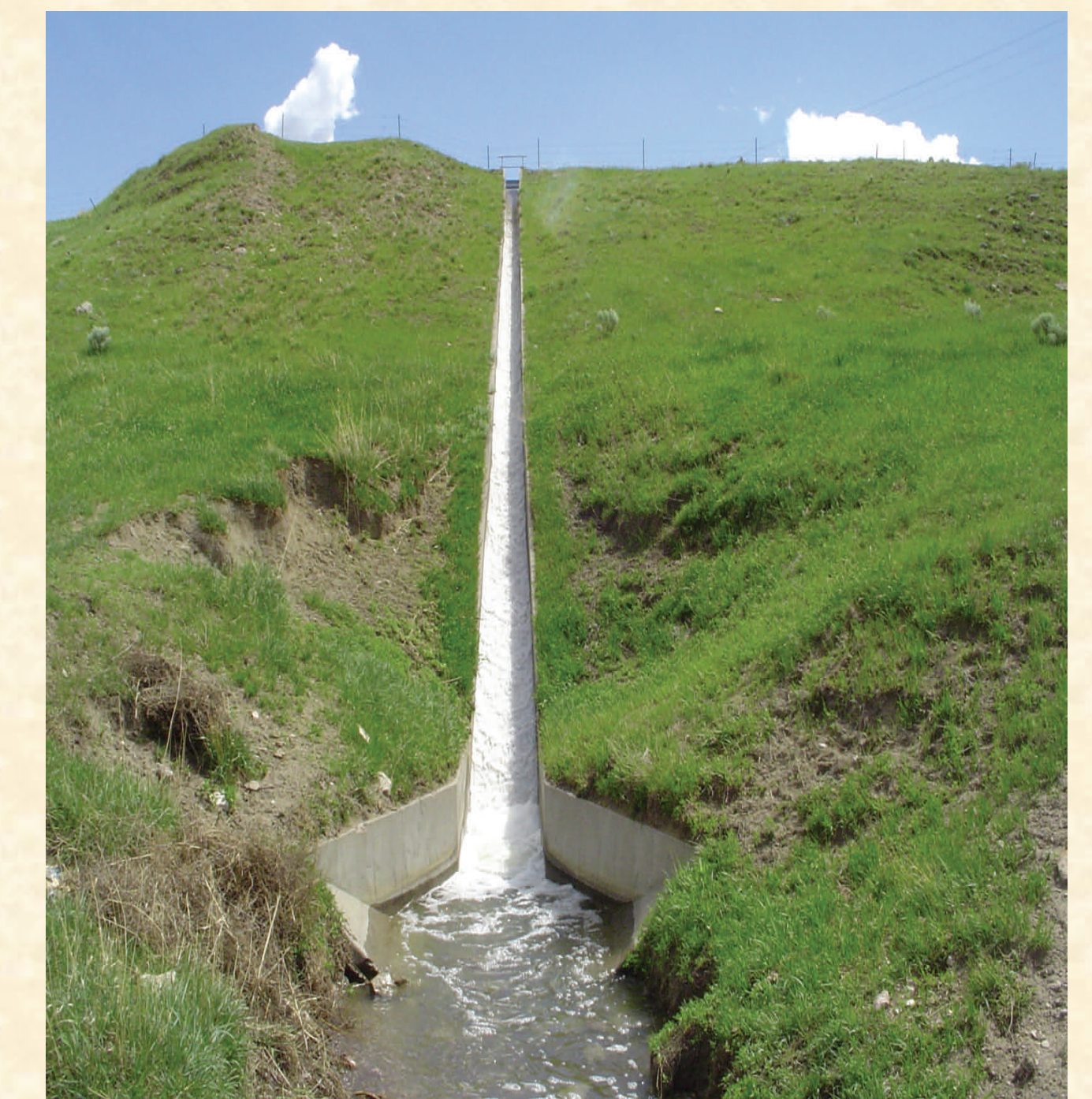
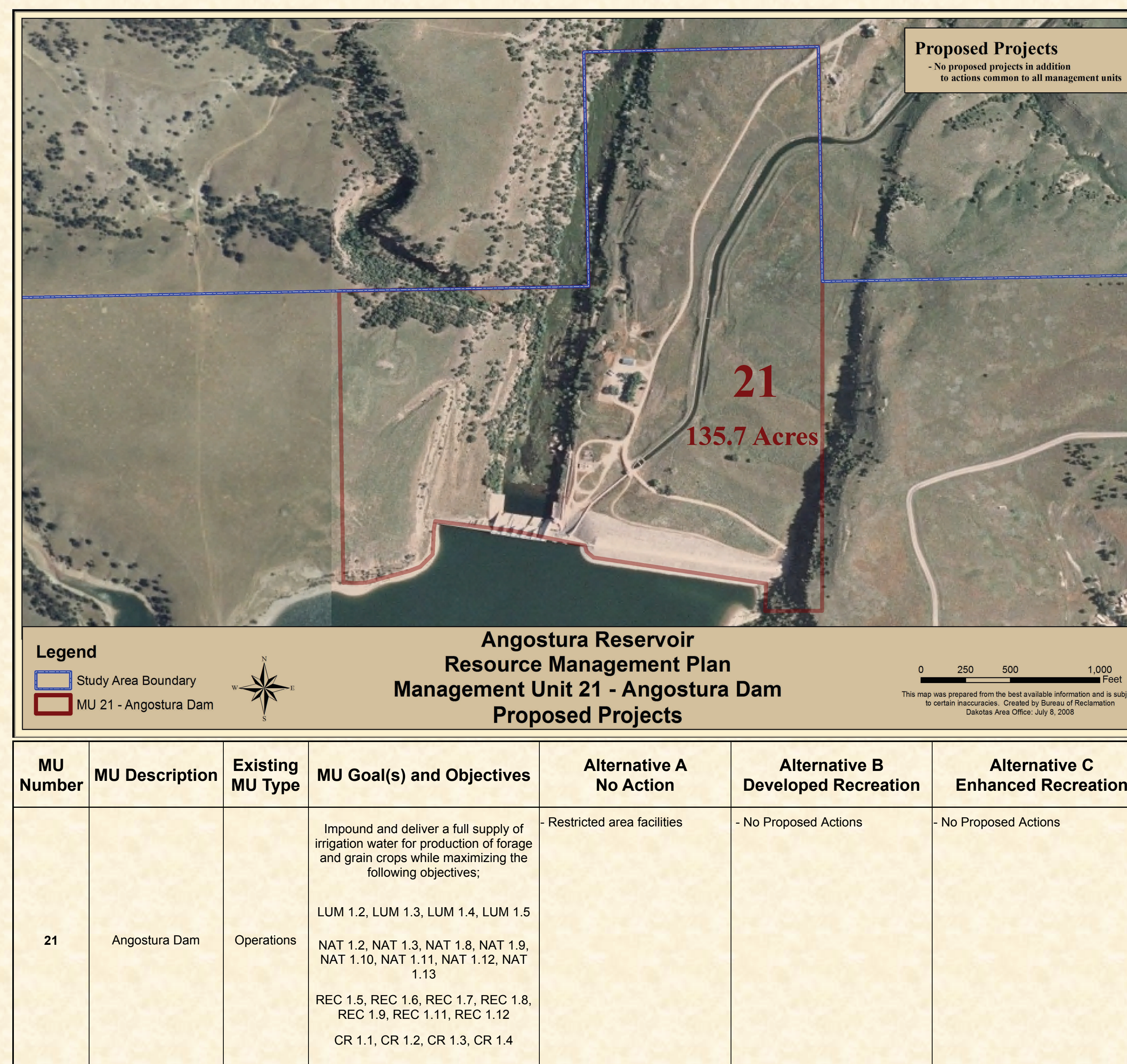
The photo above is of Angostura Main Canal. Since 2001 the combination of placing Laterals 16.1, 18.4, and sub-Lateral 16.1A into underground pipe in addition to the installation of 38 additional pivots has brought the approximate total water savings to 2,214 acre-feet per year.



