

# RECLAMATION

*Managing Water in the West*

## **Bighorn River System Issues Working Group**

## **Technical Studies Update**

**April 2, 2009**



U.S. Department of the Interior  
Bureau of Reclamation

# Technical Studies Update

- **Flood Pool Reallocation Study**
- **Sedimentation Management Study**
- **Bighorn River Side Channel Study**

# Flood Pool Reallocation Study

- **Background**

- Agreement with the USACE to complete study
- Evaluate the change in flood reduction benefits due to the reallocation of 5 ft of flood control storage to joint use storage

# PROPOSED STORAGE ALLOCATION

Dam Crest  
Elev. 3660.0

↶ **3657** (1,328,360 AF)

Surcharge - 52,829 Acre-Feet

↶ **3645** (1,137,514 Acre - Feet) **Exclusive Flood Control - 190,846 Acre - Feet**

**Joint Use - 307,827 Acre - Feet**

↶ **3614** (829,687 Acre - Feet)

Active Conservation - 336,103 Acre - Feet



Top of Conservation Elev. 3547.00 (493,584 Acre - Feet)

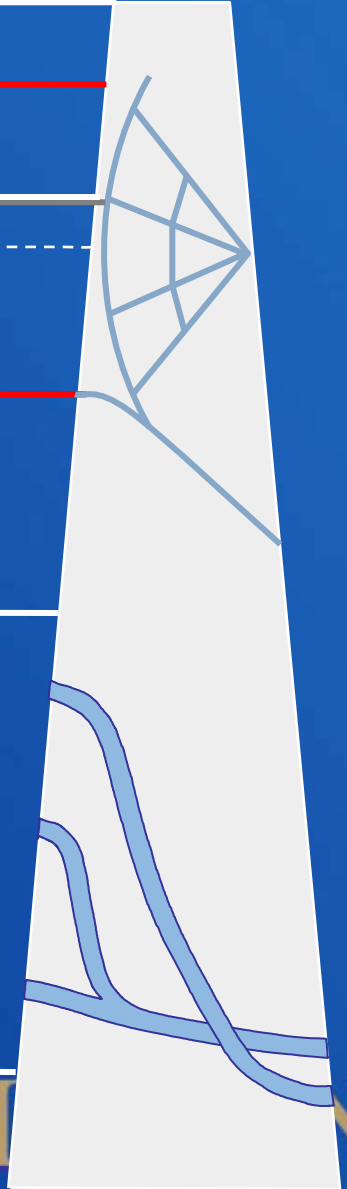
Inactive Conservation - 477,576 Acre - Feet



Top of Dead Elev. 3296.50 (16,008 Acre - Feet)

Dead - 16,008 Acre - Feet

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# Progress Update

- **Calibration and Baseline Simulation in HEC-ResSim Model – Completed**
- **Pool Raise Simulation - Completed**
- **Computing & Analysis of Pool Probability, Pool Duration, Flow Frequency and Flow Duration relationships to baseline – July/Aug.**
- **Compute Net Flood Benefits – July/Aug.**
- **Draft Report - late summer/fall 2009**

# Sedimentation Management Study

- Project Background
  - Agreement with USACE
  - Maintaining Higher Reservoir Levels during the Recreation Season
  - Trapping Sediment in the Pool Upstream of Horseshoe Bend
  - Flush Sediment through the Horseshoe Bend Area
  - Manage Sediment in the Horseshoe Bend Area
  - Manage Sediments in the Watershed

# Progress Update

- Received \$25,000 from NPS for completing study needs
- USACE completed Sedimentation Model & Draft Report March 2009
- Reclamation is currently reviewing draft report, due to USACE June 2009
- Draft Report for distribution August 2009



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# Bighorn River Side Channel Study

- **Project Background**
  - Investigate the loss of side channels along the Bighorn River between Yellowtail Afterbay and St. Xavier Bridge
  - Document the history of changes and provide solutions for the remediation of critical side channel complexes



# Bighorn River Side Channel Study

- **Progress Update**
  - **Final Plan of Study Completed May 2008**
  - **MOU Signed November 2008**
  - **Tasks B1 – B4, Geomorphic Analysis Completed**
  - **FY 2009 Scope of Work & Budget reviewed by MOU parties**

