

National Park Service  
U.S. Department of the Interior

# National Park Service Update

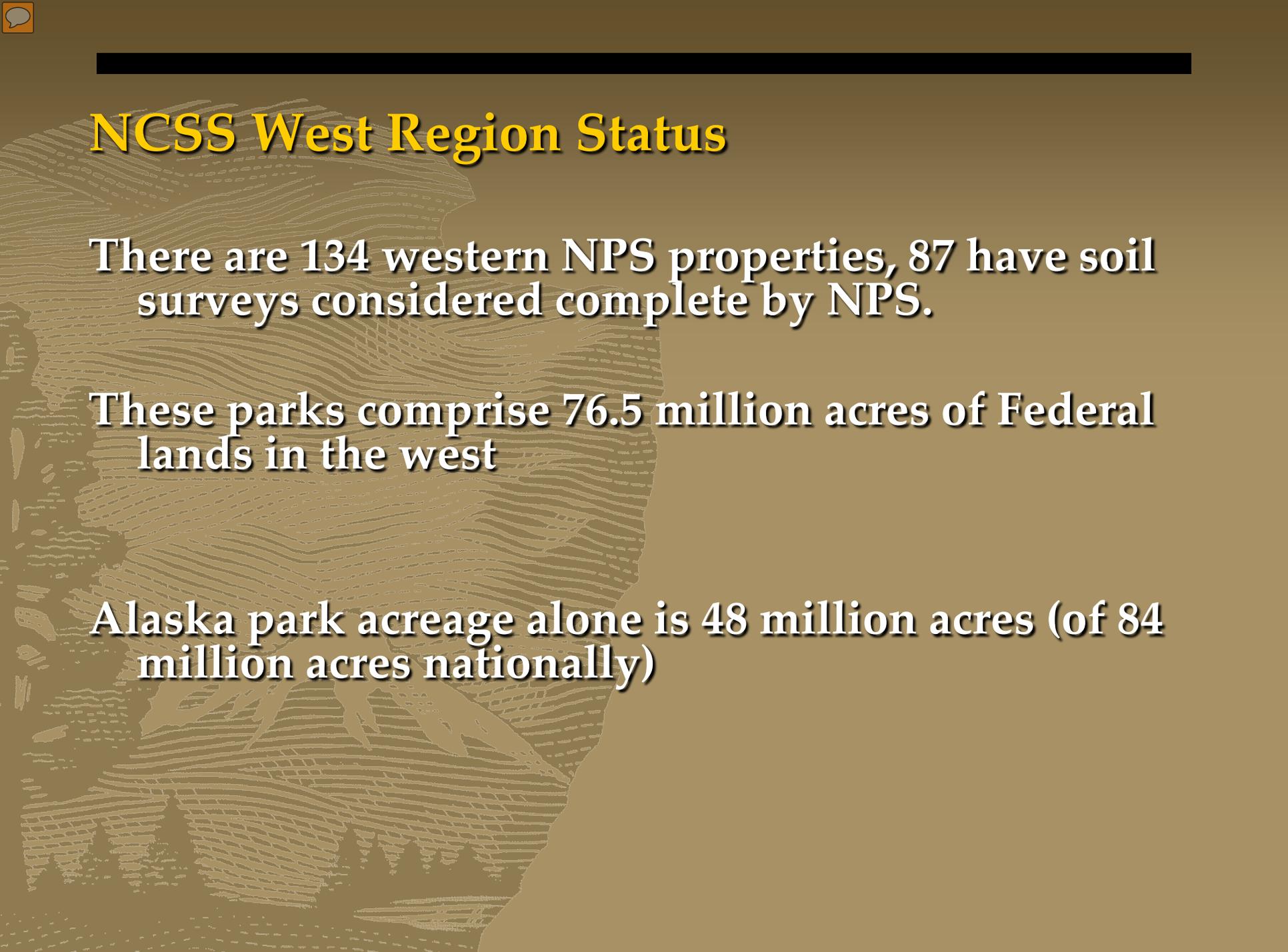
Pete Biggam  
Soils Program Manager

Susan Southard  
NRCS Liaison to National Park Service

Western Regional Cooperative Soil Survey Conference  
Davis, CA  
June, 2012



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## NCSS West Region Status

There are 134 western NPS properties, 87 have soil surveys considered complete by NPS.

