

ANALYSIS OF

**WOODRUFF LAKE,
HUGHES COUNTY**

AND

**BEDASHOSHA LAKE,
BUFFALO COUNTY,**

SOUTH DAKOTA

JANUARY 2009

**South Dakota
Department of Environment and Natural Resources
Division of Environmental Services
Pierre, South Dakota**

Table of Contents

Executive Summary	2
Introduction	2
Site Description/Discussion	2
Conclusion.....	3
Reference Documents.....	4
Attachment 1	5
Attachment 2	6
Attachment 3	7
Attachment 4	8
Attachment 5	9
Attachment 6	10

Executive Summary

Name/Location of Waterbodies: Woodruff Lake, Hughes County
Bedashosha Lake, Buffalo County

Boundaries of Waterbodies: Woodruff Lake is located in Section 18, Township 112 North, Range 74 West. Bedashosha Lake is located in Sections 24 & 25, Township 106 North, Range 71 West, and Sections 19 & 30, Township 106 North, Range 70 West.

Recommendation: It is recommended that Woodruff Lake and Bedashosha Lake be removed from Administrative Rules of South Dakota (ARSD) Chapter 74:51:02, Uses Assigned to Lakes. The (5) Warmwater semipermanent fish life propagation waters, (7) Immersion recreation waters, and (8) Limited contact recreation waters beneficial use classifications are no longer appropriate since the lakes have breached and no longer support those uses.

The creeks that were dammed to form Woodruff Lake and Bedashosha Lake have reestablished their channels and flow through the old lake bottoms. South Fork Medicine Knoll Creek is classified with the beneficial uses (6) Warmwater marginal fish life propagation waters, and (8) Limited contact recreation waters. Crow Creek is classified with the beneficial uses (5) Warmwater semipermanent fish life propagation waters, and (8) Limited contact recreation waters. Removing Woodruff Lake and Bedashosha Lake from Chapter 74:51:02 will remove the lake classification and the (7) Immersion recreation waters use; however, the fishery, (8) Limited contact recreation, and (9) Fish and wildlife propagation, recreation, and stock watering waters beneficial use designations will still be protected by the beneficial uses assigned to South Fork Medicine Knoll Creek and Crow Creek.

Introduction

On a triennial basis, the South Dakota Department of Environment and Natural Resources (DENR) conducts a review of surface water quality standards and waterbody beneficial uses as required by the Clean Water Act.

Site Description/Discussion

Woodruff Lake was a man-made reservoir constructed on South Fork Medicine Knoll Creek southwest of Harrold, SD. In March 1997, an abundance of spring melt water flowing over the spillway caused the spillway to fail. Concrete material and debris were removed from the area after the breach. Earth fill was not removed but is expected to naturally weather and degrade overtime. As a result, South Fork Medicine Knoll Creek still occasionally ponds in the lake bed and is still capable of holding small quantities of water. Woodruff Lake is not capable of supporting fishery or immersion recreation uses due to the reservoir breach and low quantity or absence of water. South Dakota Department of Game, Fish, & Parks (GF&P) plans to manage the lake basin as a waterfowl production area (personal communication with John Lott, GF&P).

DENR personnel visited Woodruff Lake in April 2007. The lake basin was completely dry and South Fork Medicine Creek was not flowing. South Fork Medicine Creek has the beneficial uses (6) Warmwater marginal fish life propagation waters and (8) Limited contact recreation waters. In removing Woodruff Lake from Chapter 74:51:02, the water body will still be protected by the beneficial use classifications of South Fork Medicine Knoll Creek. Attachment 1 is a site map; Attachments 3 and 4 are photographs of Woodruff Lake.

Bedashosha Lake was a man-made reservoir constructed on Crow Creek west of Shelby, SD. The dam was inspected and given a high hazard classification based on United States Bureau of Reclamation criteria. Water was drained from the dam, the spillway and abutment walls were removed, and over a five year period beginning in 1995, Crow Creek was restored to its natural elevation.

DENR personnel visited Bedashosha Lake in April 2007. Due to the excavation of fill material and abutment walls, the old reservoir area is not capable of holding water. Crow Creek flows through the lake bed and discharges to the Missouri River. Crow Creek is classified with the beneficial uses (5) Warmwater semipermanent fish life propagation waters, and (8) Limited contact recreation waters. In removing Bedashosha Lake from Chapter 74:51:02, the lake classification will be removed; however, Crow Creek will still be protected by its existing beneficial uses. Attachment 2 is a site map of Bedashosha Lake. Attachments 5 & 6 are photographs of the breached reservoir.

Conclusion

Woodruff Lake and Bedashosha Lake were classified by DENR and managed by GF&P as (5) Warmwater semipermanent fish life propagation waters, (7) Immersion recreation waters, and (8) Limited contact recreation waters. Woodruff Lake breached due to natural causes in 1997 and Bedashosha Lake breached as a planned project in 1995. The holding structures failed or were destroyed on both reservoirs making them unable to store water. There are no plans to replace the failed structures or restore the reservoirs (personal communication with John Lott, GF&P).

