



# 8TH CONFERENCE ON FOSSIL RESOURCES

## May 19—21, 2009, St. George, Utah

### ADVANCE PROGRAM

#### **Mission Statement**

*The Conference on Fossil Resources convenes periodically to provide an opportunity for public land managers, professional scientists and interested amateurs to come together to discuss successes, discoveries and land management policy in order to preserve and enhance publicly owned paleontological resources. Through this collaboration, participants seek to maximize scientific, educational and recreational opportunities on public lands.*

# CONTENTS

**Tuesday, May 19, 2009**

8:00—5:30, St. George, UT

## **FIELD TRIP**

Urban interface paleontology in Washington County, Utah

*Andrew R.C. Milner, Sarah Z. Spears, Scott E. Foss, James I. Kirkland  
and Dawna Ferris-Rowley* . . . . .

**Wednesday, May 20, 2009**

8:00—8:20, Sunbrook A-B

## **WELCOME**

From the 1849 Survey of the Territories to the PRPA of 2009, it's been a long road

*Scott E. Foss and Jim Kirkland* . . . . .

8:20—9:20, Sunbrook A-B (Session Moderators Dennis Terry and Jim Kirkland)

**SESSION 1: LAW ENFORCEMENT AND FOSSIL PROTECTION.** *A person may not make or submit any false record, account, or label for, or any false identification of, any paleontological resource excavated or removed from Federal land. (PRPA Section 6306)*

Damage assessment 101: Documenting unauthorized excavations and determining significance of vertebrate localities

*Alicia D. Beat and Rebecca R. Hanna* . . . . .

Rare Earth Element geochemistry of fossil bone: Using geochemical patterns to trace illegally excavated fossils

*Celina A. Suarez, G.L. MacPherson and David E. Grandstaff* . . . . .

The use of Rare Earth Element signatures in vertebrate fossils as a tool to investigate fossil poaching: A cooperative effort between Nebraska National Forest and Temple University

*Dennis O. Terry, Jr., David E. Grandstaff, William E. Lukens and  
Barbara A. Beasley* . . . . .

POSTER—Rare Earth Element signatures in fossil bone: A tool for mitigating fossil poaching on federal lands

*William E. Lukens, David E. Grandstaff, Dennis O. Terry, Jr., and  
Barbara A. Beasley* . . . . .

9:20—11:40, Sunbrook A-B (Session Moderators: Jim Kirkland and Dennis Terry)

**SESSION 2: PARTNERSHIPS IN MANAGEMENT.** *These plans shall emphasize inter-agency coordination and collaborative efforts where possible with non-Federal partners, the scientific community, and the general public. (PRPA Section 6302)*

Agency wide paleontological resource inventory for the National Park Service  
*Vincent L. Santucci, ReBecca K. Hunt-Foster, Jason P. Kenworthy, James C. Woods, Tim Connors, Lindsay McClelland, Alison L. Mims, Justin Tweet, Will Elder, ReBecca K. Hunt-Foster and Lisa Fay* .....

Managing major paleontological localities  
*James I. Kirkland* .....

Developing a paleontological resource management program within the South Unit of Badlands National Park  
*Rachel Benton* .....

The nation's first BLM paleontological site stewardship program, established in Washington County, Utah  
*Sarah Z. Spears, Andrew R.C. Milner, Dawna Ferris-Rowley, Scott E. Foss and James I. Kirkland* .....

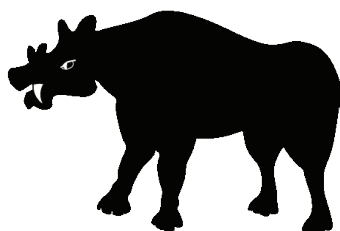
A preliminary report of fire effects to paleontological resources: the Paleozoic carbonate perspective  
*Gordon L. Bell, Jr., Jonena M. Hearst, and Richard Gatewood*

Preserving California's only dinosaur trackways by collection – An unprecedented opportunity for public protection and interpretation of fossil specimens from Federal land  
*Kathleen B. Springer, L. Chiappe, J. Christopher Sagebiel and Eric Scott* .....

POSTER—A comparison of methods for effective management of fossil resources, Southwestern Region, USDA Forest Service  
*Larry D. Gore* .....

POSTER—Interagency management of fossil resources  
*Theodore J. Fremd, John Zancanella, and Scott E.Foss* .....

POSTER—The use of Arc-GIS as a palaeontological resource management tool in Alberta, Canada  
*Jennifer Hysuick and Dan Spivak* .....