These parks comprise 76.5 million acres of Federal lands in the west

Alaska park acreage alone is 48 million acres (of 84 million acres nationally)



## Current NPS Interagency Agreements with NRCS in Western Region

- 15 parks in 7 western states have current agreements with NPS for soil mapping
- comprising 10.5 million acres
- These agreements total \$2.25 million annually

# Alaska

Klondike Gold Rush National  
Historical Park

Yukon-Charley National  
Preserve

Klondike National Historic Park

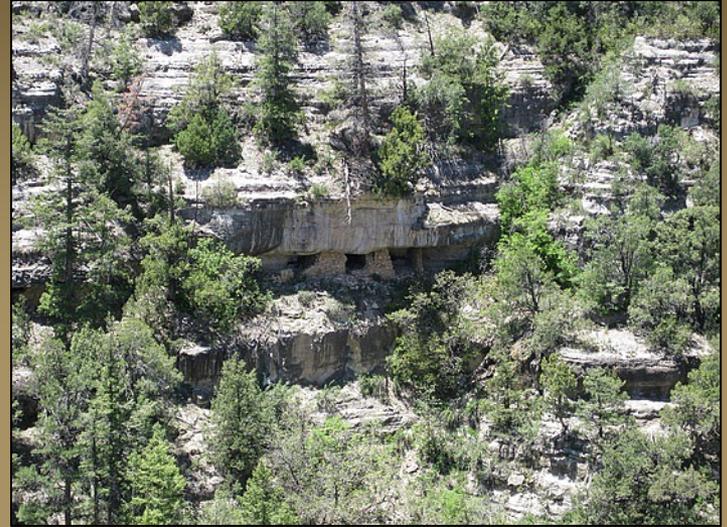
Glacier Bay National Park

3.3 million acres



# Arizona

## Sunset Crater, Walnut Canyon, and Wupatki National Monuments



# California

Joshua Tree National Park

Mojave National Preserve

King-Canyon Sequoia NP



# Montana

## Glacier National Park



# Wyoming

## Fossil Butte National Monument

8,200 Acres - Special Soil Survey Report  
from 1970s exists, but no data in NASIS



# Nevada

## Lake Mead National Recreation Area

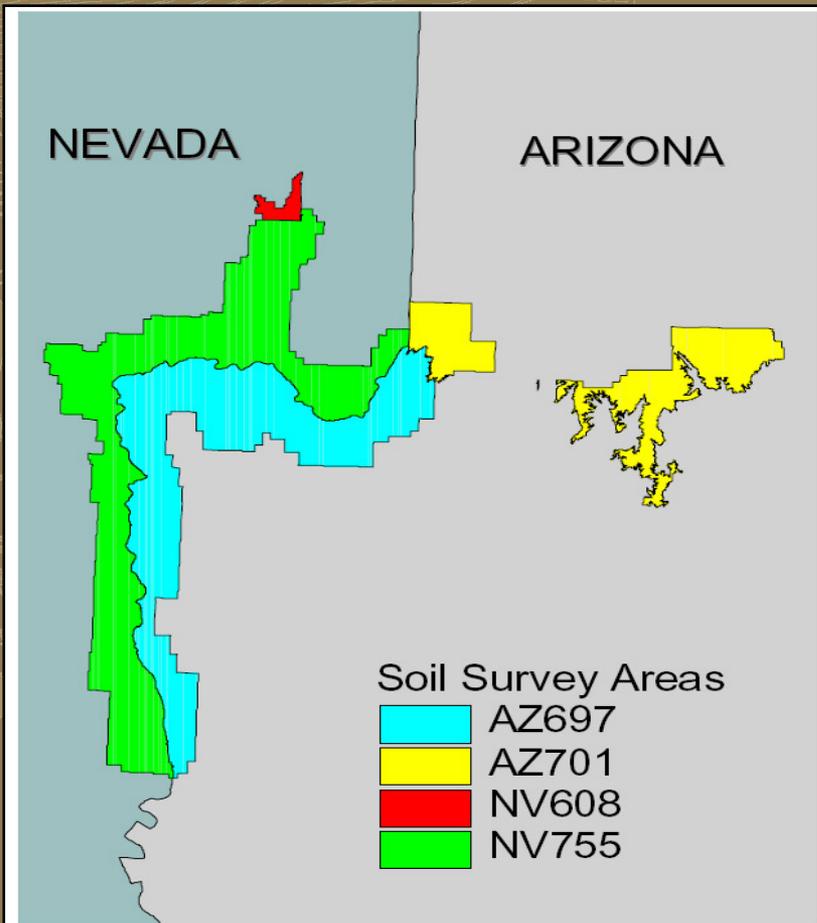


Figure 1. Lake Mead NRA and its associated soil surveys in Arizona and Nevada.

