

From Sister Parks to Family Parks: Exploring New Concepts to Network Common Themes



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National Monument

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Florissant Fossil Beds National Monument Colorado

- Petrified redwood “stumps” in volcanic lahar
- Huge diversity of fossil leaves, insects, and spiders



“Stump shelter”



The “Big Stump”



El Bosque Petrificado Piedra Chamana, Sexi, Peru

- Fossil forest first recognized in early 1990s
- Designated as protected in 1997 by the government of Peru
- Administered by the National Ministry of Culture
- Protects the fossils, but not the land
- Similar geology and age to Florissant
 - Volcanic rocks
 - Sexi = 39 Ma
 - Florissant = 34 Ma







Background

How we became involved

- Dr. Deborah Woodcock (primary collaborator from Clark University) contacted me in 2000 seeking conservation advice and research collaboration, with support for travel
- Woodcock and Meyer obtained National Science Foundation grant (\$146,000) for scientific study, 2004-2007
- Sites visits to Peru in 2000, 2005, 2007, 2009
- We hosted visitors from Peru to FLFO in 2001 and 2013
- Establishment of formal partnership between nonprofit “friends” groups in USA and Peru in 2009

Background

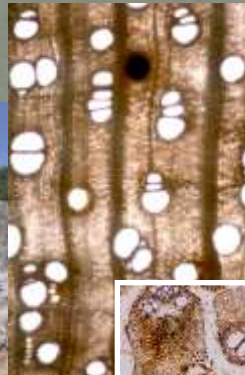
Objectives

- Scientific research
 - Paleoclimate
 - NSF grant support
 - Published scientific publications (show significance of the site)
- Conservation
 - Establish comprehensive site inventory and monitoring
 - Assess site conditions based on human and natural threats
- Assist the community of Sexi to plan for Geotourism
 - Collaboration with the residents of the village
 - Construct small museum and develop exhibits
 - Plan interpretive trail

Tangible Results: Scientific Research

- Eocene paleoclimate of low latitude South America
- Fossil wood and leaves in volcanic rocks
- Collaboration with Museum of Natural History (Lima) and INGEMMET

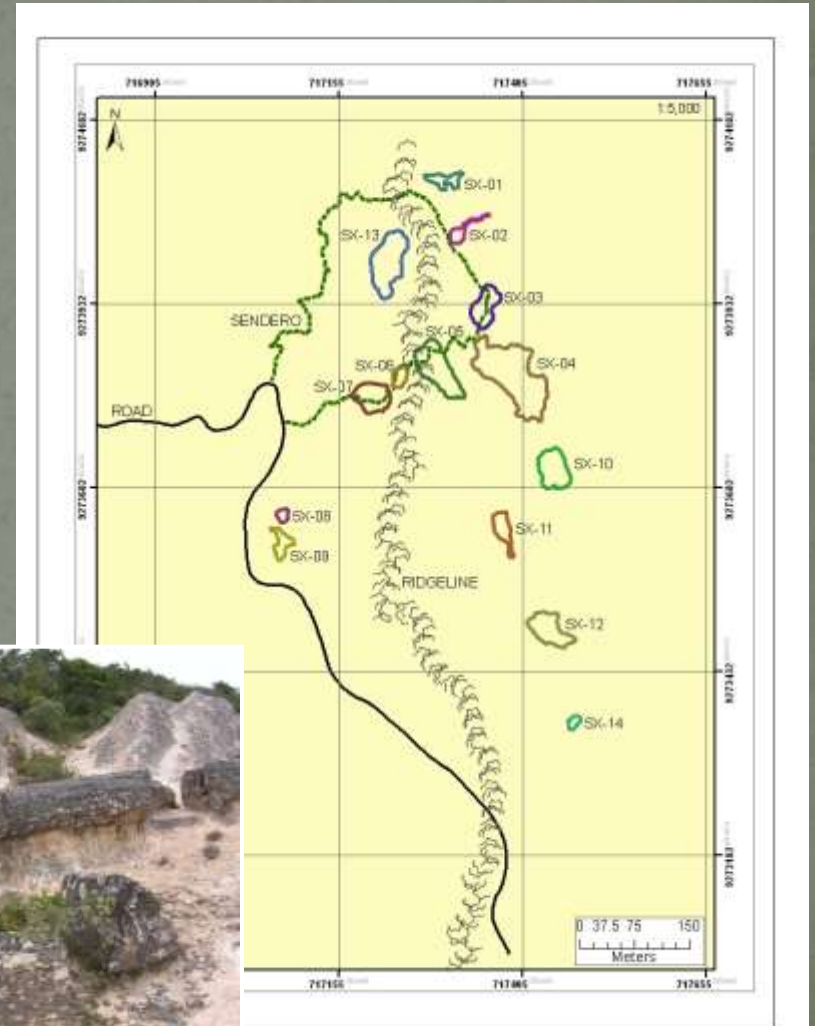
Fossil wood



Fossil leaves



- Site mapping and photography
- Assess threats
- Develop Inventory and Monitoring Project
- Prepare conservation report
- Collaboration with agencies in Peru



Tangible Results:

Collaboration with the Local Community of Sexi

- Seldom visited, subsistence-level village
- Promote economic development
- Provide benefits for education
- Promote conservation awareness



Public meetings



Tangible Results:

Educational Outreach with the Kids of Sexi



Talks for the
local school



Enormous
curiosity!



