

# FINAL PROJECT REPORT

**RM-CESU Cooperative Agreement Number: H1200040001**

**USU Control Number: 08-0306**

**Sponsor Award Number: H1200040001; J1242077015; USU-RM-44**

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PROJECT TITLE: Web Summaries for Natural and Cultural Resources Studies – Sand Creek Massacre National Historic Site

NAME OF PARK/NPS UNIT: Sand Creek Massacre National Historic Site

NAME OF UNIVERSITY PARTNER: Utah State University

NPS KEY OFFICIAL: Karl Zimmermann, Chief of Operations and Natural Resources, Sand Creek Massacre NHS, 35110 Highway 194 East, La Junta, CO 81050, 719-383-5010 x123, Karl\_Zimmermann@nps.gov

PRINCIPAL INVESTIGATOR: Ben Baldwin, Utah State University, Department of Environment and Society, 5215 Old Main Hill, Logan, UT 84322-5215, 435-797-2582, ben.baldwin@usu.edu

RESEARCHER: Emily Yost, Utah State University, Department of Environment and Society, 5215 Old Main Hill, Logan, UT 84322-5215, esyost@gmail.com, 610-360-9152

## PROJECT SCHEDULE AND FINAL PRODUCTS:

Date of Project Initiation: September 1, 2007

Final Products include, but are not limited to:

Professionally written and edited summaries of natural and cultural resources and studies of Sand Creek Massacre NHS (SAND):

1. Almanac pages (renamed as Resource Briefs) of site resources (including text files, photos, PDFs), scientifically reviewed by park staff.
2. Project Summaries of technical reports (including text files, photos, PDFs), scientifically reviewed by park staff.
3. Related introductory pages for Learning Center of the American Southwest (LCAS, in development at dev.southwestlearning.org) website
4. Related project and reference and links pages for LCAS website
5. Web Summary Content Guidelines (LCAS—working guidelines)
6. Web Summaries on www.nps.gov/sand (including text, photos, and links)
7. Final report of work

A CD of all text files, photos, Adobe InDesign files, PDFs, and suggestions for posting on the LCAS website (separate file and located within topic files) was submitted to Rob Bennetts, Southern Plains Network coordinator.

End Date of Project: December 30, 2008

## PROJECT SUMMARY:

This project supported the development of website content on the natural and cultural resources and research of SAND. Emily Yost, research technician, visited the park site, SAND staff, and LCAS representative in January 2008 to collect reports and discuss the project. Borrowed materials (reports, USB key) have been returned to SAND.

Emily reviewed the reports and determined suitable summary products for each topic/report. Emily also developed working content guidelines for the project. Emily also supervised a Utah State University student worker to increase the university's capacity for similar projects and provide opportunities for development of students (student was based in Logan, UT while Emily was based at Bighorn Canyon National Recreation Area, Lovell, WY and Rocky Mountain National Park, Estes Park, CO). Emily worked with the student and revised products to ensure the student products met the expected quality of other project products. Emily

visited the Southern Plains Network coordinator to ensure the products met LCAS template requirements and to learn how to post the content to the LCAS website.

After completing 11 summaries (resource briefs and project summaries), Emily leveraged the remaining project funds to completed related introductory, project, and references and links pages for the LCAS website. Emily also posted some introductory content now appears on the developing website. Emily also leveraged project funds to create summaries for the Sand Creek Massacre National Historic Site NPS website ([www.nps.gov/sand](http://www.nps.gov/sand)). The summary work included writing new text, resizing photos, creating pages in the NPS Content Management System, creating and adding top (banner) photos, and linking pages internally and to reports.

This project is related to and received financial support from the Natural Resources Research Synthesis at Sand Creek Massacre National Historic Site (UCOB-39/46) projects at University of Colorado at Boulder. See the appendix for related products.

LCAS products completed:

*Resource Briefs (4)*

Birds  
Environmental History  
Ethnography  
Rare Species

*Project Summaries (7)*

Birds  
Environmental History  
Ethnological and Ethnohistorical Assessment  
of Ethnobotanical and Cultural Resources  
(Ethnography)  
Fish Survey  
Site Location Study  
Rare Species Assessment  
Special Resource Study

*Related introductory pages for LCAS (7)*

Birds  
Ethnography  
Environmental History  
Humans in the Environment (update of  
existing)  
Research (update of existing)  
Research in SAND  
SAND (introduction, update of existing)

*Related project pages for LCAS (7)*

Birds  
Ethnography  
Environmental History  
Fish  
Rare Species  
Site Location Study  
Special Resource Study

