

A group of men in suits are standing in a line in front of a large, multi-story industrial building. The building has a complex steel framework on its upper levels. The men are dressed in formal attire, including suits and ties. The scene appears to be from a historical photograph or a formal event.

**The American Society of
Mining and Reclamation
(ASMR)
The First 40 Years**

We've been around for a very long time...



ASMR Origins

- **Founded in 1973 in West Virginia as an advisory council**
- **Original name was West Virginia Mining Council**
 - **Changed to ASSMR in 1983**
 - **Changed to ASMR in 2001**



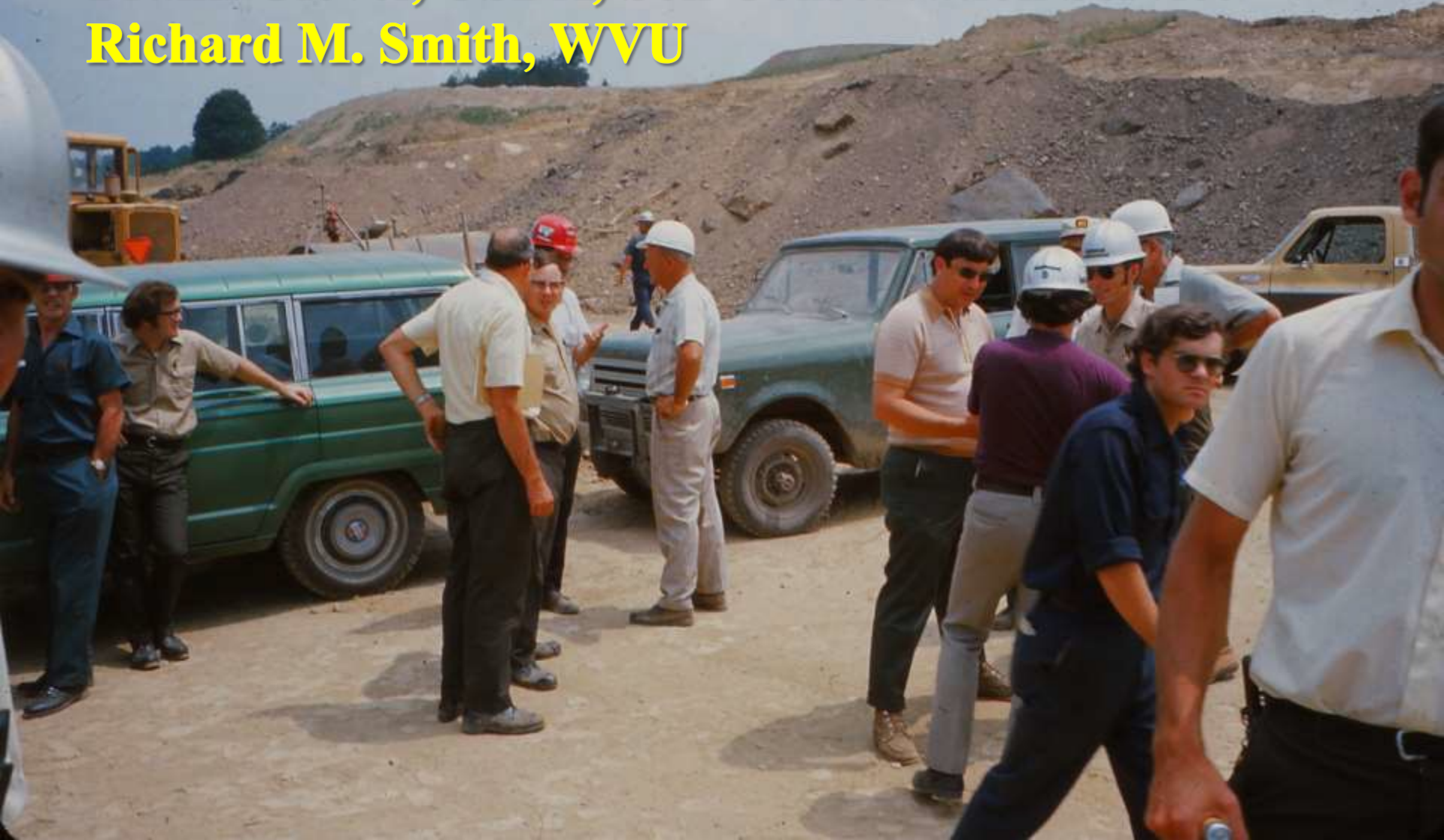
Founding Members


Bill Plass, Research Forester, USFS

Ben Greene, Chief, West Virginia DNR

Dick Vandelinde, President, WV Coal Assoc.

