

ASRS 2025 Preliminary Conference Program 42 Years of Reclamation – First Time in Butte!

The 42nd Annual Meeting of the American Society of Reclamation Sciences (ASRS) is happening June 1st – 5th in Butte, Montana. Butte is one of the largest Superfund areas in the U.S. and has a storied history of mining and reclamation. The conference will focus on research, technical, and regulatory issues associated with the land and water implications of anthropogenic land disturbances. It will provide a forum for the dissemination of information through presentation of research findings, field tours, workshops, and open technical discussion of public policy relating to mining, reclamation, restoration, reforestation, and land management issues. This conference will provide an amazing opportunity for your company or organization to interface with reclamation professionals and those who influence decisions about the mining and reclamation industry.

2025 Schedule Snanshot

SUNDAY June 1		MONDAY TUESDAY June 2 June 3		SDAY ne 3	WEDNESDAY June 4	THURSDAY June 5	
Breakfast on Own Hotel Lobby* 7:00 – 8:00 am		Haulin' ASRS 6:30 – 7:30 am	Haulin' ASRS 6:30 – 7:30 am		Haulin' ASRS 6:30 – 7:30 am	Breakfast on Own Hotel Lobby* 7:00 – 8:00 am	
		Breakfast on Own Hotel Lobby* 7:00 – 8:00 am	Breakfast on Own Hotel Lobby* 7:00 – 8:00 am		Breakfast on Own Hotel Lobby* 7:00 – 8:00 am		
Registration &	Montana Resources Mine Tour** 10:00 am – 2:30 pm	Opening Plenary Session 9:00 – 11:30 am King Ballroom	Wild Women of Reclamation Breakfast 7:00 – 8:30 am King Ballroom Technical Sessions 8:30 am – 12:00 pm Copper 1, 2, 3, King Ballroom		Technical Sessions 8:00 am – 12:00 pm Copper 1, 2, 3, King Ballroom	Warm Springs Wildlife Management Area Birding Tour** 8:30 – 11:30 am	
Exhibitor Setup 10:00 – 6:00 pm Lobby Area	Headframe Spirits Distillery Tour** 2:30 – 4:30 pm	Annual Awards & Business Meeting Luncheon 12:00 – 1:30 pm King Ballroom	Lunch on Own 12:00 – 1:30 pm		Student Awards Luncheon 12:00 – 1:30 pm King Ballroom	Lunch on Own	
		Technical Sessions 1:30 – 5:00 pm	WY AML Seeding Certification	Technical Sessions 1:30 – 5:00 pm	Technical Sessions 1:30 – 5:00 pm Copper 1, 2, 3, King Ballroom		
NEC Meeting 12:00 – 6:00 pm Boardroom		Copper 1, 2, 3, King Ballroom	Copper 1, 2, 3, King Ballroom King Ballroom King Ballroom		NEC Wrap Up Meeting 3:00 – 4:00 pm Boardroom	Anaconda Smelter Tour**	
Welcome Exhibitor & Sponsor Reception 6:00 – 8:00 pm King Ballroom		Monday Social Event** 6:00 – 9:00 pm The Butte Depot	Poster Session Social 5:00 – 6:30 pm King Ballroom Uptown Happy Hour Social 6:30 – 8:00 pm Sláinte Pub Trihydro/Pace Analytical		Early Career Professionals Social Event** 6:00 – 9:00 pm Montana Tech Student Success Center	12:30 – 3:30 pm	
* Complimentary breakfast provided to Copper King Hotel guests ** Transportation provided							

Copper King Convention Center







Abnova Ecological Solutions	13	Holt Services	28
ACZ Laboratories Inc.	12	Montana Dept. of Environmental Quality	23
Albemarle	20	Montana Resources	5
BKS Environmental Associates, Inc.	4	NewFields	27
CDM Smith	11	OneAtlas	31
Costmine Intelligence	14	Pace Analytical Services	6
Energy Laboratories, Inc.	7	Pioneer Technical Services, Inc.	16, 17
Environmental Products & Applications	18	RESPEC	29
Ferguson Enterprises	26	Rocky Mountain Bio Products	1
Fluid Photonics Corp.	15	SRS Crisafulli	22
Granite Seed and Erosion Control	3	Trihydro Corporation	30
Great Bear Native Plants	2	Truax Company, Inc.	25
Grouse Mountain Environmental Consultants	21	Water & Environmental Technologies	8
Haley & Aldrich, Inc.	10	Willowstick Technologies	24
Headframe Spirits	19	_	