10:00—11:40, Entrada B-C (Session Moderator: Pat Hester)

**SESSION 3: PALEONTOLOGICAL RESEARCH ON PUBLIC LANDS 1.** *The Secretary shall manage and protect paleontological resources on Federal land using scientific principles and expertise. (PRPA Section 6302)*

The National Landscape Conservation System and New Mexico’s oldest to newest  
NLCS “paleo” units  
*Patricia M. Hester* .....

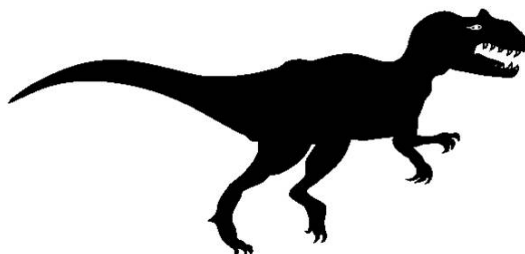
Paleontological Inventory of Cretaceous Rocks, Bryce Canyon National Park –  
A model for cooperative partnerships  
*Jeffery G. Eaton, Kelly Fuhrmann and Gayle Pollock* .....

New Tertiary vertebrate fossil sites on U.S. Forest Service land in central Utah  
*Donald D. DeBlieux, William W. Korth, James, I. Kirkland, Robert F. Biek,  
Grant C. Willis and Paul Kuehne* .....

High resolution biostratigraphy and lithostratigraphic revisions of the Poleslide Member  
of the Brule Formation, Badlands National Park, South Dakota  
*Emmett Evanoff* .....

One database to rule them all, one algorithm to find them, one mandate to bring them all  
and in cyberspace bind them: a database that integrates paleontological resource use  
permitting, research, and management  
*Neffra Matthews, Scott E. Foss, Dale Hanson, Lucia Kuizon, Patricia M. Hester  
and Harley Armstrong* .....

POSTER—Paleoecology of the Sundance Seaway, central Wyoming  
*Judy A. Massare and William R. Wahl* .....



1:00—1:20, Sunbrook A-B (Session Moderators Jennifer Cavin and Darrin Pagnac)

**SESSION 4: PUBLIC AWARENESS AND EDUCATION.** *The Secretary shall establish a program to increase public awareness about the significance of paleontological resources.* (PRPA Section 6303)

Mineral Wells Fossil Park – A project by the city of Mineral Wells, Texas, with assistance from the Dallas Paleontological Society (www.dallaspaleo.org)  
*Lee Taylor Higginbotham, Linda and Roger Farish, Rocky Manning, Frank K. Holterhoff, Phil Kirchhoff and Lance Hall* .....

POSTER—My coworker is a dinosaur: using fossils to inspire children  
*Tina Brown* .....

POSTER—The Utah Geological Survey’s integrated approaches to geoscience education and outreach using applied and web-based resources  
*Martha Hayden, Jim Davis and Lance Weaver* .....

1:20—2:40, Sunbrook A-B (Session Moderator: Darin Pagnac and Jennifer Cavin)

**SESSION 5: FOSSIL PREPARATION AND MUSEUM CURATION.** *Any paleontological resource, collected under a permit, shall be deposited in an approved repository.* (PRPA Section 6305)

Results of a survey indentifying common health issues in fossil preparation, and an example of an effective dust collecting and ventilation system in a fossil preparation lab  
*Scott K. Madsen and Heather C. Finlayson* .....

The important role of professional Preparators in managing fossil resources  
*Jennifer L. Cavin* .....

Pig Dig report or Tolstoy? Compiling a record of fifteen years of student activity at Conata Picnic Ground, Badlands Nationl Park, South Dakota  
*Darrin Pagnac, Rachel Benton, Sally Shelton, Chloe Banciforte, Jane Darbyshire, Shawna Johnson, Jack Mead, Matthew Miller, Michelle Pinsdorf and Matthew Sauter* .....

The Badlands National Park backlog catalogue project: An exercise in efficient collections management of federal specimens  
*Ed Welsh, Jason Carr, Rachel Benton, Michael T. Greenwald and Sally Y. Shelton* ..

