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

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Presented at the George Wright Society Biennial Conference
March 31, 2015, Oakland, California
Petrified redwood “stumps” in volcanic lahar
Huge diversity of fossil leaves, insects, and spiders
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
- 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 paleolimate 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
Tangible Results: Site Resource Inventory & Conservation Recommendations

- 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
Talks for the local school

Enormous curiosity!

Tangible Results:
Educational Outreach with the Kids of Sexi
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)

Site brochure (English and Spanish)
Tangible Results: Preparing for Recreational Tourism

Dreams ......

The City of Paleontology

and realities ......

Basic cuisine

Bad roads (but improving!)

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

Cripple Creek & Victor Gold Mine

Dinosaur Ridge NNL
Tangible Results: Host Exchanges that Facilitate Publicity
Peruvian visitors at Florissant Fossil Beds National Monument, July 2013

Feature article, July 2014

Peru's Petrified Forest
The Struggle to Study and Preserve One of the World's Most Remarkable Fossil Sites.

This log was lithified — preserving the rings and details of the tree's anatomy — 39 million years ago.
Credit: Jon Schnell
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

Introduction of the seminar by
the Governor of Tak Province

Presentation of
a keynote talk

“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
Acknowledgements

- The Friends of the Florissant Fossil Beds, Inc.
- National Park Service – Office of International Affairs
- The National Science Foundation
- The Residents of Sexi, Peru
- Ministry of Culture of Peru
- Deborah Woodcock, Clark University
- Santiago Asenjo Davila (Sexi’s greatest advocate)
- Diana Pajuelo Aparicio, INGEMMET, Lima, Peru
- Isabel Prado, Museo de Historia Natural, Lima, Peru
- Bill McIntosh and Nelia Dunbar, New Mexico Tech
- Jennifer Young
- The Government of Tak Province, Thailand
- Nareerat Boonchai, Thailand
- Evangelia Kyriazi, Greece