

Soundscape collaboration for science, management, and public outreach at a national historic site

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Outline

- Introduction
- Collaboration in soundscape research
 - Scientists and Engineers
 - Site managers
 - Public outreach
- Project Example: Grant-Kohrs Ranch National Historic Site, Deer Lodge, MT
- Prospects for future work
- Conclusion

Introduction

- Scientists and engineers can learn a great deal by working with park managers and public outreach professionals.
- What is needed:
 - Common language
 - Understanding what is possible and what is not using current technology
 - Mutual learning and respect

Example: Grant-Kohrs Ranch National Historic Site

- Deer Lodge, Montana
- A working cattle ranch commemorating the heritage of American cowboys, stock growers, and cattle operations during the late 19th and early 20th centuries.
- Congress: maintain the site as a working ranch.
- Cultural soundscape is essential: all the sights, sounds, and sensations associated with ranching.





Getting the ball rolling

- In 2008, Grant-Kohrs NHS managers were curious (and concerned) about soundscape
- BUT...no on-site expertise, and only minimal funding available
- NHS contacts National Park Service Natural Sounds Office
- Montana State University contacted: able to work within geographic and funding constraints via Rocky Mountain Cooperative Ecosystem Study Unit (RM-CESU)

The Collaboration

- National Historic Site: management and interpretation for the public
- National Park Service professionals: expertise and equipment
- Montana State University: audio signal processing expertise—plus education, training, and research opportunity