3:00—5:20, Sunbrook A-B (Panel Moderator: Emily Palus)

**PANEL 1: CURATION OF PUBLICLY OWNED RESOURCES.** *Every permit shall include requirements that the paleontological resource and copies of associated records will be preserved for the public in an approved repository, to be made available for scientific research and public education.* (PRPA Section 6304)

Emily Palus—National Curator and NAGPRA Coordinator,  
Bureau of Land Management  
Terry Childs—Archaeologist, National Park Service  
Kara Hurst—Registrar, Utah Museum of Natural History

1:00—2:40, Entrada B-C (Session Moderator: Dale Hanson)

**SESSION 6: CONSULTING AND MITIGATION 1.** *Nothing in this subtitle shall be construed to alter or diminish the authority of a Federal agency under any other law to provide protection for paleontological resources on Federal land in addition to the protection provided under this subtitle. (PRPA Section 6311)*

Oil Shale, Gas Wells, and Transmission Corridors: the BLM’s Potential Yield Classification (PFYC) system and standards for assessment and mitigation of paleontological resources

*Dale Hanson, Lucia Kuizon, Patricia M. Hester, Harley Armstrong and Scott E. Foss. . . . .*

A paleontologic database created using the interoperability of an Access database and ArcMap including case studies in the Garden Park Fossil Area

*Melissa J. Smeins and Daniel A. Grenard . . . . .*

Paleontological resource protection—A critique of the California model

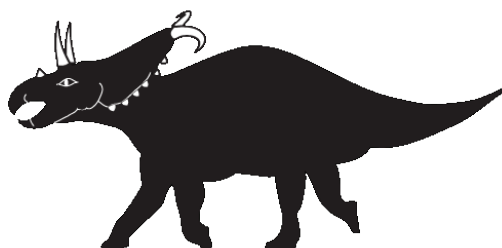
*Lanny H. Fisk . . . . .*

Paleontological Sensitivity Mapping: A case study, northeastern Wind River Basin, Wyoming

*Georgia E. Knauss, Paul C. Murphey and Lori S. Browne . . . . .*

The successfulness of paleontological resource mitigation on federal, tribal, and state administered lands

*Simon L. Masters, W. Thomas Temme IV and Stephen D. Sandau . . . . .*



**Thursday, May 21, 2009**

8:00—10:20, Sunbrook A-B (Session Moderator: Lanny Fisk)

**SESSION 7: CONSULTING AND MITIGATION 2.** *The Secretary may issue a permit for the collection of a paleontological resource pursuant to an application if the Secretary determines that the permitted activity is consistent with any management plan applicable to the Federal land concerned. (PRPA Section 6304)*

Monitoring and mitigation procedures for paleontological resources on Federally mandated energy pipeline projects  
*Sue Ann Bilbey, Evan J. Hall, Kelli C. Trujillo, and Peter Robinson. . . . .*

Pipeline paleontology: opportunities for exploration, discovery, and cooperation  
*Kelli C. Trujillo, Sue Ann Bilbey, Brent H. Breithaupt, David G. Demar, Elizabeth Southwell, Evan Hall. . . . .*

Site specific data used to expedite the Application For Permission To Drill process while protecting fossil resources  
*Sherrie Landon . . . . .*

The biodiversity of a well pad: An example of the importance of paleo-mitigation  
*Thomas W. Temme IV, Simon L. Masters and Stephen D. Sandau . . . . .*

Resource vs. Resource: Tertiary fossil mammal localities in the wake of oil and gas development  
*K.E. Beth Townsend and Anthony R. Friscia . . . . .*

Status of the SVP Standard Guidelines for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources  
*Lanny H. Fisk . . . . .*

POSTER—California State University, Fresno and the California Department of Transportation (CALTRANS): Collaboration in paleontological resource assessment and impact mitigation  
*Danny H. Tovar and Robert G. Dundas . . . . .*

10:20—11:40, Sunbrook A-B (Panel Moderator: Dale Hanson)

**PANEL 2: PALEONTOLOGICAL CONSULTING.** *The Secretary may issue a permit for the collection of a paleontological resource pursuant to an application if the Secretary determines that the applicant is qualified to carry out the permitted activity. (PRPA Section 6304)*

Dale Hanson, Regional Paleontologist, Bureau of Land Management  
Lanny Fisk, Paleontology Associates Inc.  
Bob Reynolds, LSA Associates, Inc.  
Sue Ann Bilbey, Uinta Paleontological Associates, Inc.

