

Sharing Science: Air Quality

Sharing Science: Air Quality

Objectives

- Learners examine the role of interpretation in science communication and resource management.
- Learners will apply principles of Advanced KR and Resource Liaison to develop communication strategies for resource issues.

Research Learning Centers

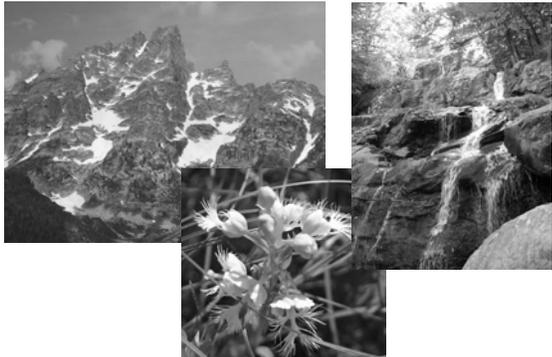


Appalachian Highlands Science Learning Center

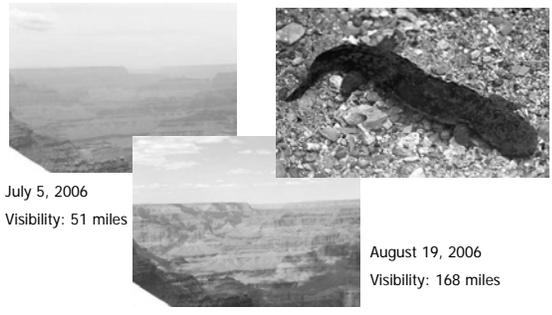


Sharing Science: Air Quality

Varying Resources



Scale



July 5, 2006
Visibility: 51 miles

August 19, 2006
Visibility: 168 miles

Challenge



Sharing Science: Air Quality

Information Abundance



Human Dimension



Interpretation



Sharing Science: Air Quality

Above and Beyond



Interpreting Natural Resources



NPS Interpretive Equation

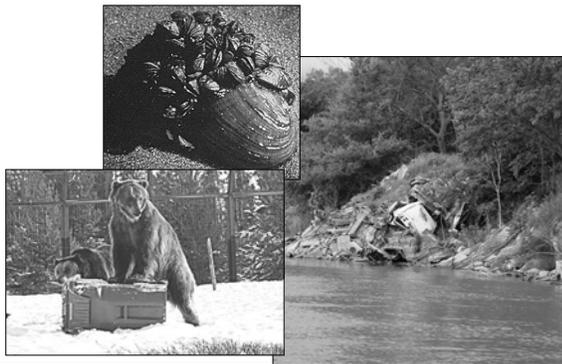
$$(K_a + K_r) \times AT = IO$$

Natural Resource Preservation

$$(\text{Issue} + \text{Message} + \text{Audience}) \times \text{Technique}$$

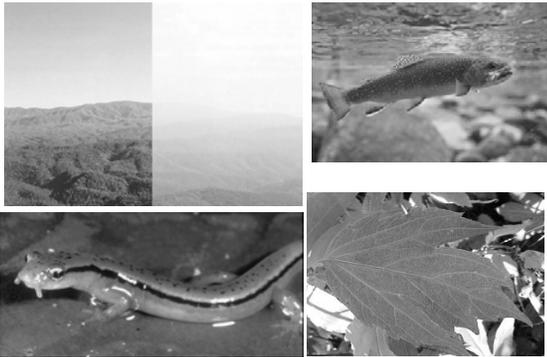
≈ Resource Protection

Issues



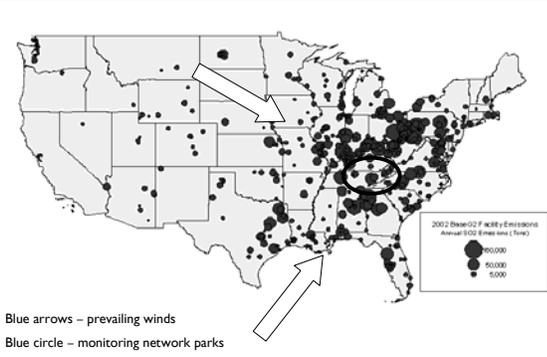
Sharing Science: Air Quality

Air Quality in the AHMN



The image block contains four photographs. The top-left photo shows a landscape obscured by a thick layer of haze. The top-right photo shows a fish swimming in water. The bottom-left photo shows a salamander on a rock. The bottom-right photo shows a close-up of a maple leaf.