Data clipped by the NPS boundary

Shoreline and water levels do not match between soil survey areas

Differences in soil map unit design due to ages of the soil surveys and order of mapping

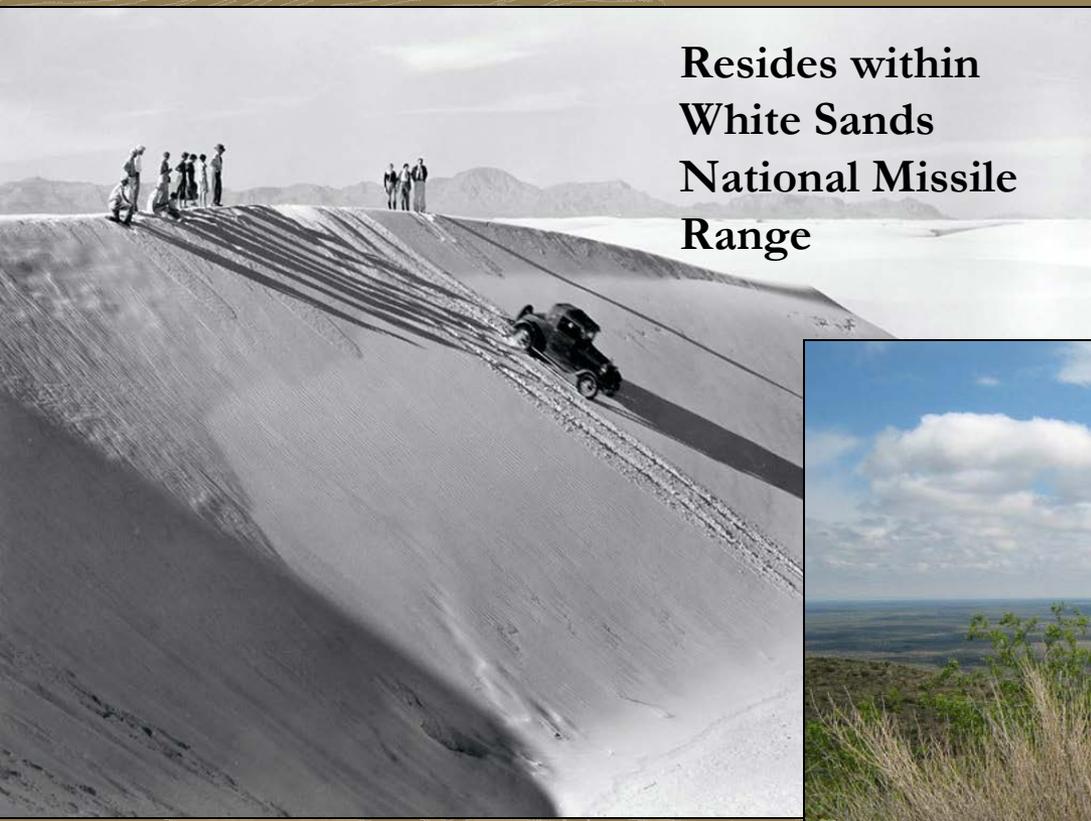
4 separate soil survey areas in 2 states not easy to retrieve/view on WSS for users