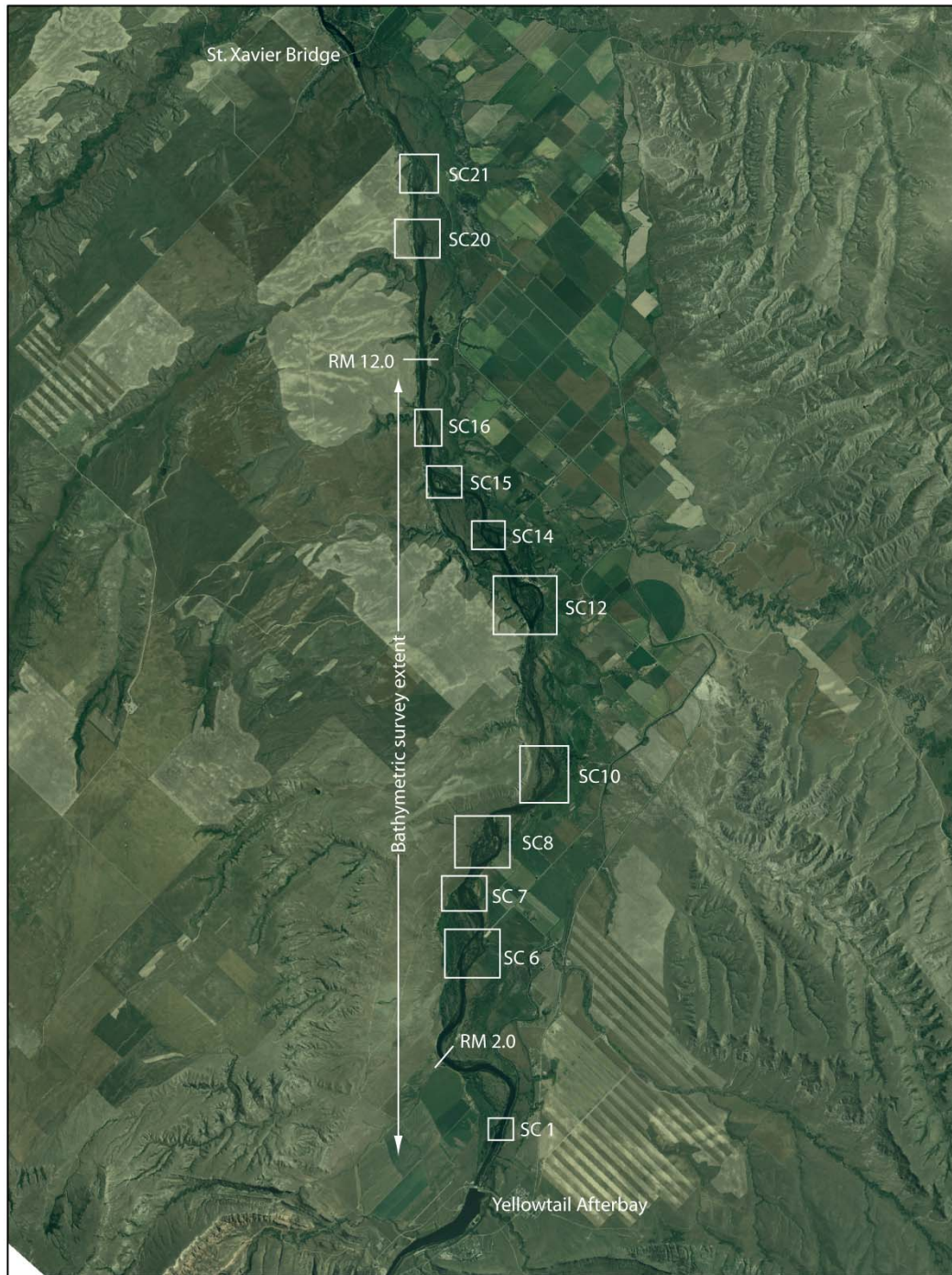
# FY 09 Scope of Work & Budget

- **FY 09 Budget to Date**
  - **\$45,000 Western Area Power Administration**
  - **\$50,000 Bureau of Reclamation**
  - **Fish, Wildlife, & Parks In-Kind Services**

## Task

## Schedule

<b>B5. Thalweg survey</b>	<b>April 27 – May 1</b>
<b>B6. Cross section resurvey</b>	“ ”
<b>B7. Bank materials survey</b>	“ ”
<b>A. Side Channel Topo</b>	“ ”
<b>C1. Bathymetric Survey</b>	“ ”
<b>B8. Analysis of channel change and channel morphology</b>	<b>July</b>
<b>B9. Draft Geomorphic Report</b>	<b>August</b>
<b>B10. Geomorphic Presentation</b>	<b>Fall Meeting</b>



**Questions?**

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