Sources of Sulfur



2002 Base-GOP Sulfur Emissions
Annual SO₂ Emissions (Tons)

- 100,000
- 50,000
- 5,000

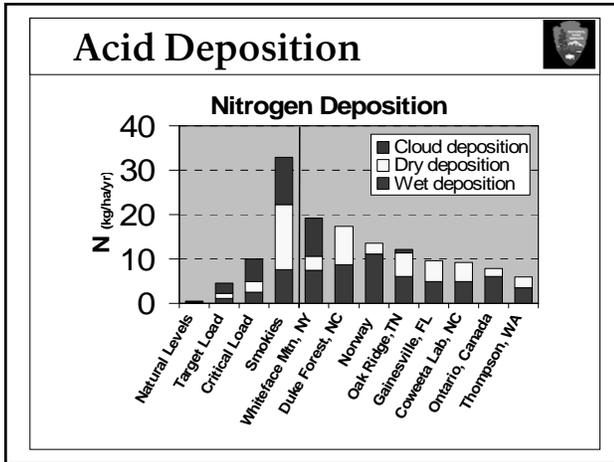
Blue arrows – prevailing winds
Blue circle – monitoring network parks

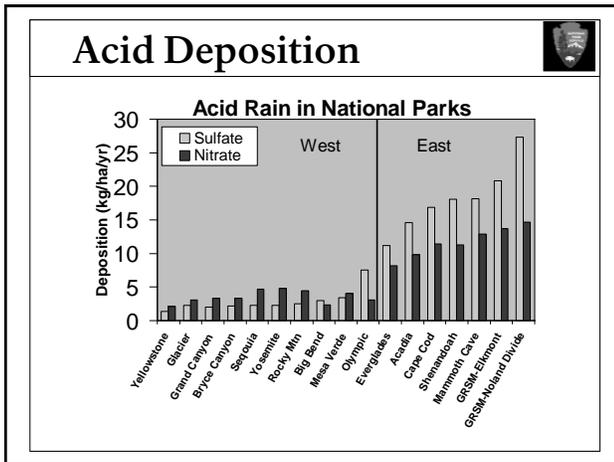
Sulfur becomes haze

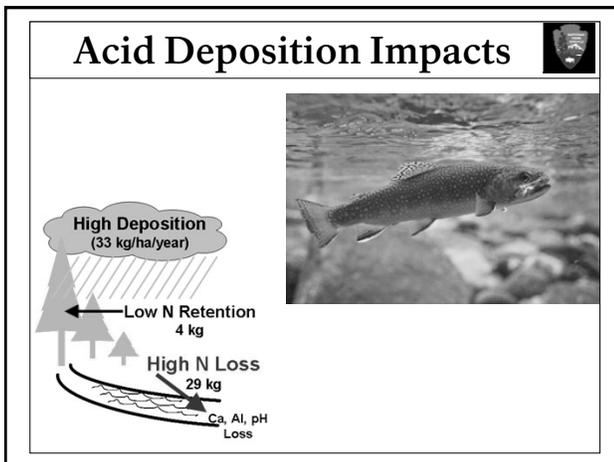


17 mile - average summer visibility 77 miles - target summer visibility

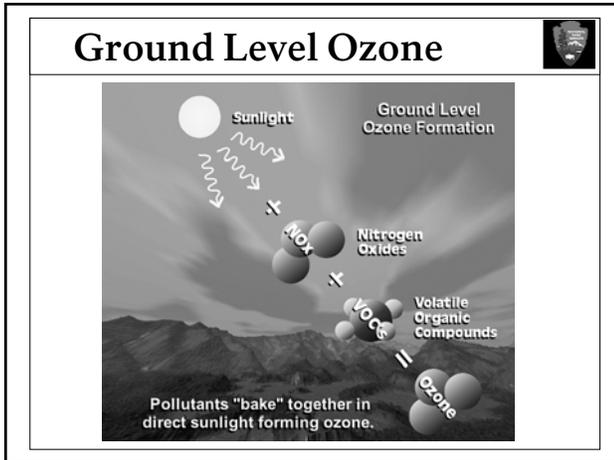
Sharing Science: Air Quality

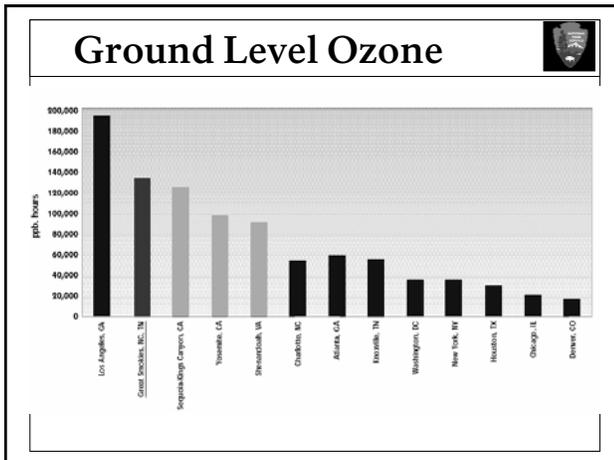


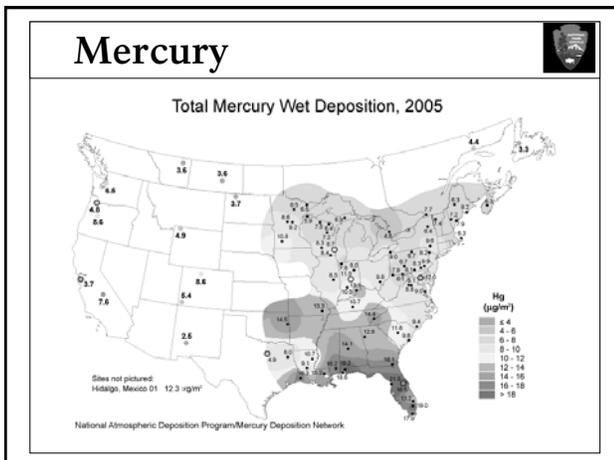




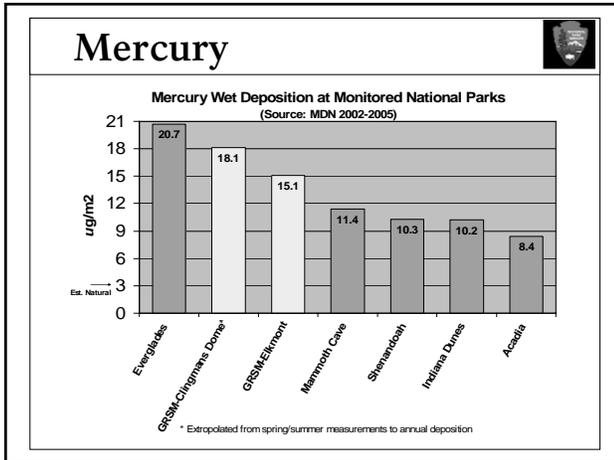
Sharing Science: Air Quality

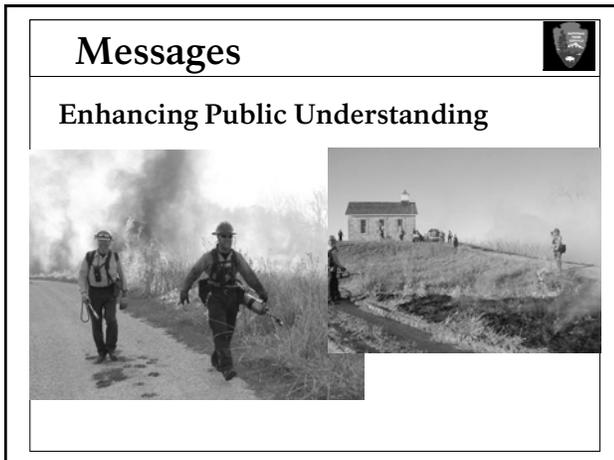






Sharing Science: Air Quality







Sharing Science: Air Quality

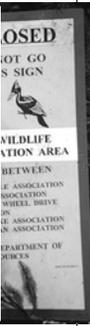
Messages



Behavior Change







Air Quality Outreach Goal

- Provide a sequence of opportunities for emotional and intellectual connections
 - Address diverse learning styles
 - Work with partners to accomplish
 - Utilize varied techniques
- Motivate the public to assist in resource stewardship
 - Provide opportunities for the public to be involved in actual research
- Keep staff (and products) up to date reflecting changes in research and information

What Type of Message?



Your Actions to Conserve Have Reactions that Improve Air and Water Quality in the Smokies.



Millions of high-altitude streams in the park are so acidic to support trout and...



Small Ridge is a local salamander that lives at an altitude of 5,000 feet. This can survive only open, unpolluted and healthy. Mercury can also pass through the food chain from automobile to fish to humans.