No current work agreement



# New Mexico

## White Sands National Monument



**Resides within  
White Sands  
National Missile  
Range**

Carlsbad National Park



**1:12,000 scale, Order 2  
NPS wants SSA set up**



# Utah

## Capitol Reef National Park



## Zion National Park

County mapping where lines were drawn through Federal Lands

# Washington

## Mount Rainier National Park

LiDAR data  
available  
parkwide,

NPS also  
supporting  
mapping of park  
landforms to  
support soil  
survey

Initial mapping



# Current Issues For the NPS



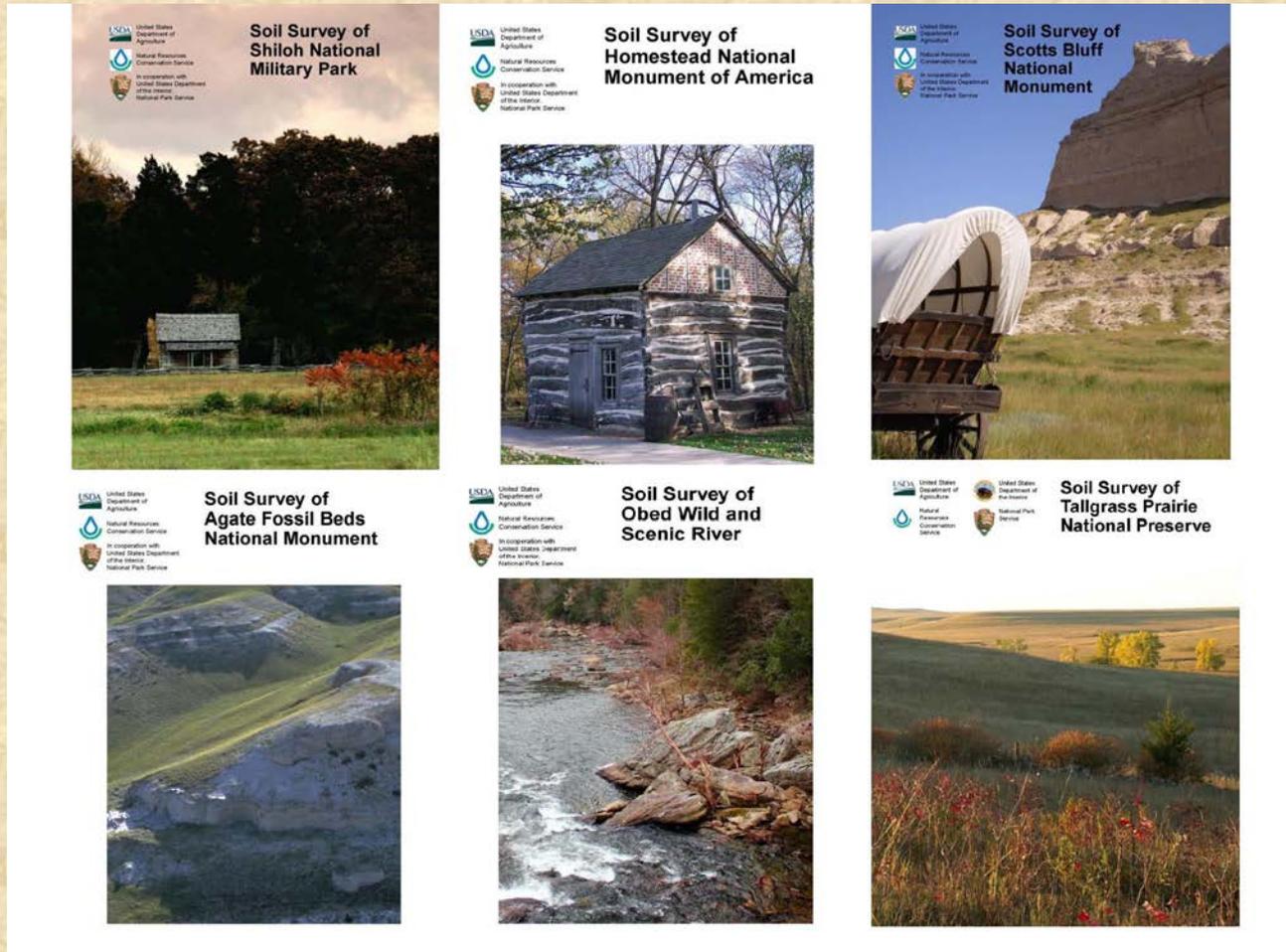
## Harmonization

NPS has spent over \$25 million in last 12 years to acquire soils information and wants to be sure NRCS is “in tune” with NPS before soil data on NPS lands are “harmonized”

## Reorganization

New office assignments for QA/QC and interagency agreement consistency

# Using Soil Survey Information



Susan Southard, NRCS Soil Scientist,  
National Soils Interpretation Staff,  
National Soil Survey Center, Lincoln, NE