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Special Thanks to Our Exhibitors



2025 Conference Planning Committee

ANNUAL MEETING CHAIRS

Dustin Wasley, PE | Haley & Aldrich

Dr. Stephen Dent | CDM Smith

PLANNING COMMITTEE

Susie Anderson | Montana Tech Kennet Bertelsen, PE | Haley & Aldrich Devin Clary, GPOE | Washington Corporations Jo Combo | Haley & Aldrich John Haney, PE | Haley & Aldrich Bill Henne, PE | Haley & Aldrich Kevin Houck, PE | Haley & Aldrich Brenda Schladweiler | BKS Environmental Associates Ed Spotts | KC Harvey Marty Bennett | Pioneer Technical Services Terry Biere | Pioneer Technical Services Stephen Coe, PE | Water & Environmental Technologies Kelsea Green | BioMost Tony Wesche | Pioneer Technical Services Andrew Hess | Olympus Technical Services Chris Norman | Pace Analytical Rylie Skellenger | Haley & Aldrich Nick Tucci | Haley & Aldrich

On behalf of the 2025 ASRS National Meeting Local Planning Committee and the ASRS National Executive Committee (NEC), we want to thank our Sponsors and Exhibitors for their support, as well as our meeting attendees in Butte for their continued support of our Society.

Technical Divisions

CHAIRS & MEETINGS

SOILS

Seth Cude

Wednesday, June 4th at 2:30 pm, Room Copper 1

VEGETATION

Allen Wellborn Tuesday, June 2nd at 10:00 am, Boardroom

WILDLIFE

Jenise Bauman Wednesday, June 4th at 10:00 am, Boardroom WATER

Buck Neely

Tuesday, June 2nd at 1:00 pm, King Ballroom

ENGINEERING & CONSTRUCTION

Rich Sivils

Tuesday, June 1st at 3:00 pm, Boardroom

TECHNOLOGY

Kenton Sena

Wednesday, June 4th at 4:30 pm, Room Copper 3

Professional Field Tour Information

Sunday, June 1 – Montana Resources Mine and Distillery Tour

Hosted by Montana Resources

10:00 am – 2:00 pm

9:45 am	Assemble in the hotel lobby for a prompt 10:00 am departure.			
10:00 am Board bus and depart for the Berkeley Pit, roughly 5 miles north of the				
	Meet guide for a three-hour tour of Montana Resources Mining Operations,			
	Reclamation, and Water Treatment.			
12:00 pm	Lunch on the buses (lunch provided).			
2:15 pm	Depart for Headframe Distillery.			

2:30 pm Arrive at Headframe Distillery.

NOTE: CLOSED-TOE SHOES ARE <u>REQUIRED</u> FOR THIS TOUR. Hard hats and safety glasses will be provided, or you may bring your own.

Headframe Spirits Distillery Tour

Hosted by Headframe Spirits

2:30 – 4:30 pm

- 2:30 pm Arrive at Headframe Distillery. Meet guide for a tour of Headframe's distillery and an overview of their past, present, and future.
- 4:30 pm Depart Headframe Distillery for the Copper King Hotel.
- 4:45 pm Arrival and drop off at the Copper King Hotel.

Thursday, June 5 – Warm Springs Wildlife Management Area Birding Tour

💉 8:30 – 11:30 am

8:15 am	Assemble in the hotel parking lot for a prompt 8:30 am departure.
8:30 am	Board bus and depart for the Warm Springs Wildlife Management Area (WMA), roughly 27 miles northwest of the hotel.
9:00 am	Arrive at the WMA and meet guides for a two-hour tour and overview of the wildlife and reclamation activities undertaken in the area.

- 11:00 am Depart for the Copper King Hotel.
- 11:30 am Arrival and drop off at the Copper King Hotel.

Thursday, June 5 – Anaconda Smelter Tour

👮 12:30 – 3:30 pm

12:15 pm	Assemble in the hotel parking lot for a prompt 12:30 pm departure.
12:30 pm	Depart from the Copper King Hotel
1:00 pm	Arrive in Anaconda and meet guide for a two-hour tour of the Anaconda Smelter and overview of the history of the area.
3:00 pm	Depart for the Copper King Hotel.
3:30 pm	Arrival and drop off at the Copper King Hotel.