If you are subjected to air of this pollution on the surface, you, your children and others would benefit.

Support Your America

This rack card accompanies a portable exhibit that fits in the back of Toyota Prius vehicles.

What type of message?

TEL Technology Enhanced Learning
7/22/08

Page 9

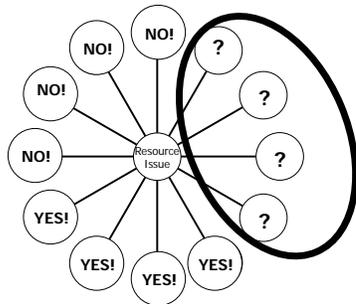
Sharing Science: Air Quality

Participant Task and Break

Spend approximately 15 minutes identifying the type of message and articulating the message.

- What is the primary type of message you would like to communicate about the resource issue you have identified?
- How would you articulate the message?

Target Audience



Target Audience

The primary audience for this folio are politicians and community decision makers.

Sharing Science: Air Quality

Enhancing Public Understanding

A Case Study:

Ozone Biomonitoring Gardens



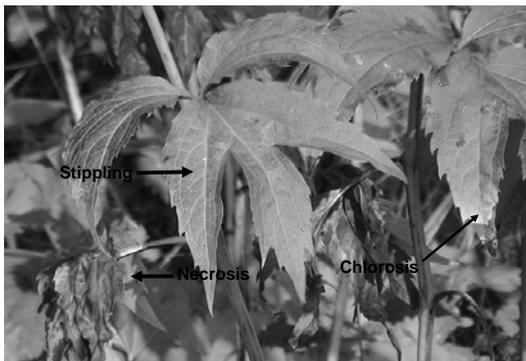
Integrating research and education

Research

- Elevational differences on ozone effects
- Also looking at impacts on photosynthesis, respiration



Research



Sharing Science: Air Quality

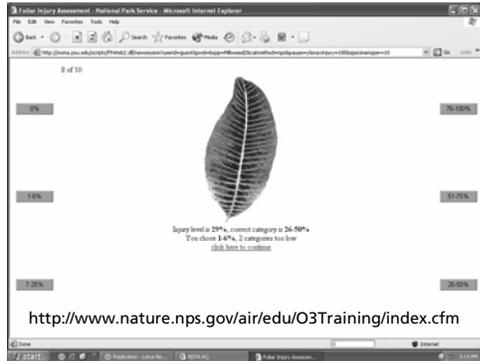
Education



A Unit is Born

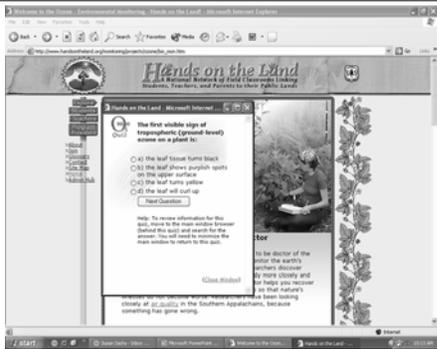


Practice Website



Sharing Science: Air Quality

Hands On the Land Website



http://www.handsontheland.org/monitoring/projects/ozone/ozone_bio_search.cfm

Over 200 comparison gardens!



Evaluation - Is the Message Received



Sharing Science: Air Quality

Appropriate Technique

- Brochures
- Personnel at agency offices
- Maps
- Signs
- Personnel in backcountry
- Displays at trailheads
- Posters
- Personnel at school programs
- Slide shows/PowerPoint
- Personnel at campgrounds, public meetings or visitor centers
- Videos
- Agency periodicals
- Guidebooks
- Personal interpretation
- Commercial or agency radio

Participant Task

Consider the potential range of target audiences.

- Who is the audience that needs to be reached and why?
- What are some characteristics of this audience?

Participant Task and Break

Identify a range of potential techniques/vehicles for delivering your message.

Connect each audience with a technique and describe why this technique was chosen to use with this audience.