8:00—11:20, Entrada B-C

**SESSION 8: PALEONTOLOGICAL RESEARCH ON PUBLIC LANDS 2.** *The Secretary may issue a permit for the collection of a paleontological resource pursuant to an application if the Secretary determines that the permitted activity is undertaken for the purpose of furthering paleontological knowledge or for public education. (PRPA Section 6304)*

- Between a rock and a hard place: Science and the commercial fossil trade  
*Arvid Aase* .....
- The fossil treasures of Utah’s West Desert  
*Val Gunther and Glade Gunther* .....
- An overview of paleontological resources on federal and state lands in Washington County, Utah  
*Andrew R.C. Milner, Sarah Z. Spears and Jerald D. Harris* .....
- An overview of paleontological resources from state and BLM lands in Lisbon Valley, San Juan County, Utah  
*Andrew R.C. Milner, Sarah Z. Spears, Jerald D. Harris and Tylor A. Birthisel* .....
- Vertebrate tracks and traces on public lands: The management of the “overlooked stepchildren” of vertebrate paleontology  
*Brent H. Breithaupt* .....
- Close-range photogrammetric technology for paleontological resource documentation, preservation, and interpretation  
*Neffra A. Matthews and Brent H. Breithaupt* .....
- Documenting the ichnological menagerie at the North Moccasin Mountain Tracksite, Utah: Science, Technology, and Recreation Meet for Paleontological Resource Management  
*Neffra A. Matthews, Brent H. Breithaupt, Martin Lockley, Alan L. Titus, Tommy A. Noble and Andrew R.C. Milner* .....
- Integrated LiDAR & photogrammetric documentation of the Red Gulch dinosaur tracksite (Wyoming, USA)  
*Karl T. Bates, Brent H. Breithaupt, Peter L. Falkingham, Neffra Matthews, David Hodgetts and Phillip L. Manning* .....
- Late Jurassic pterosaur and sauropod tracks from the Seminoe Reservoir Tracksite, Wyoming  
*Vicki L. Meyers, Neffra A. Matthews and Brent H. Breithaupt* .....
- Cooperative management of paleontological resources on public lands in Mesa County, Colorado  
*Rebecca Hunt-Foster and John R. Foster* .....

1:00—2:20, Entrada B-C

**SESSION 9: PALEONTOLOGICAL RESEARCH ON PUBLIC LANDS 3.** *The Secretary may issue a permit for the collection of a paleontological resource pursuant to an application if the Secretary determines that the proposed methods of collecting will not threaten significant natural or cultural resources. (PRPA Section 6304)*

The Tule Springs Local Fauna: Late Pleistocene vertebrates from the Upper Las Vegas Wash, Clark County, Nevada

*Kathleen B. Springer, Eric Scott, J. Christopher Sagebiel, and Craig R. Manker . . . .*

First report of mammalian trackways and associated vertebrate fossils from Mesquite Lake, Sandy Valley, California

*J. Christopher Sagebiel, Kathleen B. Springer, Eric Scott and Craig R. Manker . . . . .*

Miocene *Thomomys* and Pleistocene (Rancholabrean) *Bison* from Joshua Tree National Park, California

*Eric Scott, Kathleen B. Springer, J. Christopher Sagebiel and Craig R. Manker . . . . .*

The late Irvingtonian Fairmead Landfill Locality, Madera County, California:  
Partnership in management and research at the local level

*Robert G. Dundas . . . . .*

1:00—3:00, Sunbrook A-B

**SESSION 10: PALEOCRACY AND LEGISLATION.** *The Secretary shall develop appropriate plans for inventory, monitoring, and the scientific and educational use of paleontological resources, in accordance with applicable agency laws, regulations, and policies. (PRPA Section 6302)*

The Geopark system and its use in protecting paleontological resources in China:  
A comparative examination for broader application

*Jerald D. Harris, Hailu You, Zhiming Dong and James I. Kirkland . . . . .*

Management philosophy and the current status of fossil stewardship on National Forests and Grasslands

*Bruce A. Schumacher . . . . .*

Paleontological feuds and why fossils are not antiquities

*Scott E. Foss . . . . .*

The Paleontological Resources Preservation Act: beginning of a new chapter in the history of paleontology

*Vincent L. Santucci . . . . .*

Paleontological Resources Preservation Act—An update

*Lucia Kuizon . . . . .*

3:00—4:00, Sunbrook A-B

**KEYNOTE** —The history of the Paleontological Resources Preservation Act

*Ted J. Vlamis and Pat Leiggi* .....

Ted Vlamis joined the Society of Vertebrate Paleontology (SVP) in 1993 and became Co-Chair of the Government Affairs Committee in 1995. Ted was president of Save America’s Fossil For Everyone (SAFE) (a 501(c)4 formed by SVP) from 1995-2007, has served as Affiliated Geological Societies Liaison since 1996 and was elected as SVP Treasurer in 2007. Ted has prepared and executed the SVP strategies that culminated with the passage of the Paleontological Resources Preservation Act (PRPA).