*Related references and links pages for LCAS (6)*

Birds  
Ethnography  
Environmental History  
Fish  
Land Use  
Rare Species

**Total LCAS products: 31**

*Reports summarized:*

- An ethnological and ethnohistorical assessment of ethnobotanical and cultural resources at the Sand Creek National Historic Site and Bent's Old Fort National Historic Site
- Fish trip report
- Rare species, preliminary assessment
- Sand Creek Massacre project, volume 1: Site location study
- Sand Creek Massacre project, volume 2: Special resource study and environmental assessment
- Sand Creek Massacre Site: An Environmental History
- SAND inventory and monitoring final report (birds)

## NPS.gov/SAND products completed:

Total of 11 new summaries, including 6 new pages, plus Emily added text to the Collections page and reorganized the People and Places pages (photos were also resized). Emily also added new pages to the navigation (left).

Links within text to other pages and documents.

1. **History and Culture**, <http://www.nps.gov/sand/historyculture/index.htm>. Text and photos.
2. **People**, <http://www.nps.gov/sand/historyculture/people.htm>. Resized photos, reorganization.
3. **Places**, <http://www.nps.gov/sand/historyculture/places.htm>. Resized photos, reorganization.
4. **Stories**, <http://www.nps.gov/sand/historyculture/stories.htm>. Text and photos.
5. **Sand Creek Massacre** (new page), <http://www.nps.gov/sand/historyculture/massacre.htm>. Text and photos, includes link to existing site bulletin.
6. **Environmental History** (new page), <http://www.nps.gov/sand/historyculture/envhist.htm>. Text and photos.
7. **Collections**, <http://www.nps.gov/sand/historyculture/collections.htm>. Updated the text, included a link to research.
8. **Nature and Science**, <http://www.nps.gov/sand/naturescience/index.htm>. Text and photos. Moved large photos with captions into a photo gallery at the bottom of the page.
9. **Animals**, <http://www.nps.gov/sand/naturescience/animals.htm>. Text and photos.
10. **Birds** (new page), <http://www.nps.gov/sand/naturescience/birds.htm>. Text and photos, plus a link to the report.
11. **Prairie Dogs** (new page), <http://www.nps.gov/sand/naturescience/prairiedogs.htm>. Text and photos.
12. **Plants**, <http://www.nps.gov/sand/naturescience/plants.htm>. Text and photos.
13. **Cottonwoods** (new page), <http://www.nps.gov/sand/naturescience/cottonwoodtrees.htm>. Text and photos, plus a link to the report.
14. **Research** (new page), <http://www.nps.gov/sand/naturescience/research.htm>. Text and photos.

Top photos added all of the pages (homepage and non-home page):

1. Rotating (random) photos at the top of <http://www.nps.gov/sand/index.htm>. 12 new photos added.
2. Rotating (random) photos at the top of non-homepage pages. 13 new photos added.

**Total NPS.gov/SAND products: 11 (plus photos and additions to existing pages)**

**TOTAL PRODUCTS (USU LCAS and NPS.gov/SAND): 42**

## Project Schedule:

*January 2008:* Site visit to SAND; coordinated with Program Manager of the Southern Plains Network and the Key Official at SAND

*January – June 2008:* summary drafts completed, including park staff review. Additional LCAS content completed.

*July 2008:* Meeting with Southern Plains Network coordinator. Layouts completed (PDFs).

## RECOMMENDATIONS:

1. Future topics, products, and other web related activities (if information is available):
  - Grazing History
  - Develop in depth overviews (see LCAS content guidelines) for appropriate topics (especially the massacre)
  - Introductory pages for each topic level that is relevant to product (Emily completed this recommendation with remaining project funds, see products)
  - Project pages for each project summary level (Emily completed this recommendation with remaining project funds, see products)
  - Reference and links pages for each topic relevant to product (Emily completed this recommendation with remaining project funds, see products)
  - Expand and update reference and links pages as other products or projects are completed