Sharing Science: Air Quality

How to Work with Researchers



Searching Research Results

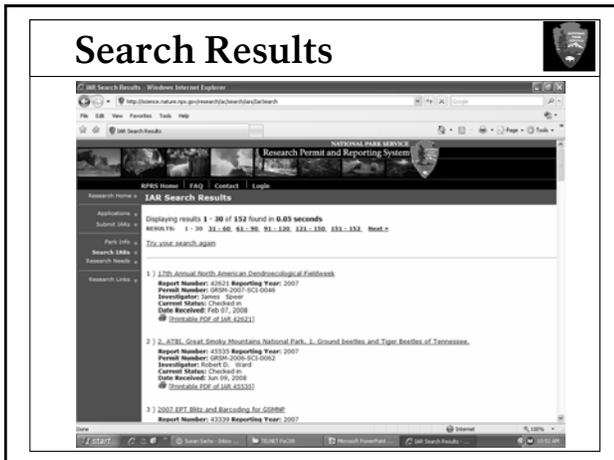


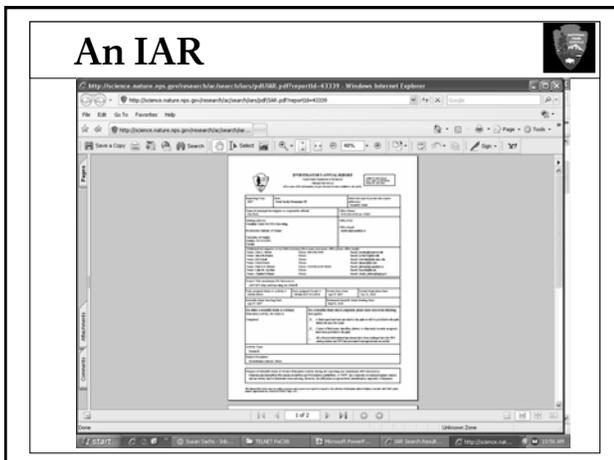
http://science.nature.nps.gov/research/ac/ResearchIndex



Sharing Science: Air Quality







Sharing Science: Air Quality

Contact the Researcher



Resources



<http://science.nature.nps.gov/research/ac/ResearchIndex>



Jacobson, Susan K., (1999). *Communication Skills for Conservation Professionals*. Washington, D.C.: Island Press.

Interpreting Critical Natural Resource Issues in Canadian and United States National Park Service Areas

Michael E. Whalley
Natural Resource Report NPS/NRCA/CONRR-95/17



United States Department of the Interior • National Park Service •
Cape Cod National Seashore

Contact Information

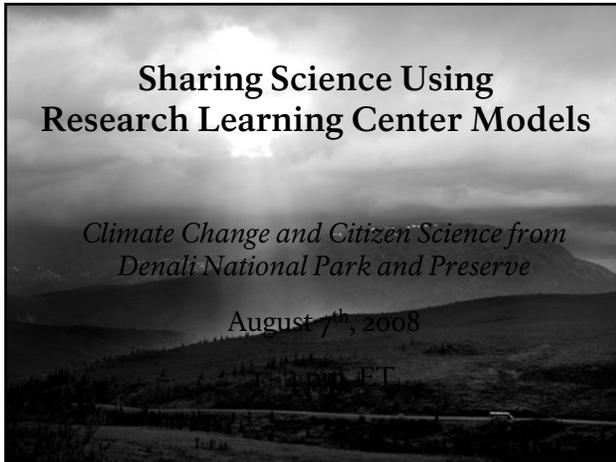


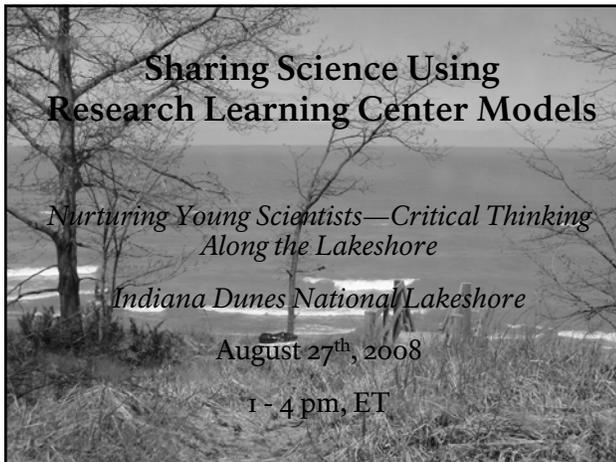
Sara_Melena@nps.gov

Susan_Sachs@nps.gov

Jim_Renfro@nps.gov

Sharing Science: Air Quality





Credit
on-line evaluation at:
nps.gov/training/tel
on the DOI Learn tab
the link under Class
ifications for *Sharing
Science at Air Quality*
to complete the evaluation
within 2 weeks of the course, by
August 15, 2008