DENR recommends that Woodruff Lake and Bedashosha Lake be removed from ARSD Chapter 74:51:02 due to the fact that the reservoirs have been breached and their holding structures have failed or been removed. There are no plans to repair or restore the reservoirs. The creeks that were used to provide water to these reservoirs have reclaimed and now flow through the lake beds. These creeks are classified under ARSD 74:51:03 and are protected by their existing fishery, (8) Limited contact recreation waters, and (9) Fish and wildlife propagation, recreation, and stock watering waters beneficial use designations.

Reference Documents

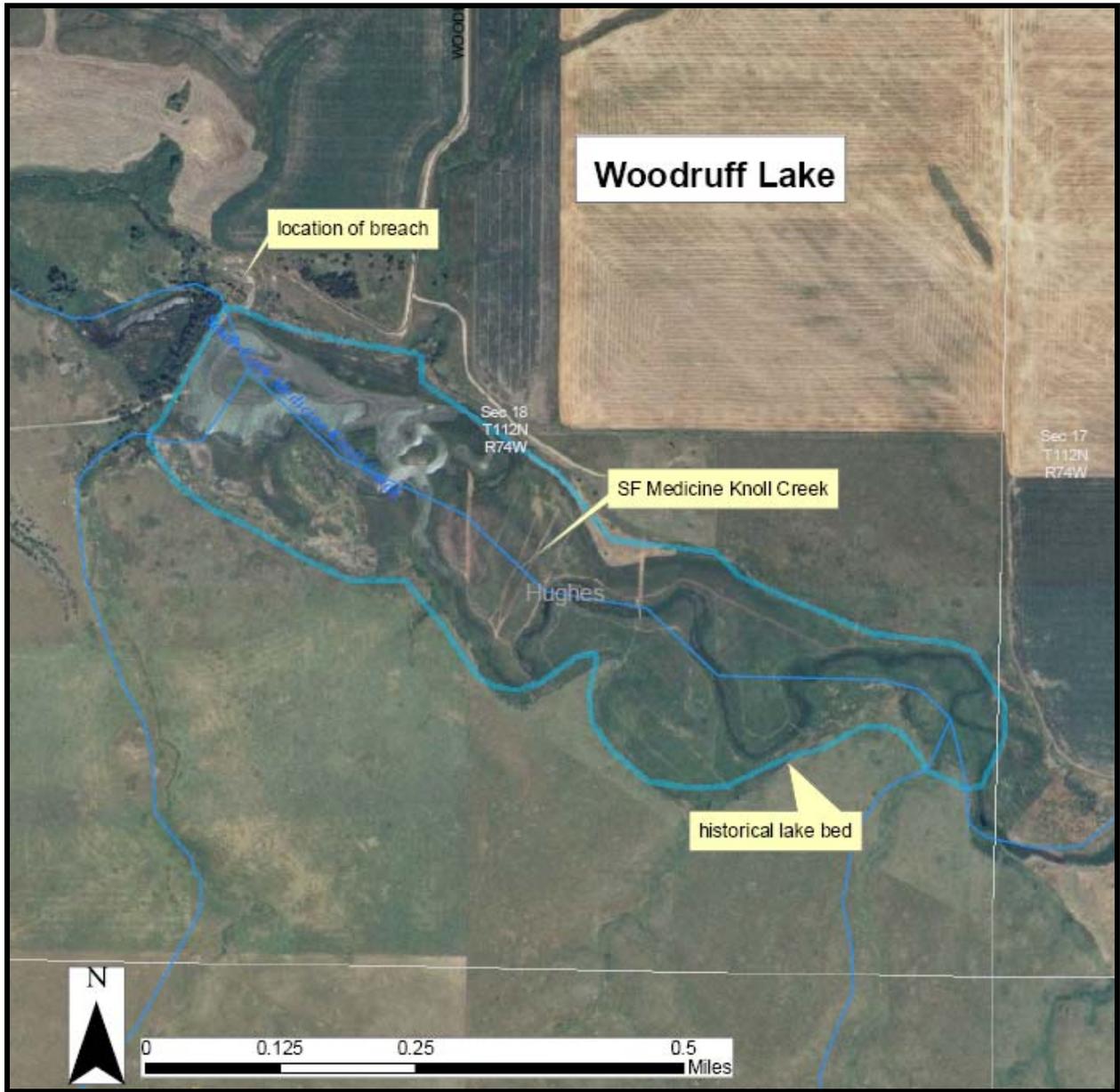
South Dakota Department of Environment and Natural Resources. 1999. Recommended Procedures for Reviewing Beneficial Use Designations, With Special Emphasis on Fishery and Recreational Uses.

South Dakota Department of Environment and Natural Resources. Chapters 74:51:01, 74:51:02, and 74:51:03, Surface Water Quality Standards.

DeLorme, 2004. South Dakota Atlas and Gazetteer.