# NRCS-NPS Cooperative Tasks

- 270 park properties in NPS Soil Inventory
  - 59 finished under interagency agreements (at a cost of \$25 million over last 12 years)
  - 21 various stages of completion or on wish list-----that leaves

190 parks using clipped SSURGO; we develop manuscripts for some, maintain NPS System lands in NASIS for all, and prepare data for use

# Making soils data interesting information

- Soil formation and reasons behind soil distribution within a park
- Simple photo map units
- Property maps - SOC/SIC
- Historical or ecological significance of soils beyond traditional agronomic use of soil surveys
- Retrieve point and lab data for use

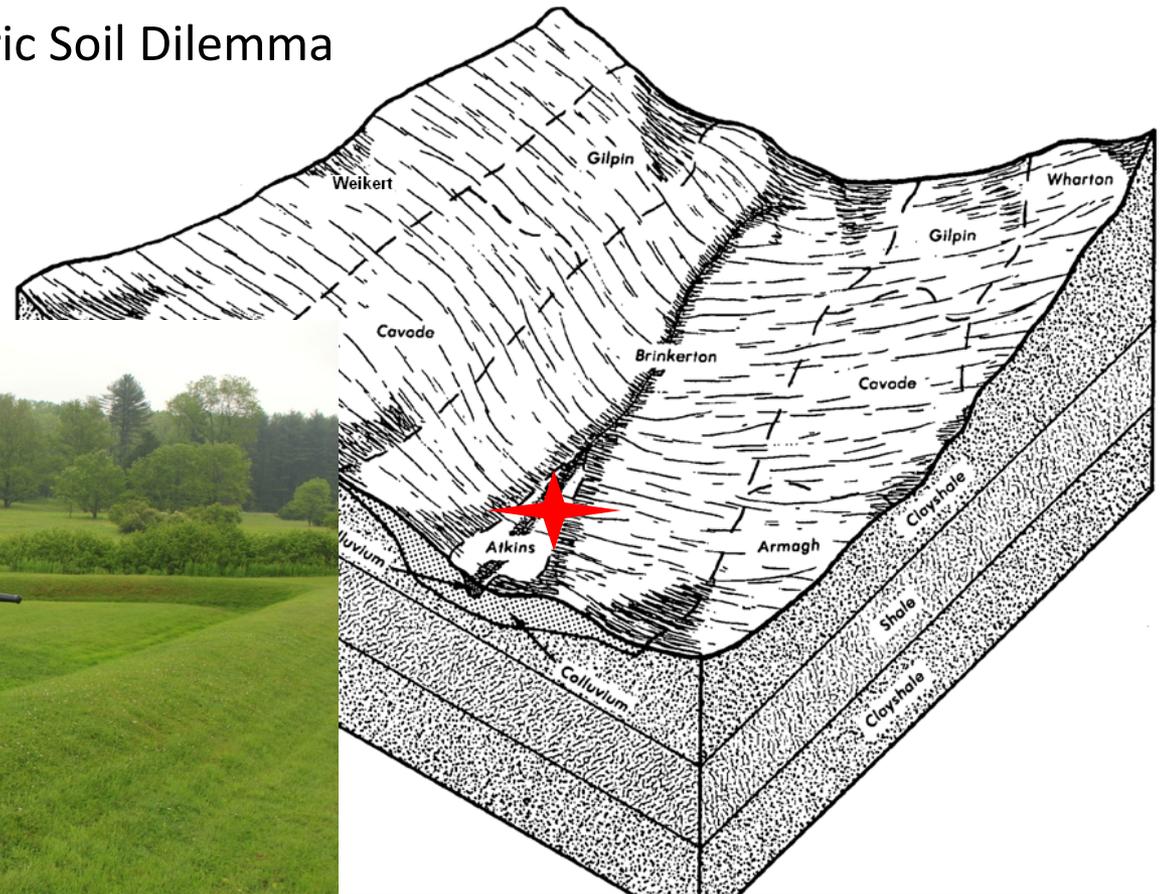


All to create a new “The Story Behind the Scenery”