Agenda for Sunday, June 1, 2025

7:00 – 8:00 am	Breakfast on your own – Hotel Lobby
10:00 am – 6:00 pm	Registration and Exhibitor Setup – King Ballroom
10:00 am – 2:30 pm	Montana Resources Mine Tour – Meet in Hotel Lobby
2:30 – 4:30 pm	Headframe Spirits Distillery Tour
12:00 – 6:00 pm	National Executive Committee (NEC) Meeting – Boardroom
6:00 – 8:00 pm	Sponsor & Exhibitor Welcome Reception – King Ballroom

Agenda for Monday, June 2, 2025

C-20 7-20	
6:30 – 7:30 am	Haulin' ASKS
7:00 – 8:00 am	Breakfast on your own – Hotel Lobby
8:00 am – 5:00 pm	Registration – Hotel Lobby
9:00 – 11:30 am	Plenary Session/Keynote Speakers – King Ballroom
	Dustin Wasley/Steve Dent – Conference Chairs – Welcome to Butte!
	Brenda Schladweiler – ASRS President – President's Welcome
	Nick Tucci – Haley & Aldrich, Inc. – A History of Butte, America
	Matt Vincent – Past President of MT Mining Association – There's Gold In Them Thar Wastes!
	Sonja Nowakowski – Director of Montana DEQ – The Next 30 Years: The Future of Montana Reclamation
12:00 – 1:30 pm	Annual Awards & Business Meeting Luncheon – King Ballroom
1:30 – 5:00 pm	Technical Sessions – Rooms Copper 1, 2, 3
6:00 – 9:00 pm	Social Event at the Butte Depot



Join us for catered appetizers and drinks at the Butte Depot at 818 South Arizona Street!

Set in the heart of Uptown Butte, the Butte Depot once served as a crucial transport hub and now hosts gatherings of all kinds and sizes for the Butte community.



Agenda for Tuesday, June 3, 2025

6:30 – 7:30 am	Haulin' ASRS		
7:00 – 8:00 am	Breakfast on your own – Hotel Lobby		
7:00 – 8:30 am	Wild Women of Reclamation Breakfast – King Ballroom		
8:00 am – 5:00 pm	Registration – Hotel Lobby		
8:30 am – 12:00 pm Technical Sessions – Rooms Copper 1, 2, 3, King Ballroom			
12:00 – 1:30 pm	Lunch on your own		
1:30 – 5:00 pm	Technical Sessions – Rooms Copper 1, 2, 3 King Ballroom		
3:00 – 5:00 pm	Wyoming AML Seeding Certification Class – King Ballroom The Wyoming Abandoned Mine Land (AML) Division will host a Seeding Specialist Certification Class. In this hour-and-a-half practical training, reclamation professionals will learn to develop diverse seed mixes, the nuances of ordering seeding material, equipment performance standards, proper calibration and operation techniques with seeding equipment. The class will also focus on planning, designing, construction management techniques, and tools aimed at improving vegetation establishment of diverse native plant communities.		
5:00 – 6:30 pm	Poster Session Social – King Ballroom Student posters will be set up in the NW Foyer on Sunday, June 1 st , and will remain displayed until the Poster Session Social.		
6:30 – 8:30 pm	Uptown Happy Hour – Sláinte Tap House, Hosted by Trihydro and Pace Analytical		

Agenda for Wednesday, June 4, 2025

6:30 – 7:30 am	Haulin' ASRS
7:00 – 8:00 am	Breakfast on your own – Hotel Lobby
8:00 am – 5:00 pm	Registration – Hotel Lobby
8:00 am – 12:00 pm	Technical Sessions – Rooms Copper 1, 2, 3
12:00 – 1:30 pm	Student Awards Luncheon – King Ballroom, Sponsored by Navajo Transitional Energy
1:30 – 5:00 pm	Technical Sessions – Rooms Copper 1, 2, 3 King Ballroom
3:00 – 4:00 pm	NEC Wrap Up Meeting – Boardroom
6:00 – 9:00 pm	Early Career Professionals (ECPs)/Student Social Event – Montana Tech Student Success Center



Join us for catered appetizers and drinks at the Montana Tech Student Success Center!

This free event will bring together ECPs, students, and experienced professionals for valuable mentorship. This event will include food, beverages, and fun interaction. It's open to everyone!