Other founding members
Frank Glover, USDA, Soil Conservation Service
Richard M. Smith, WVU



A person wearing a blue long-sleeved shirt, a red cap, and a dark vest is working in a field. They are holding a long-handled tool, possibly a hoe or a similar agricultural implement, and appear to be engaged in manual labor. The background is a blurred green field.

The primary goal of the society is technology transfer to improve reclamation on disturbed lands.

ASMR serves as an knowledge exchanger among reclamation researchers, regulators, mining industry, and industries providing reclamation services and technology.



Objectives of the Society

To encourage communication among research scientists, the mining industry, regulatory agencies, and the general public.

To promote and support research of mining and reclamation practices

• To provide technical expertise to ...

To support and promote educational programs on reclamation and mineral extraction

8/17/21 2006

ASMR Membership



Total Paid Members, 2014 255

Total Life Members, 2014 83

Total Paid + Life 338

1991 Durango ASMR Meeting



A large group of people, including men and women of various ages, are gathered outdoors in a wooded area. They are standing on a dirt path or clearing next to a dark, still pond. The background shows a dense forest of trees, some bare and some with green needles. The sky is overcast. The text is overlaid in a large, bold, yellow font on the lower half of the image.

**Members are from
mining companies,
consulting services,
academic and research institutions,
federal and state regulatory agencies,
and students.**