# The Soil Story Behind the Scenery

1754

Lt George Washington's Hydric Soil Dilemma





# The Soil Story Behind the Scenery

1862



A House Made of Kennebec



265 Tons C per acre

Soil plugs from unplowed trampled schoolyard

# The Soil Story Behind the Scenery

## Johnstown Flood National Memorial

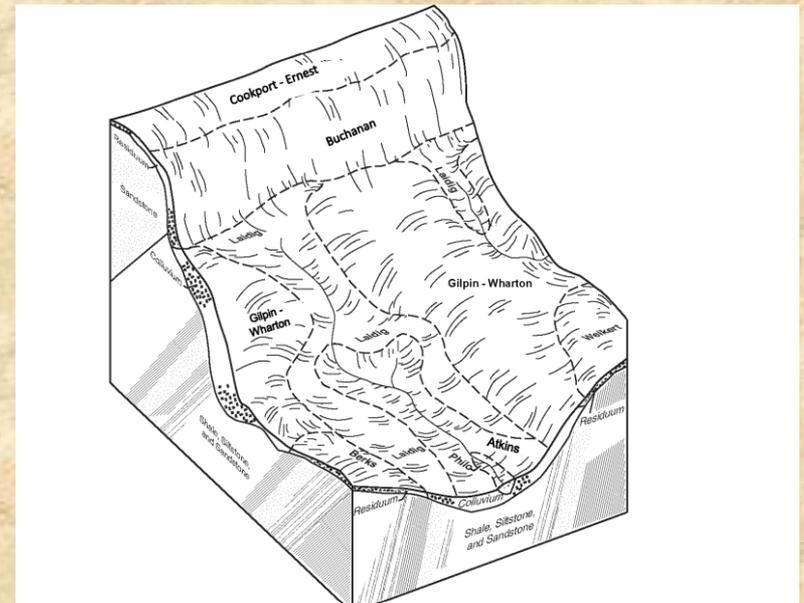
1889



The body of water in the background of this image is Lake Conemaugh, held back by the intact South Fork Dam before the disaster.