Technical Sessions – Monday, June 2, 2025 (Afternoon)							
Time	SESSION 1A GOOD SAM & RECLAMATION Room Copper 1 Moderator – Pierre LeMieux	SESSION 1B WHERE ARE THE FISH? Room Copper 2 Moderator – Jason Poulsen	SESSION 1C GOVERNMENT & TRIBAL Room Copper 3 Moderator –Angela Frandsen				
1:30 - 2:00 pm	Proof of Concept: The Good Samaritan Pilot Program Jacob Dillon, Crowley Fleck	Where are the Fish? Evolving Metal-Related Risks in an Ecosystem Impacted by a Century of Mining Madison Foster, USGS	Abandoned Mines and the Bipartisan Infrastructure Law (BIL): How the BIL Helped Reclaim Tribal Trust Lands Heather Brighton, NewFields				
2:00 - 2:30 pm	Novel Hydrologic and Geochemical Baseline Assessments for Closure Planning at Golden Sunlight Mine, Montana Tracie Jackson, Barrick Gold Corp	A 10-Year Review of Chinook and Sockeye Salmon Conservation Initiatives within the Skykomish Watershed in Washington State Jenise Bauman, Tacoma Power	From Remediation to Restoration: A Tar Creek Story Paige Ford, Quapaw Nation				
2:30 - 3:00 pm	Grizzly Gulch Placer Mine Reclamation Joel Pemble, RESPEC	Where are the Fish: A Paradox of declining Fish Populations and Improving Insect Communities in a Mine-Impacted Ecosystem Michelle Fillion, USGS	Introduction to Camp Guernsey (WY) ITAM - Rehabilitation vs. True Reclamation Dustin J. Kafka, Wyoming Camp Guernsey Training Center				
	3:00 – 3:30 pm – BR Sponsore	EAK – KING BALLROOM AND EXHIBI d by Abnova Ecological Solutions	T AREA				
Time	SESSION 2A NORTH IDAHO'S NINEMILE BASIN Room Copper 1 Moderator – Tyler Chatriand	SESSION 2B CLIMATE & RESILIENCY Room Copper 2 Moderator – Ed Spotts	SESSION 2C - BIOCHAR Room Copper 3 Moderator – Brandon Holzbauer-Schweitzer				
3:30 – 4:00 pm		Practical Approaches to Climate resilience in Reclamation Projects Theresa Hughes, KC Harvey	Bioavailability-Based remediation of Pb- Contaminated Mine Land and Urban Soils using Various Biochar Adriana Dacres*, Ohio State University				
4:00 – 4:30 pm	15 Years of Ninemile Basin Remediation Bunker Hill Superfund Site Calen Busch, Maul Foster & Alongi Tony Wesche, Pioneer Technical Services Tausha Miller, CDM Smith	Using Statistical Models to Identify Drivers of Change Simone Durney, RESPEC	Using Wastewood Biochar as a Potential Soil Amendment: An Underground Greenhouse Study Gavin Rahl*, Montana Tech Use of Biochar as Soil Amendment to Improve Reclamation Success and Soil Resiliency Amir Hass, West Virginia State University				
4:30 – 5:00 pm		Creating Reclamation & Restoration Plans with an Emphasis on Establishing Terrestrial Food Webs Michael F. Curran, Abnova Ecological Solutions					
6:00 - 9:00 pm – SOCIAL EVENT – BUTTE DEPOT							