ASMR Technical Divisions Memberships



03/21/2014

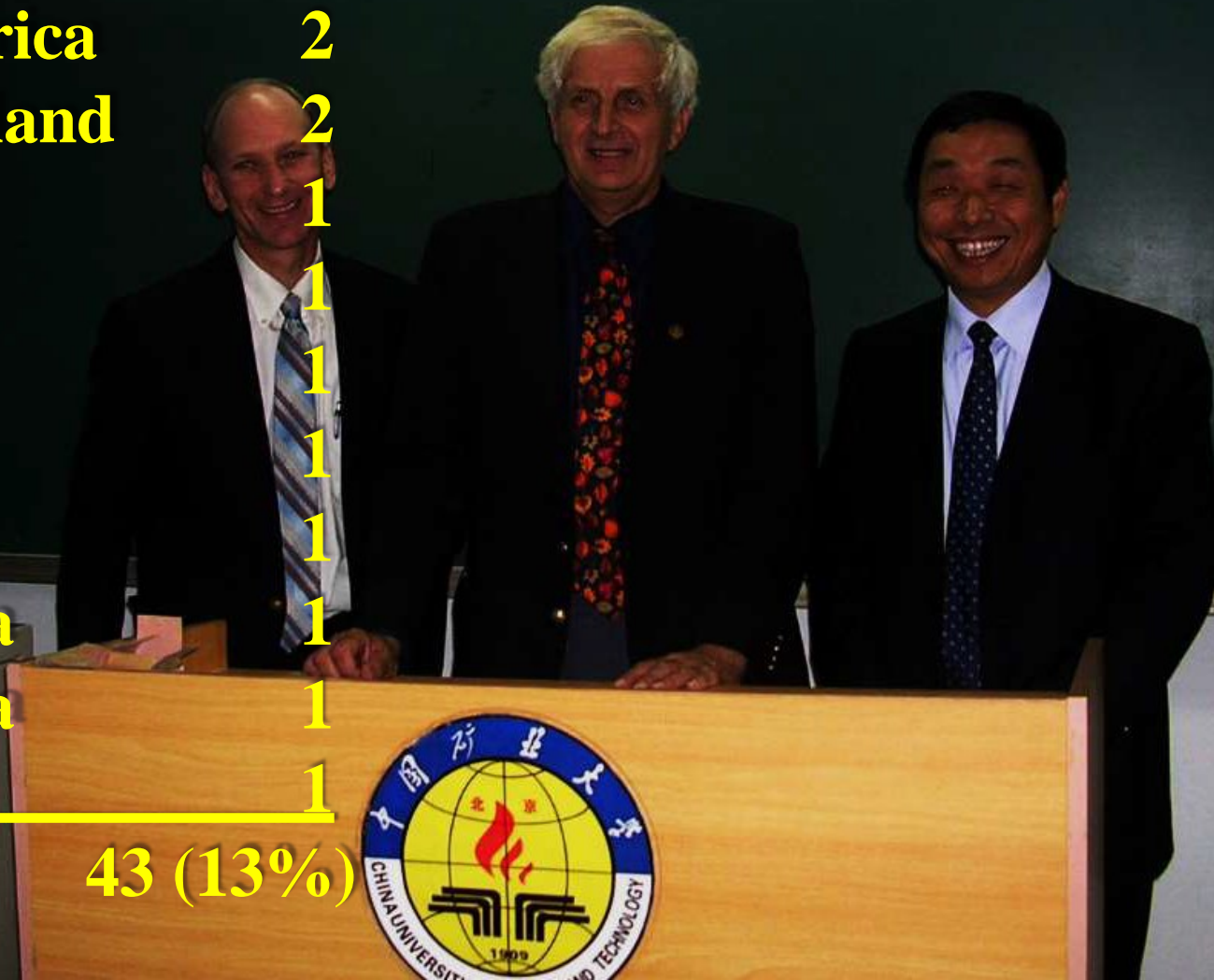
Technical Division

Members

Ecology	78	42%
Forestry and Wildlife	41	22%
Geotechnical Engineering	37	20%
Land Use Planning and Design	54	29%
Soils and Overburden	111	59%
Tailings Reclamation	75	40%
<u>Water Management</u>	<u>101</u>	<u>54%</u>
No Preference	150	45%

ASMR International Membership

Canada	15
Australia	15
South Africa	2
New Zealand	2
England	1
China	1
India	1
Poland	1
Nigeria	1
Indonesia	1
Venezuela	1
Greece	1
Total	43 (13%)



National Executive Committee

2006

President, VP, Representatives



2006 3 26

Year

Meeting Locations

2014

Oklahoma City, OK

2013

Laramie, WY

2012

Tupelo, MS

2011

Bismarck, ND

2010

Pittsburgh, PA

2009

Billings, MT

2008

Richmond, VA

2007

Gillette, WY

2006

St. Louis, MO

2005

Breckenridge, CO

2004

Morgantown, WV





Year

Location

2003

Billings, MT

2002

Lexington, KY

2001

Albuquerque, NM

2000

Tampa, FL

1999

Scottsdale, AZ

1998

St. Louis, MO

1997

Austin, TX

1996

Knoxville, TN

1995

Gillette, WY

1994

Pittsburgh, PA

Year

Location

1993

Spokane, WA

1992

Duluth, MN

1991

Durango, CO

1990

Charleston, WV

1989

Calgary, AB

1988

Pittsburgh, PA

1987

Billings, MT

1986

Jackson, MS

1985

Denver, CO

1984 *

Owensboro, KY



What do we do?

Annual Meetings

Michael Curran

Benjamin Wolff

bp



Presentations

Compost Rates for Remediation of Contaminated Saline soils

- Calvin Strom, Research Scientist Wyoming Reclamation and Conservation
- BP America
- KC Harvey
- Stanislas-Olivier David Legg
- TerraFirma Jackson, Wyoming



**Some of us fall asleep while we're talking!
Imagine the audience...**



Renew Friendships



See OLD Colleagues



BIDMOST, INC.



Form Lasting Relationships

Give Awards

Give Awards



AMERICAN SOCIETY FOR SURFACE MINING
and RECLAMATION NATIONAL MEETING
Jackson, Mississippi - 1986