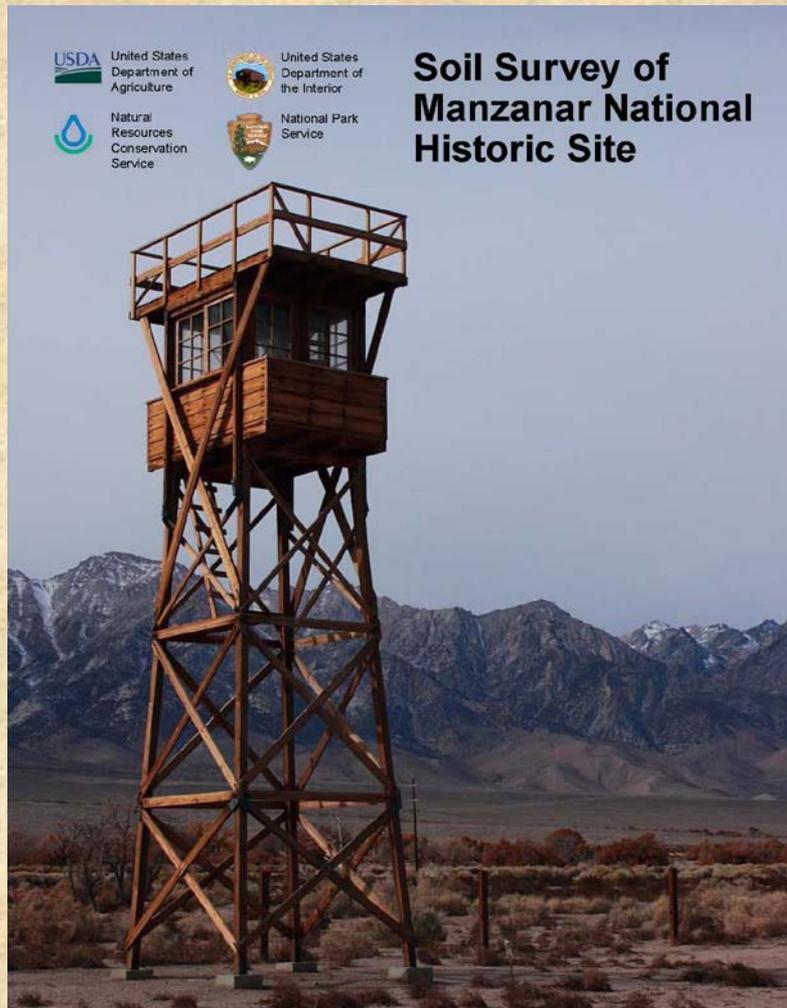


- Seepage
- Piping
- Unstable excavation walls



# The Soil Story Behind the Scenery

1942



## A Different Kind of Sand



# The Soil Story Behind the Scenery

2012

## A Different Kind of Sand



# The Soil Story Behind the Scenery

2012

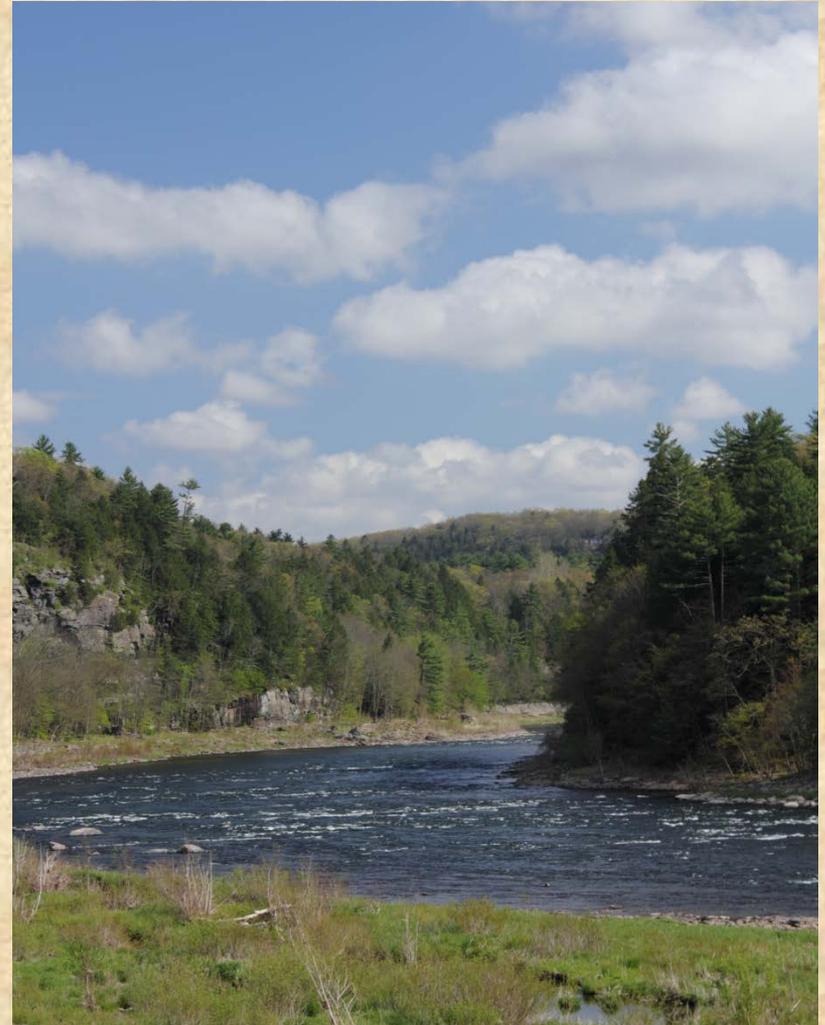
Itmann soils



# The Soil Story Behind the Scenery

## The future

- Will soils be part of the planning?
- Example: Possibility of many thousands of well pads, water retention ponds and access roads for natural gas extraction within the Upper Delaware Scenic River watershed



Thank you!



# If I have time.....

## Harmonization Suggestions

- Series classification – CEC classes, update mineralogy, check components/pedons
- See if an Official Series Descriptions exists and matches SSURGO data
- Scale and order of mapping – explain methods used to resolve differences in map unit design and land use when joining or harmonizing....1:12,000 matching to 1:24,000, and use of FAMILY (Redding Family). **Discussion**
- Joining – coordinate with Federal partners...do they know you are editing lines and tabular data? **Would also be good discussion here at the meetings**
- Point data – ex. Great Smokey NP ~200 researchers/24 with “soil” in permit name
- End result - no need for post-SSURGO processing of data to in order to supply consistent information.... I’m all for that!
- Harmonization should not be Homogenization



# The Soil Story Behind the Scenery



John Muir Historic Site



# The Soil Story Behind the Scenery

1200 AD

Cinder Mulching