* Denotes Student

Technical Sessions – Tuesday, June 3, 2025 (Morning)						
Time	SESSION 3A ACID ROCK DRAINAGE Room Copper 1 Moderator – Nick Tucci	SESSION 3B ALL THINGS PFAS Room Copper 2 Moderator – Chris Norman	SESSION 3C SILVER BOW CREEK Room Copper 3 Moderator – Steven Coe			
8:30 - 9:00 am	Natural Acid Rock Drainage: Examples from Montana Chris Gammons, Montana Tech	PFAS Regulations and Methods Update for Environmental Professionals Isaac Schmidt, Pace Analytical	Restoring and Revegetating a Floodplain Contaminated with Mine Waste near Butte, MT Richard Prodgers, Bighorn Environmental Sciences			
9:00 - 9:30 am	Automatic Quantification of Dissolved Copper in Remote Acid Mine Drainage Sites Dean Gouramanis, Fluid Photonics Corp	Navigating PFAS Challenges in NPDES Permit Renewals Rune Lassen , KC Harvey	Silver Bow Creek Greenway Michael Browne, Pioneer Technical Services			
9:30 - 10:00 am	Recent Changes in the Berkeley Pit Water Quality Gary Icopini, Montana Bureau of Mines & Geology	How to Test PFAS in Complex Matrices Sarah Choyke, Eurofins Environmental Testing	Ecosystem Service Monitoring at Silver Bow Creek Conservation Area Molly McDermott, Ramboll Americas Engineering Solutions			
	– 10:30 am Spor	BREAK – KING BALLROOM AND EXHIBIT	Γ AREA			
Time	SESSION 4C VEGETATION Room Copper 1 Moderator – Seth Cude	SESSION 4B MINE CLOSURE & COVER DESIGN Room Copper 2 Moderator – Kevin Houck	SESSION 4C BUTTE AREA RECLAMATION Room Copper 3 Moderator – John Haney			
10:30 - 11:00 am	Micronutrient Enabled Establishment of Native Grasses and Reduced Invasive Plant Prevalence Through Novel Fertilization Strategies Emphasizing Soil Health Stuart Jennings, Edaphix	Chemical Compatibility of Lake Dredge for Abandoned Mine Land Reclamation Borrow Material Natalie Kruse Daniels, Ohio University	Characterization of a Mining District Superfund Site Butte West Side Soils Operable Unit Remedial Investigation Nicholas Anton, CDM Smith			
11:00 - 11:30 am	Establishment of a Native Vegetation Cover at Sweetwater Mine Site: Evaluation of Waste Byproducts and Mycorrhizal-Assisted Ecorestoration Mariam Al-Lami, Missouri University of Science and Technology	Assessing Impacts of Engineered Soil Amendment and Erosion Control Materials on Mine Cover System Design and Implementation Marc S. Theisen, Profile Products, LLC	Transforming Butte: from the Parrott Tailings to a Resilience Hub Stephen Coe , Water & Environmental Technologies			
11:30 am - 12:00 pm	Repurposing Woody Debris via Fuel Reduction Practices to Enhance Hillside Stability and Soil Seedbank Recovery Daniel Kelly*, Montana Tech	Geotechnical and Geophysics–Is there a Connection? David J. Barrick*, Montana Tech	Coversoil Attributes and Influence on Vegetation Cover on Reclaimed Areas of the Continental Mine John Beaver, WESTECH			
12:00 - 1:30 pm - LUNCH ON OWN						