Long-Term Collection

March 17, 2009



September 5, 2009



June 22, 2009



December 12, 2009

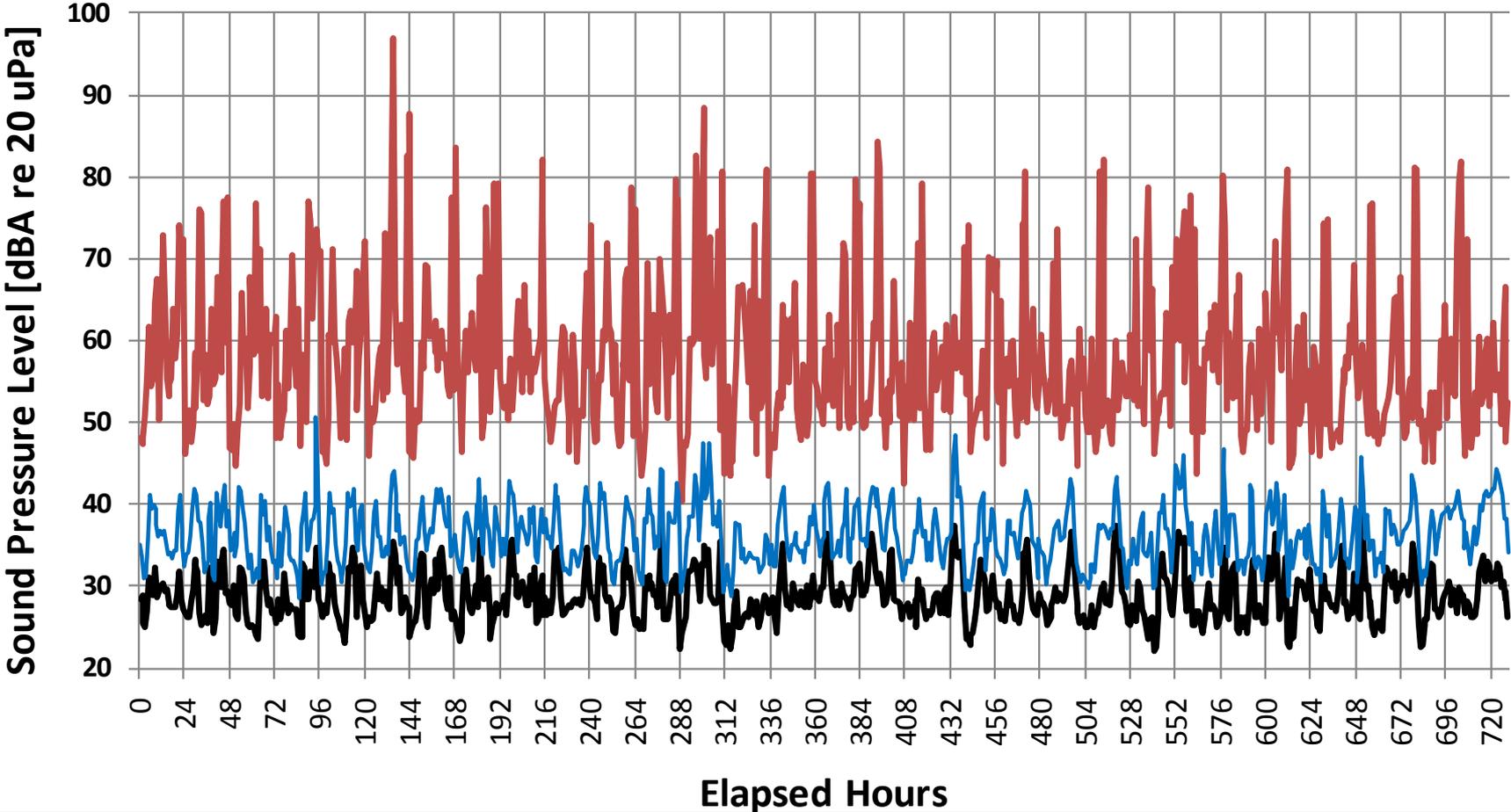


Project Outcomes

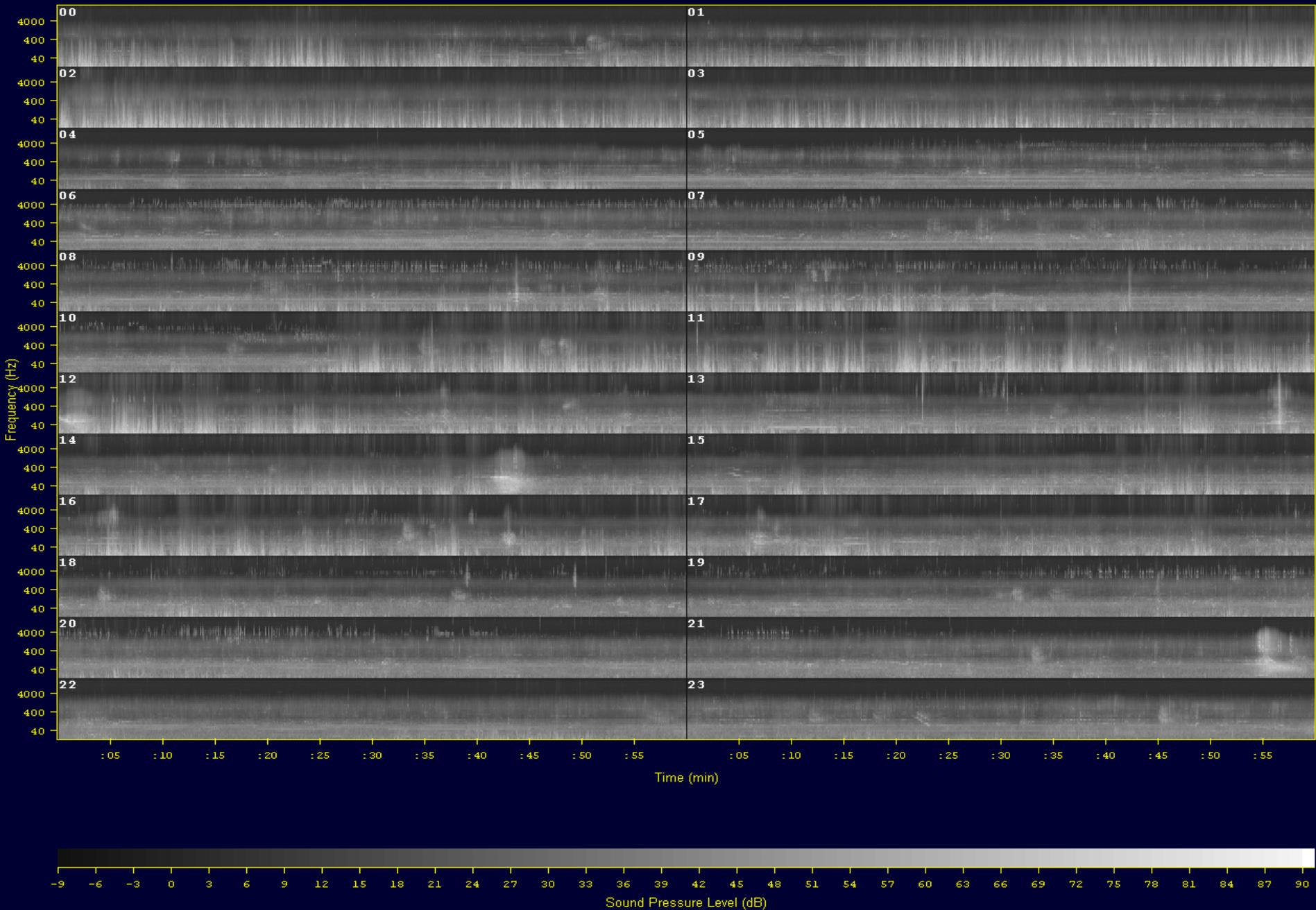
- Audio recording lasting 365 days
 - 8,760 hours (lots of MP3 files)
 - 1 second 1/3rd octave sound levels
 - 10 second windspeed
- Long segments of natural quiet with sections of recognizable biophony, geophony, and anthrophony

SPL Graphs

Jul-09



1/3 Octave Spectrogram for GRKO on 2009-05-04 (Unweighted)



Prospects for future work

- Treasure trove or a data explosion?
- Finding the needle in the haystack, or not seeing the forest for the trees?
- Matching prospects and expectations for systematic evaluation.

Conclusion

- It's fun to work with smart people who are passionate about what they do. The National Park Service is full of these sorts of people!
- Challenges and resources are naturally interpreted differently by each group
- Collaboration is professionally rewarding, even if not economically rewarding

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