Awards Banquet

EXIT



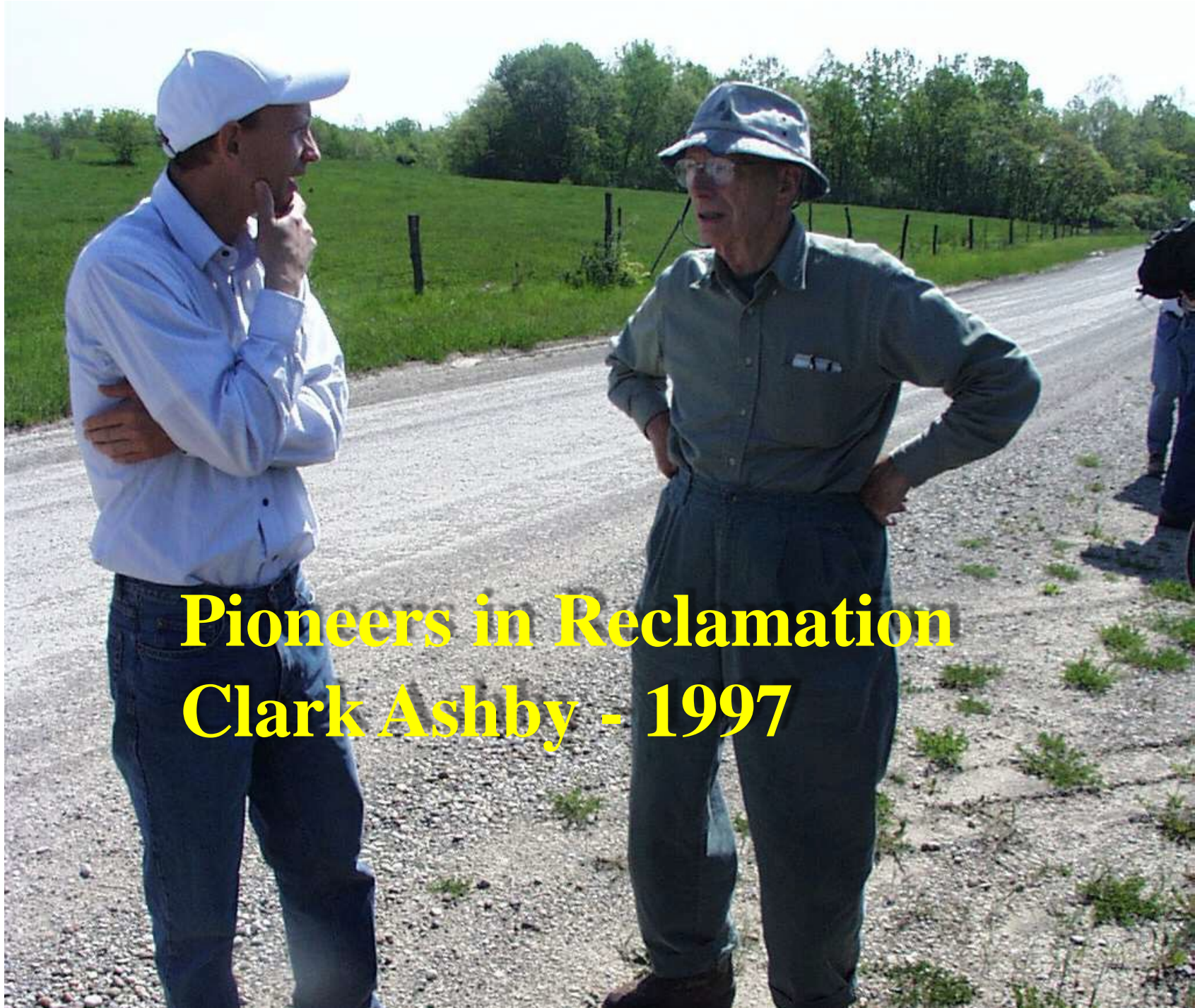
Researcher of the Year Tom Zarger - 1987



Researcher of the Year

Jack Nawrot - 1996





Pioneers in Reclamation
Clark Ashby - 1997

Reclamationist of the Year

Scott Belden - 2004



Reclamationist of the Year Billy Nicholson - 2006



Reclamationist of the Year

Vern Pfannenstiel - 2007



Researcher of the Year Carl Zipper - 2007



Researcher of the Year – Barnhisel Award

Bob Nairn - 2011



Lifetime Achievement – Plass Award Terry Toy - 2008



Class Award – Lifetime Achievement

Lee Daniels - 2012



Class Award – Lifetime Achievement Neil Humphreys - 2013



Student Oral Presentation Winner Bill Strosnider – 2007 Money



Student Oral Presentation Winner

Chris Johnston - 2007



Student Poster Presentation Winner

Ben Mack - 2008

West Virginia University



ilities

Organic Farm

WVU Mission

Changing lives and providing opportunities through education; building knowledge through research; and serving the people of West Virginia through economic development and health care.

History

History holds the keys to unlocking the future. West Virginia University, the land-grant university started in 1888, has become more inclusive and more diverse as the century begins.

1888: West Virginia Board of Regents passed the Hatch Act funds to establish an Agricultural Experiment Station.

1939: West Virginia was first state to pass comprehensive reclamation control legislation, addressing environmental problems associated with coal mining.

1937: First comprehensive soil survey of West Virginia, prepared by G. G. Peterson, published in Bulletin 284.

1943: Research on management and fertilizing of revegetation of surface mine lands.