- Expand content on [www.nps.gov/sand](http://www.nps.gov/sand) (History & Culture and Nature & Science sections), include web summaries on topics that have information already available. There would be some overlap in the topics between LCAS and [www.nps.gov/sand](http://www.nps.gov/sand), but the sites serve different audiences and present different types of content. (Emily completed this recommendation with remaining project funds, see products). Future pages could include:
  1. Ethnobotanical Resources (summary)
  2. Fish (summary)
  3. Rare Species (summary)
  4. Environmental Factors (subpages: disturbed lands, nonnative species)
  5. Natural Features and Ecosystems (subpages: prairies and grasslands, rivers and streams, soils, wetlands)
- 2. Make sure interpretive and education staff know that these resources are available (a final products CD was supplied to Craig Moore, Interpreter, SAND). Encourage staff to contribute to and use the products and website. Products could also be posted on [www.nps.gov/sand](http://www.nps.gov/sand) website.
- 3. For resources that are the subject of new projects, notify cooperators, researchers, or park staff of current products that are available for those topics. Have them provide information that should be included or updated and photos of their projects.
- 4. Better organize park records of communication (including emails and feedback required on products), reports, and contact information to encourage faster communication which can prevent delays in project progress.
- 5. Create a photo archive accessible to all park staff with photos contributed from all divisions (could also post on NPS Focus or other NPS digital image archive). Easier access to photos and information about each photo speeds up the process for creating these products and contributes to better products. Photos can also be used by other divisions for other projects.

#### FINAL PRODUCTS:

All text, PDFs text files, photos, PDFs, and suggested posting locations on the LCAS website (separate file and located within topic files) were supplied to Rob Bennetts, Southern Plains Network coordinator (LCAS) for publication. Products will be available on [www.southwestlearning.org](http://www.southwestlearning.org) when posted (in development at [dev.southwestlearning.org](http://dev.southwestlearning.org)). The LCAS website is expected to go public by January 2009. Hard copies of the resource briefs and project summaries were supplied to Karl Zimmermann (SAND).

All [NPS.gov/SAND](http://NPS.gov/SAND) summaries were published on the website (available now).

Product CDs have been supplied to Karl Zimmermann (SAND), Kathy Tonnessen (NPS Research Coordinator), Ben Baldwin (Utah State University), Tim Seastedt (University of Colorado at Boulder), Craig Moore (SAND Interpreter), Alden Miller (SAND Superintendent), and Fran Pannebaker (Bent's Old Fort National Historic Site).

#### FOR ADDITIONAL INFORMATION OR COPIES OF REPORT OR PRODUCTS, CONTACT:

*NPS Key Official:* Karl Zimmermann, Chief of Operations and Natural Resources, Sand Creek Massacre National Historic Site, 35110 Highway 194 East, La Junta, CO 81050, 719-383-5010 x123, [Karl\\_Zimmermann@nps.gov](mailto:Karl_Zimmermann@nps.gov)

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See *also:* [dev.southwestlearning.org](http://dev.southwestlearning.org), [www.nps.gov/sand](http://www.nps.gov/sand)

## APPENDIX

The Utah State University project received financial support from the Natural Resources Research Synthesis at Sand Creek Massacre National Historic Site (UCOB-39/46) projects at the University of Colorado at Boulder to complete the products listed below for Sand Creek Massacre National Historic Site.

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RESEARCHER: Emily Yost, esyost@gmail.com, 610-360-9152

### PROJECT SCHEDULE AND FINAL PRODUCTS:

Date of Project Initiation: September 28, 2007

End Date of Project: April 1, 2009

#### Products completed:

*Resource Briefs (6)*

Cottonwoods  
Hydrology  
Prairie Dogs  
Soils  
Vegetation  
Wetland and Riparian Areas

*Project Summaries (6)*

Hydrology and Groundwater Sources  
Pollen Analysis  
Riparian Age Forest Structure and Past  
Hydroclimate (cottonwoods)  
Vegetation Inventory  
Wetland, Riparian, Geomorphology, and  
Floodplain Conditions

*Related introductory pages for LCAS (5)*

Cottonwoods  
Groundwater  
Mammals  
Prairie Dogs  
Water

*Related project pages for LCAS (6)*

Cottonwoods  
Hydrogeology and Groundwater Sources  
Pollen Analysis  
Soils  
Vegetation  
Wetland, Riparian, Geomorphology, and  
Floodplain Conditions

*Related references and links pages for LCAS (7)*

Cottonwoods  
Hydrogeology and Groundwater Sources  
Prairie Dogs  
Soils  
Vegetation  
Wetlands  
Groundwater

### **Total products (CU-B): 30**

#### *Reports summarized:*

- Potential Groundwater Sources for a Potable Water Supply: Sand Creek Massacre Site, Kiowa County, Colorado
- Prairie-Wetland Focus Area Strategic Plan
- A preliminary assessment of wetland, riparian, geomorphology, and floodplain conditions at SAND
- Pollen analysis of sediment cores recovered from the SAND
- SAND Prairie Dog Management Plan and EA
- Special Soil Survey Report
- Vegetation inventory prepared for the Sand Creek Massacre Site