Tangible Results:

Fund Construction of Museum Building

Adobe museum constructed by local residents using funding provided by our NSF grant



New exhibits still needed!
An ongoing goal.

Tangible Results: Develop Interpretive Materials and Website

Exhibit panels (English and Spanish)



Website (English and Spanish)



peru.fossilbeds.org

Site brochure (English and Spanish)



Tangible Results: Preparing for Recreational Tourism

Dreams

The City of Paleontology



and realities



Bad roads (but improving!)



Basic cuisine

Primitive lodging



Tangible Results:

Prepare for Recreational Tourism: Planning a trail

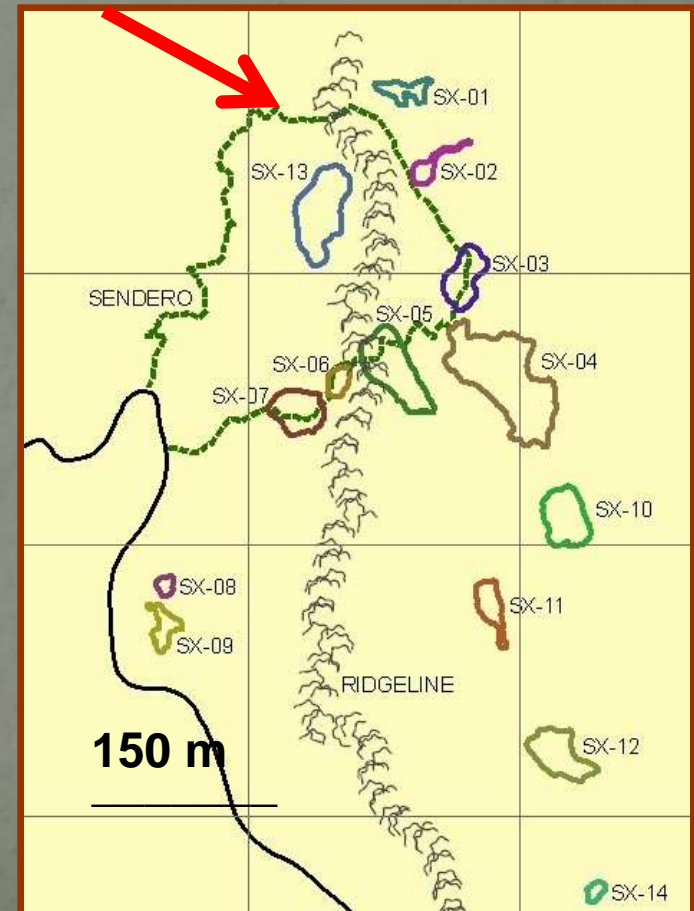
Town meeting to strategize ideas



Flagging the trail route



GPS of potential interpretive trail



Tangible Results:

Establish Partnership Between Non-Profit Organizations



The Friends of the Florissant Fossil Beds



Amigos del Bosque Paleontológico de Sexi



Signing the International Partnership Agreement
by officers of the Friends of the Florissant Beds

Tangible Results:

Financial Support from Friends of the Florissant Fossil Beds

- Specially-designated fund for donations
- Projects supported
 - Infrastructure for museum
 - Printing site brochures and exhibit panels
 - Airfare for exchange visits
 - Hosting Sexi Website
 - Focus on projects that benefit the economy of the local community



Among the donors



Bill Anders, Apollo 8 astronaut

Tangible Results:

Host Exchanges

Village native, and INGEMMET geologist, hosted at Florissant, July 2013



Trail construction at Florissant Fossil Beds National Monument



Indian Springs Trace Fossil Site
National Natural Landmark



Denver Museum of Nature &
Science paleontology collections



Dinosaur Ridge NNL



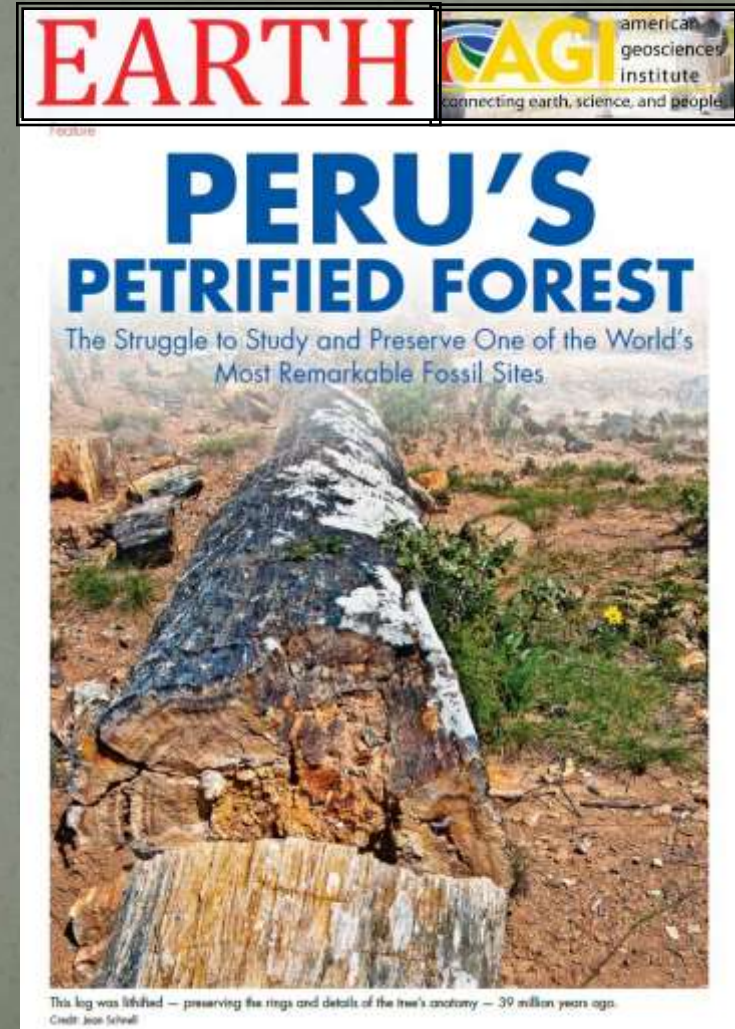
Cripple Creek &
Victor Gold Mine

Tangible Results:

Host Exchanges that Facilitate Publicity

Feature article, July 2014

Peruvian visitors at Florissant
Fossil Beds National Monument,
July 2013



Frustration: The Challenges

- Management issues within Peru
 - Minimal involvement from Ministry of Culture
 - More interest from INGEMMET, but no management authority
 - INGEMMET seeking jurisdiction, creating a power play
 - Changing players at the local and national levels
 - Difficult for us to identify the entity with which to work closely
 - Poor economy in Sexi limits capacity for local management and development
- International travel restrictions and lack of travel funding for other FLFO staff to go to Peru
- Foreign countries have different administrative structures than we do!

New Collaborations:

Seminar and Workshop on Petrified Wood Conservation Tak Province, Thailand, 2014

Presentation of
a keynote talk



Introduction of the seminar by
the Governor of Tak Province



*"Fossil Tree Conservation Projects at
Florissant Fossil Beds National
Monument, Colorado, USA and El
Bosque Petrificado Piedra Chamana,
Sexi, Peru"*



New Collaborations:

Seminar and Workshop on Petrified Wood Conservation

Tak Province, Thailand, 2014



Shelters

Sharing ideas:
What works and
what doesn't?



World's longest petrified tree?

Bantak Petrified Forest Park

New Collaborations:

Seminar and Workshop on Petrified Wood Conservation

Tak Province, Thailand, 2014



Detailed
measurement
of the tree



Scientific
methods of
fossil wood
conservation



New Collaborations: From Sisters Parks to Family Parks?

- International Network of Petrified Forests
 - New idea under consideration
 - Goes beyond one-to-one sister parks
 - Share ideas across wide international boundaries



Proposed: Petrified Forest Consortium Group (PFCG)

- Mission
 - Provide a worldwide collaborative forum and informal partnership
 - Share conservation methods
 - Promote science
 - Provide education
 - Support local communities
- Potential Participants
 - Administratively-designated sites with significant petrified trees
 - Private sites?
 - Must conform to the goals and conditions of the mission
 - Willing to be an **active** participant
- Media
 - Website to share discussion forum
 - Promote exchanges and workshops

Bringing it Back Home: The Benefits

- Inventory and Monitoring
 - Florissant concepts applied at Sexi
 - Sexi project provided template for new mapping and database at FLFO
- Planning for new stump conservation project at Florissant
 - Sharing conservation methods
 - International consortium can give collaborative input for new ideas



Florissant



Thailand



Petrified Roots



Peru



Acknowledgements

- The Friends of the Florissant Fossil Beds, Inc.
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- Diana Pajuelo Aparicio, INGEMMET, Lima, Peru
- Isabel Prado, Museo de Historia Natural, Lima, Peru
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- Jennifer Young
- The Government of Tak Province, Thailand
- Nareerat Boonchai, Thailand
- Evangelia Kyriazi, Greece

A Sexi sunset