1980s: Geographic Information Systems and Remote Sensing become integral parts of the College of Forestry and Consumer Sciences.

20..... YOU MAKE THE DIFFERENCE!

From the Past TO THE FUTURE

Mine Land Reclamation

What happens after mining a site? What are the potential uses of the land after reclamation?

In our program you will be able to work on this important area integrating soils, geology, hydrology, chemistry, and biology to land disturbances and reclamation. You will be able to study the effects of reclamation (replacing soils, revegetating disturbed areas, controlling and treating acid mine drainage, developing productive post-mining land uses) on environmental quality and productivity of the land.

Pedometrics & Hydropedology

Would you like to understand the distribution, properties and behavior of soils in the landscape? Would you like to understand how hydrology is related to soils distribution, properties and behavior?

We study these areas using a multidisciplinary approach. Landscape, ground cover (management and land use), and geology are strongly related, and you will learn how much they interact. GIS and remote sensing are some of the exciting tools that you will use, and don't forget, outdoor research.

Organic Agriculture

In our program you will be able to research the benefits and impacts of organic agriculture. In our program you will be able to study the relationship of this system to soil and general environmental quality.

2008



Dr Gordon G. Peterson
President ASA 1980-1982
between soil science and
systems that des...
His tradition of ex...
research and teaching
plant group.

Dr Richard M. Smith:
Developed the Acid-Base Accountancy system for characterizing rocks and soils with acid mine drainage, which revolutionized overburden handling. Thanks to WVU research and leadership in surface mine legislation...

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Student Poster Presentation Winner Stephanie Barr – 2013 And a Check!



DISTRIBUTION OF SURFACE DISTURBANCES IN A SHORTGRASS STEPPE

Stephanie Barr, Jayne Jonas, and Mark Paschke,
Department of Forest and Rangeland Stewardship,
Colorado State University, Fort Collins, CO 80523

Background

The spatial diversity of soil and plant resources within the shortgrass steppe ecosystem of high elevation Colorado has not been systematically studied and disturbance interactions have been an area of interest to many researchers and managers. Restoring these surface disturbances to natural conditions remains a high priority for resource management. An understanding of the spatial diversity of surface disturbances and their interactions is needed to develop effective restoration strategies.

Objective

The objective of this study is to determine an optimal soil seed diversity and seeding rate for promoting restoration success in shortgrass steppe. Success will be judged by 1) species richness and diversity of seeded species, 2) species richness and diversity of natural species, and 3) restoration success.

Methods

- Experimental design with based on variable response surface regression methodology (RSM). Nine seed mix diversity and seeding rate treatments were identified from maximum and minimum values of both factors using RSM equations.
- Lowest diversity 20 species and lowest seeding rate (400 PLS m^{-2}) based on current industry standards.
- Highest diversity 80 species and highest seeding rate (1100 PLS m^{-2}) based on ecological considerations.
- Multi-response optimization using desirability functions was employed to determine restoration success based on site criteria.

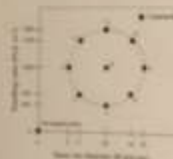


Figure 1. Treatment design scheme for RSM showing nine treatment combinations in regards to seeding rate and seed mix diversity. Optimal values falling anywhere within the response surface space (shaded) here can be identified by RSM.

- Factorial 2 x 2 x 2 study (400, 800, 1100) were established in November 2011 at each site.
- Seeds were broadcast into plots and maintained 100%.
- Restoration was applied at a rate of 2 kg m^{-2} .
- In July 2012, density of seeded species and current year development (biomass) were recorded for each 25 x 75 cm quadrat per plot.



Results: First Year

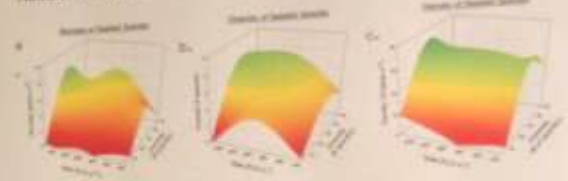
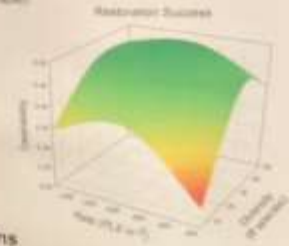


Figure 2. Response surface regression indicates that (a) there was a quadratic relationship between seed mix diversity and resulting biomass of seeded species, (b) density of seeded species was affected by both diversity and rate, and (c) density of natural species was influenced by both seed mix diversity and seeding rate. Green shaded regions represent higher values (more desirable) with red shaded regions representing lower values (less desirable).