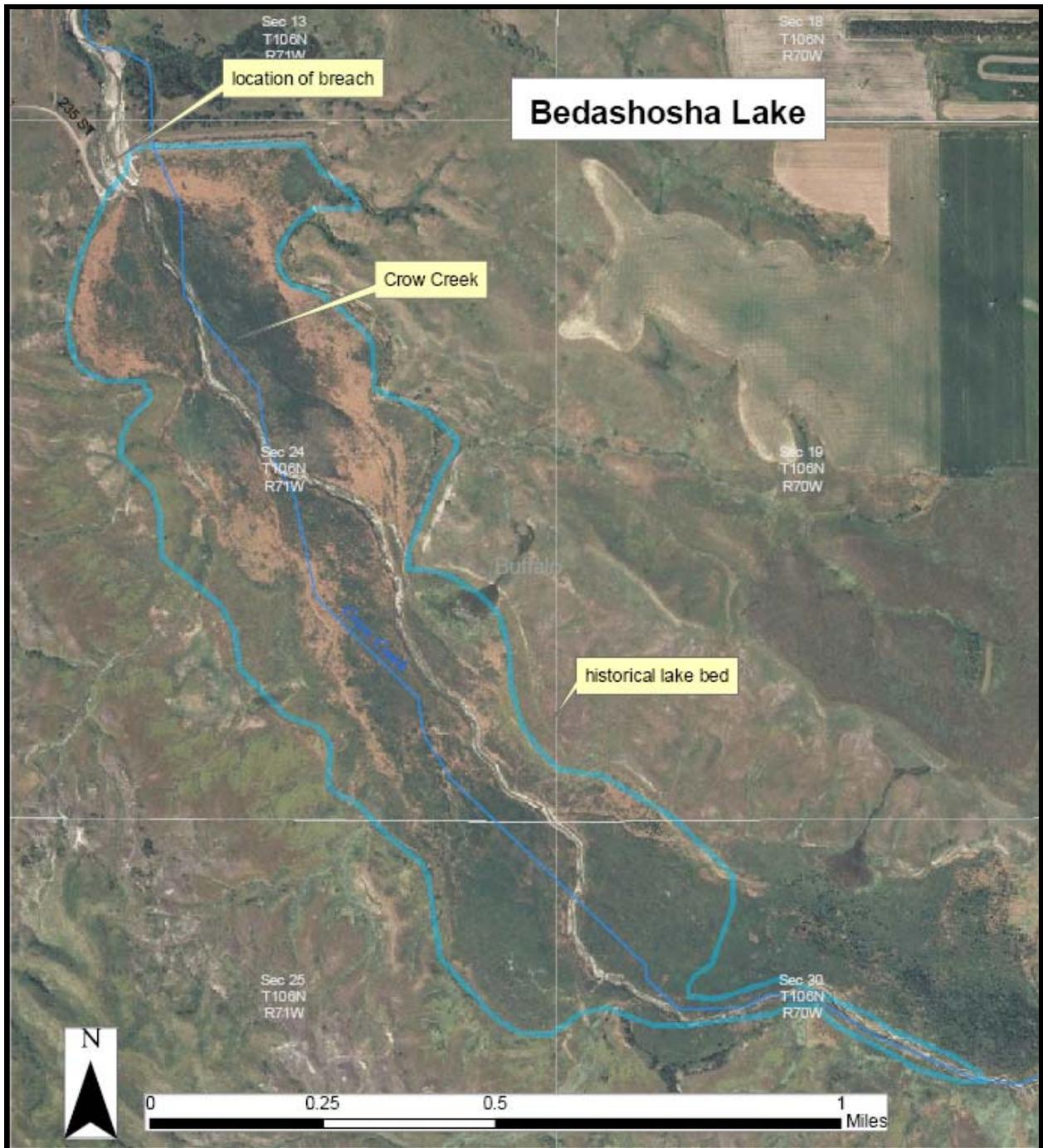
South Dakota Bureau of Information and Telecommunications, GIS ArcMap.

ATTACHMENT 1



Woodruff Lake Site Map.

ATTACHMENT 2



Bedashosha Lake Site Map.

ATTACHMENT 3



Woodruff Lake near breached overflow structure.

This photograph was taken April 25, 2007. The photographer was standing on the north side of the lake near the breached holding structure facing southwest.

ATTACHMENT 4



Woodruff Lake.

This photograph was taken April 25, 2007. The photographer was standing on the north side of the lake facing south.

ATTACHMENT 5



Bedashosha Lake.

This photograph was taken on April 25, 2007. The photographer was standing on the northwest side of the lake basin facing southeast. Upland grasses now grow on the lake bed. Crow Creek is seen in the foreground cutting through the landscape.

ATTACHMENT 6



Bedashosha Lake.

This photograph was taken on April 25, 2007. The photographer was standing near the northwest corner of the lake facing north at the location of the reservoir breach. Due to the failure of the holding structure, Crow Creek now flows freely to the Missouri River.