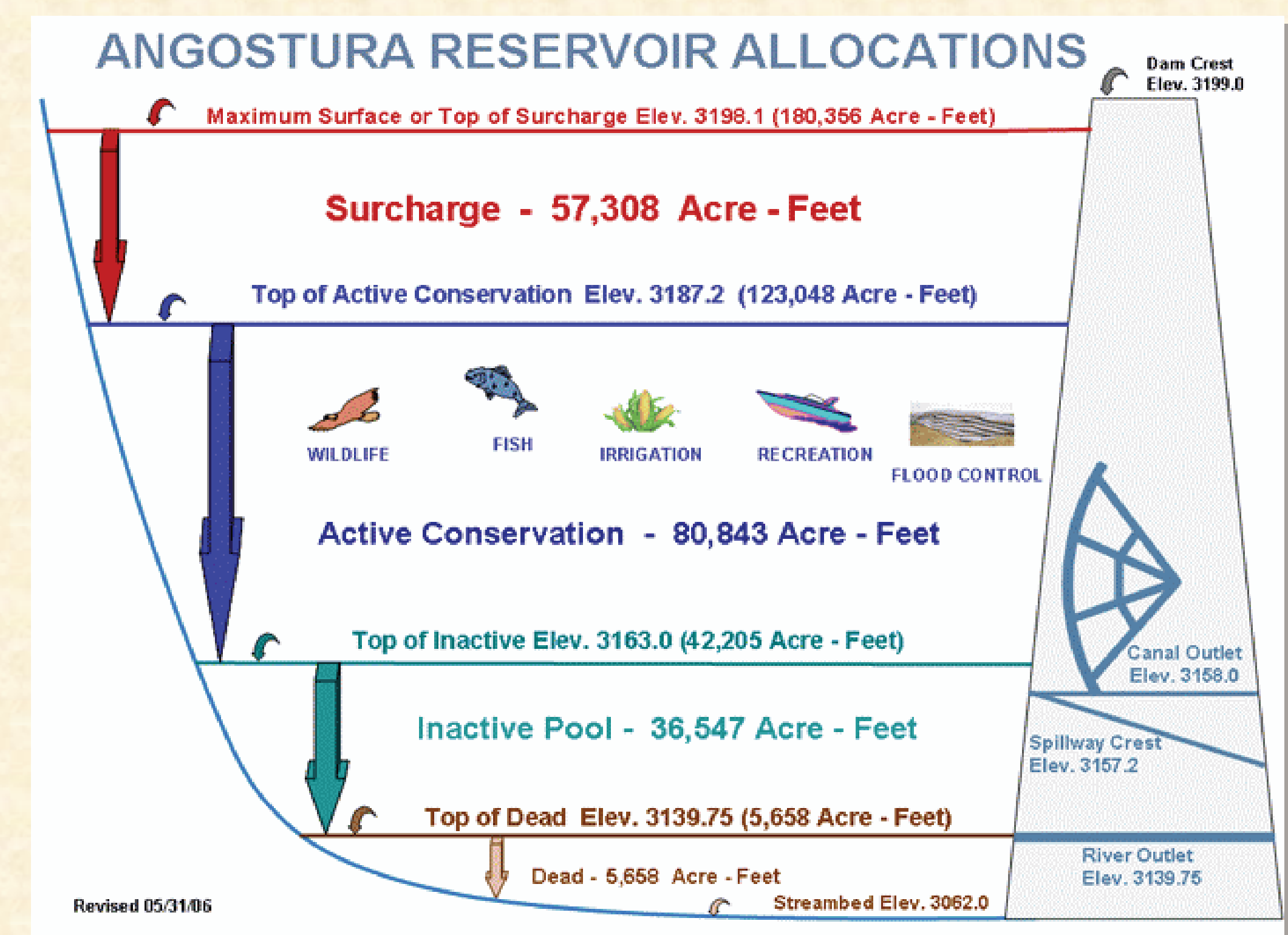
In the fall of 2007 Lateral 18.4 was converted from open ditch to underground pipe. This project was estimated in 2001 to save 90 acre-feet of water per year.



Angostura Irrigation District continues to improve water delivery system efficiency through the installation of automated gate control for laterals.



As part of the South Dakota Department of Transportation Heartland Expressway project Lateral 1.9 (shown above) will be relocated and piped as Lateral 2.6 and is estimated to save 146 acre-feet of water per year. It is anticipated that construction of this project will begin in 2009.



As shown above Angostura Reservoir provides multiple benefits in addition to the primary purpose for storage and delivery of irrigation water. When full Angostura Reservoir inundates approximately 4,700 surface acres which equals 123,048 acre-feet of water. In August of 2006 Angostura Reservoir reached its lowest elevation of 3,163.46 feet since 1952, leaving 2,337 surface acres for recreation and fish and wildlife. In 2007 and 2008 two low water boat ramps were upgraded to allow access to the reservoir at its lowest levels.