Figure 3. Restoration success measured as maximum desirability across all nine response variables occurred at a diversity level of 44 species and a seeding rate of 1100 PLS m^{-2} .



Preliminary Conclusions

- Diversity and rate primarily influenced seeded species.
- Higher seeding rates and higher seed mix diversity could lead to greater restoration success relative to current seeding practices on the shortgrass steppe ecosystem.



ASMR Exhibits

Aquafix - 2008



AQUAFIX
*Helping
mining companies
with waste water
treatment.*

www.aquafix.com

The banner features several images: a large green cylindrical tank, a blue machine, and various outdoor water treatment setups. A circular inset shows a close-up of a blue component.

ASMR Exhibits

bhpbilliton - 2005



ASMR Exhibits

HDR Engineering - 2013



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JRW BIO



r-r Erick.Co.

Water Management

Environmental Consulting

Reclamation Inc.

Land Restoration Land Reclamation

Reclamation & Erosion Control

Aerial Revegetation Projects

Wetlands Projects

WESTERN STATES RECLAMATION



ASMR Exhibits BKS Environmental -2006

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ENVIRONMENTAL AUDITS

- HAZARD ASSESSMENTS
- MITIGATION

ENVIRONMENTAL MONITORING

- RESOURCE DATA COLLECTION
- STORMWATER POLLUTION PREVENTION PLAN (SWPPP) DESIGN & MONITORING
- SPILL PREVENTION, CONTROL & COUNTERMEASURE (SPCC) DESIGN & MONITORING

ENVIRONMENTAL ASSESSMENTS

- NATIONAL ENVIRONMENTAL POLICY ACT (NEPA) COMPLIANCE
- BASE ONE ASSESSMENTS
- TRANSPORTATION - LIMITED ENVIRONMENTAL DUE DILIGENCE



SINCE 1981

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SOIL

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- OVERBURDEN & SPOIL QUALITY EVALUATIONS
- TOPSOIL PEDESTAL EVALUATIONS
- IDENTIFYING SUITABLE SOILS (CHEMICALLY & PHYSICALLY)

VEGETATION

- BASELINE & PRE-DISTURBANCE VEGETATION SURVEYS
- RECLAMATION MONITORING
- THREATENED, ENDANGERED, SENSITIVE & PROPOSED SURVEYS (USFWS, USES, BLM)
- SHRUB DENSITY EVALUATIONS & MAPPING