While working for the passage of the PRPA, Ted helped form and execute a strategy to ensure input from SVP membership into the DOI Report “Fossils on Federal and Indian Lands”. He helped draft model legislation, helped identify and recruit appropriate sponsors and co-sponsors, and worked with these sponsors to finalize and introduce the PRPA.

Ted’s insights into the politics and drama that lead to this comprehensive piece of legislation form the basis of a fascinating story, the events of which will forever stand out as a milestone in the history of paleontology.

4:00—5:20, Sunbrook A-B (Panel Moderator: Scott Foss)

**PANEL 3: PUBLIC LAW 111-011, THE PALEONTOLOGICAL RESOURCES PRESERVATION ACT.** *As soon as practical after the date of enactment of this Act, the Secretary shall issue such regulations as are appropriate to carry out this subtitle, providing opportunities for public notice and comment.* (PRPA Section 6310)

Ted Vlamis, Society of Vertebrate Paleontology  
Lucia Kuizon, National Paleontologist, Bureau of Land Management  
Vincent L. Santucci, Paleontology Program Lead, National Park Service  
Cortney Cloyd, Geology and Paleontology Program Lead, USDA Forest Service



**Wednesday—Thursday, May 20—21**

8:00—5:00, Ballroom A-B

**POSTERS**

Rare Earth Element signatures in fossil bone: A tool for mitigating fossil poaching on federal lands  
*William E. Lukens, David E. Grandstaff, Dennis O. Terry, Jr., and Barbara A. Beasley* .....

A comparison of methods for effective management of fossil resources, Southwestern Region, USDA Forest Service  
*Larry D. Gore* .....

Interagency management of fossil resources  
*Theodore J. Fremd, John Zancanella, and Scott E. Foss* .....

The use of Arc-GIS as a palaeontological resource management tool in Alberta, Canada  
*Jennifer Hysuick and Dan Spivak* .....

California State University, Fresno and the California Department of Transportation (CALTRANS): Collaboration in paleontological resource assessment and impact mitigation  
*Danny H. Tovar and Robert G. Dundas* .....

Paleoecology of the Sundance Seaway, central Wyoming  
*Judy A. Massare and William R. Wahl* .....

My coworker is a dinosaur: using fossils to inspire children  
*Tina Brown* .....

The Utah Geological Survey's integrated approaches to geoscience education and outreach using applied and web-based resources  
*Martha Hayden, Jim Davis and Lance Weaver* .....



	<b>TUESDAY</b>	<b>WEDNESDAY</b>		<b>THURSDAY</b>	
	May 19	May 20		May 21	
		Posters should be set up on Wednesday morning in BALLROOM A-B and left up until Thursday afternoon			
		Speaker ready room will be available from 7:30am – 4:00pm in Sunbrook C			
		Sunbrook A-B	Entrada B-C	Sunbrook A-B	Entrada B-C
8	Field Trip: <i>Urban Interface Paleontology in Washington County, UT</i> Meet in Front of the Hilton Garden Hotel at 7:45am, Depart promptly at 8:00am. Return to Dixie Center at 5:30 pm.	<b>WELCOME</b> Beat Suarez Terry Santucci		Bilbey Trujillo Landon Temme Townsend	Aase Gunther Milner1 Milner2 Breithaupt
9		<b>BREAK</b> Kirkland		<b>BREAK</b> Fisk	<b>BREAK</b> Matthews2
10		Benton	Hester Eaton	PANEL 2: PALEO	Matthews3
11		Spears Bell Springer1	DeBlieux Evanoff Matthews1	CONSULTING MITIGATION	Bates Meyers Hunt-Foster
12			<b>LUNCH</b>		<b>LUNCH</b>
1		Higginbotham Madsen Cavin	Hansen Smeins Fisk	Harris Schumacher Foss	Springer Sagebiel Scott
2		Pagnac Welsh <b>BREAK</b>	Knauss Masters	Santucci Kuizon <b>BREAK</b>	Dundas
3		Palus Childs Kara Hurst		Vlavis	
4		PANEL 1: CURATION OF PALEO RESOURCES		PANEL 3: PALEO RES PROTECTION ACT - PRPA	
5					
6		Evening Social: <b>St. George Dinosaur Discovery Site at Johnson Farm</b> (Appetizers and refreshments will be served. Busses depart Dixie Center from 5:45 – 6:30pm and return from 8:00 – 8:45pm)			
7	Welcome Mixer: <b>Hilton Garden Hotel – Patio</b> 7:00 – 10:00pm				
8					
9					