WETLAND

- HYDRIC SOILS, HYDROPHYTIC VEGETATION, HYDROLOGY SURVEYS
- SITE DETERMINATION (USACOE CRITERIA)
- DESIGN & MITIGATION

RECLAMATION PLANNING

- SITE SPECIFIC RECLAMATION



ASMR Exhibits

North American Coal - 2012



ASMR Tours Alberta – 1989



ASMR Tours

Duluth, MN = 1992

Iron Range



ASMR Tours

Austin, TX – 1997

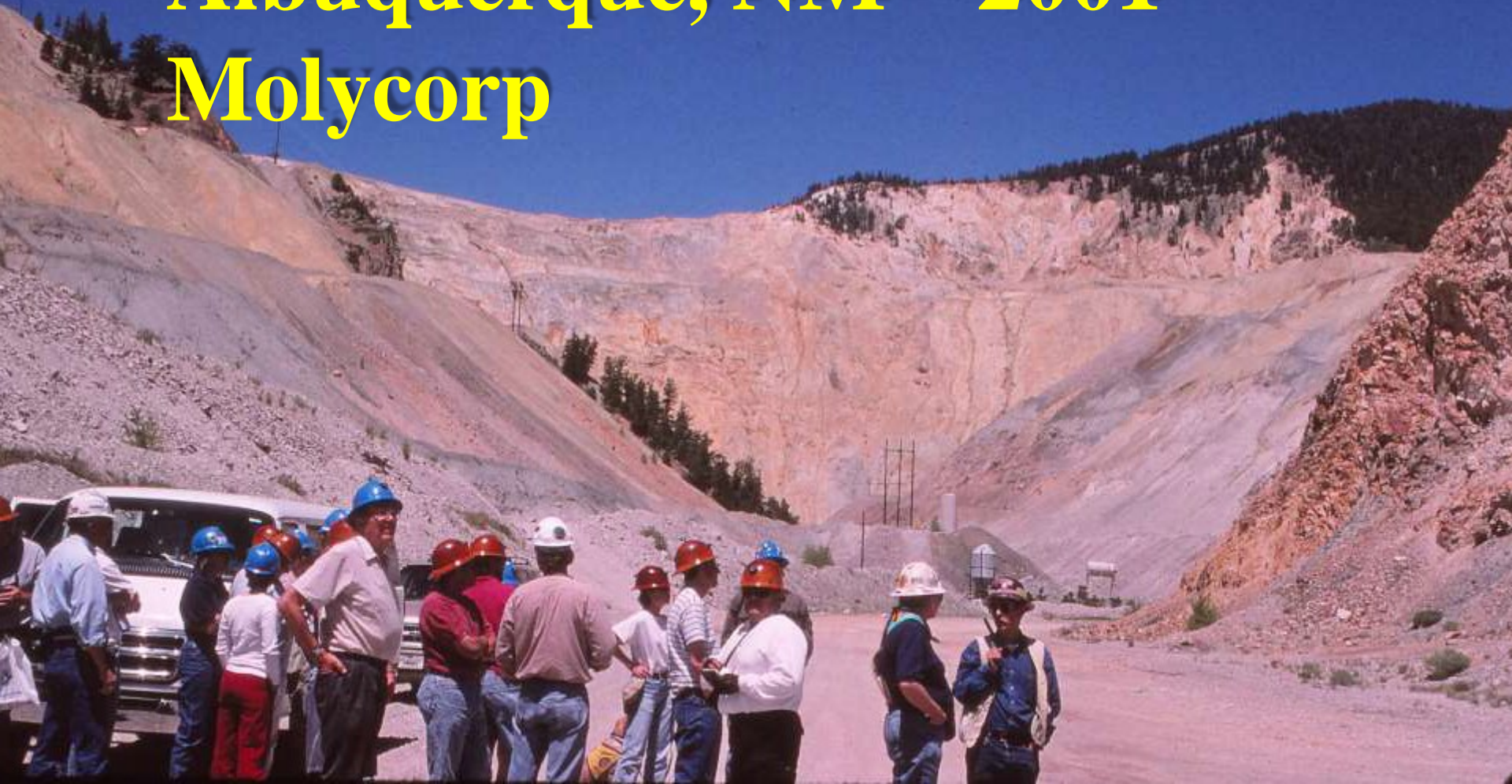


2005 10 13

ASMR Tours

Albuquerque, NM – 2001

Molycorp



ASMR Tours Gillette = 2007 BelAyr



2007 6 3

ASMR Tours Gillette – 2007 Rochelle



2007 6 4

ASMR Tours

Richmond, VA – 2008



ASMR Social Events



Social Events

Albuquerque, New Mexico - 2001



Early Career Event North Dakota – 2011



Proceedings



AMERICAN SOCIETY OF MINING AND RECLAMATION



reclamation *matters*

2014 conference Issue

- Reclamation in the Heartland
- Planting Now for Appalachia's Future
- Reclaiming Mined Land for Biofuel Production
- Enhancing Forest Development through Natural Succession
- ASMR 2014 Preliminary Program and Conference Information

Spring 2014



Journal of
The American Society
of Mining and Reclamation (JASMR)



A person in a dark suit is walking through a vast field of tall, golden-brown grain. The field stretches far into the distance, and the sky is bright and clear. The person is positioned in the lower center of the frame, walking away from the viewer. The overall scene conveys a sense of vastness and a journey through a natural landscape.

So, where do we go from here?

What will the next 40 years bring?

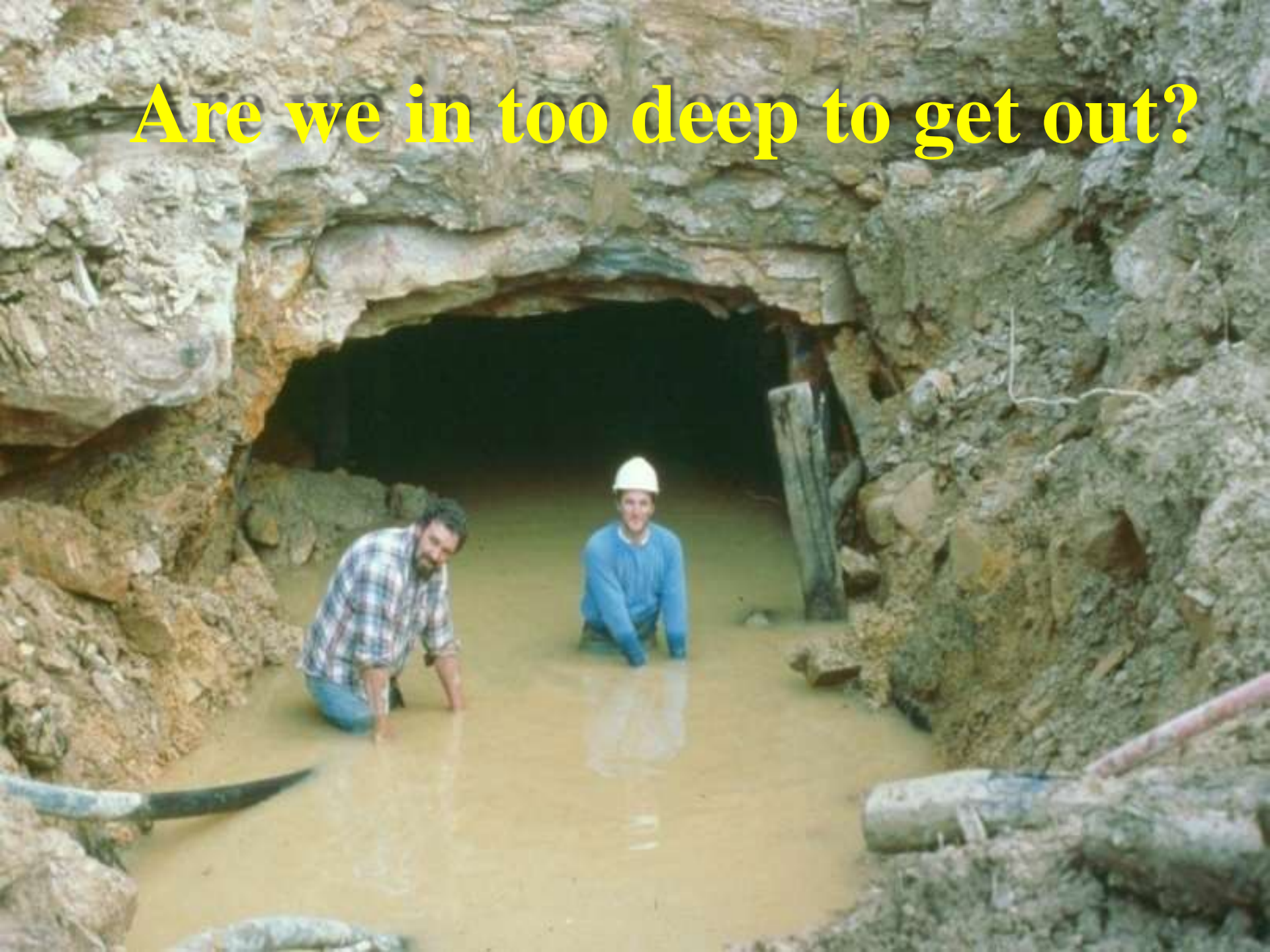


2005 6 10

**Have we solved
all the reclamation problems?**



Are we in too deep to get out?



Always new things to see...



Much to learn and pass on!



Keep having those tours...



2008 8 5

And training those students...



05/18/2012

**Rain or shine,
Opposition or agreement..**



04/11/2014

Good prices or bad..



04/11/2014

A large group of people, including men and women of various ages, are seated on wide concrete steps outdoors. They are all looking towards the right side of the frame. In the foreground on the right, the back of a person wearing a tan uniform and a wide-brimmed hat is visible, suggesting they are the speaker. The background shows a building with a dark roof and some trees. The overall scene is an outdoor gathering or presentation.

**Remember, the Society is YOU!
We make it go.**

Sciences

Geologist

Engineers

Hydrologist

Archaeology

Horticulture

Historian

Forester

Architects

Wildlife Biol.

Botanist

Agronomist

Animal Sci.

Recreations

Biologists

Economist

Social Sci.

The Re's of Reclamation

Rebuild

Reconstruct

Recover

Recoup

Recycle

Redesign

Re-establish

Regenerate

Re-green

Regrow

Regulate

Re-inhabit

Remediate

Renovate

Replace

Replant

Resolve

Resource

Restore

Revalue

Revegetate

Revitalize

Rehabilitate

Reinvigorate

Renew

Repeat

Reinvade

Resilient

Retention

Reform

Return

Reforest

Re-engineer