* Denotes Student

Technical Sessions – Tuesday, June 3, 2025 (Afternoon)							
Time	SESSION 5A TECHNOLOGY ROUNDUP 1 Room Copper 1 Moderator – Michael Curran		SESSION 5B MERCURY GEOCHEMISTRY Room Copper 2 Moderator – Nick Tucci		SESSION 5C STREAM RESTORATION Room Copper 3 Moderator – Kelsea Green		
1:30 – 2:00 pm	Understanding Seismic Imaging for Mine Reclamation: Insights and Innovations from Geophysical Investigations of Abandoned Mines Lincoln Steele, Tetra Tech		Evaluation of Multiple Sediment Amendments at a Mercury- Contaminated Reservoir using Bench Top Microcosm Treatability Testing Paul Ho, CDM Smith		TDS Mitigation in Mining Affected Streams Using In-Stream Reservoirs German Banda, West Virginia State University		
2:00 – 2:30 pm	Using Geospatial and Geostatistical Models Created with Leapfrog Works to Inform Remediation Design at a Historical Smelter Site in Butte, Montana Maria Pomeroy, Pioneer Technical Services		Assessing Methylmercury in Sediments at Varying Depths: A Case Study in Methylation Dynamics Steve Dent, CDM Smith		Evaluating Urban Stream Restoration Success: Water Quality, Macroinvertebrate Surveys, and eDNA Kenton L. Sena, University of Kentucky		
2:30 – 3:00 pm	Remote Sensing Methods to Identify Culverts Impairing Fish Passage Natalie Kruse Daniels, Ohio University		Evaluation of Sorbent Application Methods for Mercury Control in a Contaminated Reservoir in San Jose, California Marc Beutel, University of California Merced		River and floodplain restoration on formerly mined lands Tess Hanson, PE Inter-Fluve		
	3:00 – 3:3 Sj	80 pm – B ponsored	REAK – KING BALLROO by Granite Seed and I	OM AND EXHIBIT A Erosion Control	REA		
Time	SESSION 6A FOREST RECLAMATION Room Copper 1 Moderator – Michele Coleman	G R Mode	SESSION 6B EOCHEMISTRY oom Copper 2 erator – Nick Tucci	SESSION 6C TREATMENT TECHNOLOGY Room Copper 3 Moderator – Steve Dent		SESSION 6D SEEDING CERTIFICATION King Ballroom	
3:30 – 4:00 pm	Recovery of Vegetation After Relieving Soil Compaction on a Reclaimed Surface Jennifer Franklin, University of Tennessee	Field Calibration of PHREEQ-N- AMDTreat Input Parameters D. Clayton , BioMost		On-Site Stabilization of Elemental Mercury Caleb Fontenot, Albemarle			
4:00 – 4:30 pm	Possible Ecological Indicators of Ecosystem Function Around Mining Areas Using Soil, Water, and Biological Characteristics: A Case Study Y.P. Chugh, Southern Illinois University	Geochemical Considerations for Sulfate Seepage in Mine Closure Jenna Adams & Donovan Gross Haley & Aldrich and First Majestic Silver		The Use of Hydrochar as an Amendment in Bioreactors for Acid Mine Drainage Natalie Kruse Daniels, Ohio University		Wyoming AML Seeding Certification Class 3:00 – 5:00 pm Josh Oakleaf, WY AML Seth Cude, Rockwell Science	
4:30 – 5:00 pm	Importing the Forestry Reclamation Approach to Northern MN : an ASRS Success Story Meghan Blair, Barr Engineering	Biogeoc a Coa Treatmo Scott He	hemical Evaluation of l Field Natural ARD ent System in Central Montana ensel, Haley & Aldrich	The EBR: Biologica Removal without of Troublesome S and Complex Post Ola Opar WesTech Engi	al Selenium Production Se Species -Treatment ra, neering	Nanuy wash, retra rech	
5:00 – 6:30 pm – POSTER SESSION SOCIAL – KING BALLROOM							

Poster Session Social – Tuesday, June 3, 2025 5:00 – 6:30 pm – King Ballroom							
	Student posters should be set up in the NW Foyer on Sunday, June 1 st , and will remain displayed until the Poster Session Social on Tuesday, June 3 rd .						
1	Rodents and Cheatgrass Limit Bitterbrush Establishment in Colorado Mountain Shrublands By: N. Nelson*, D.B. Johnston, and M. Paschke						
2	Metagenomic and Geochemical Insights into Silver Bow Creek Microbial Ecology By: P.G. Helfrich*, J. Feldman, I. Robertson, C. Shiek, and A. Cox						
3	Recovery Rates of Native Plants around Butte, MT: Phytomining Feasibility By: H. Cogley*						
4	Edge Effects in a Mining-Fragmented Grassland Impact Plant Survival and Growth, but not Seed Production or Seeding Rates By: T. Adrian* and R.W. Pal						
5	Restoration Technique Impacts Vegetative Cover, Species Richness, and Native Plant Growth Whereas Slope Impacts Cryptogrammic Crust Cover By: P.G. Helfrich*. T. Adrian. C. Leitert. and R.W. Pal						
6	Selenium Removal by Fast-Pyrolysis Waste Timber Biochar and Iron Modified Biochar for Phosphate Mine Reclamation By: M. Gavin*, D. Strawn, and D. Page-Dumroese						
7	Quantifying Long-Term Persistence of Biochar on Reclaimed Placer Tailings in the Umatilla National Forest, Oregon By: P. Tietz*, Z. Kayler, D. Page-Dumroese, R. Heinse, and M. Coleman						
8	Characterizing Underground Coal Mine and Fire Surface hazards via Geomorphic Analysis using Remote and Ground-Based Techniques						
9	Microbial Community Succession in Recovering Riparian Zones By: C. Leitert* and P.G. Helfrich						
10	Microbial Zinc Metabolism in a Recovering Stream By: M. Naim*, P.G. Helfrich, J. Feldman, J. Robertson, and A. Cox						
11	Food Web Selenium Accumulation Could Impact Fish in a Recovering Aquatic Ecosystem By: E. Heneba* I. Timmer, P.G. Helfrich, E. Andrade Barabona, and A. Cox						
12	Manganese Speciation in Anaerobic, Organic-Matter-Rich Wetland By: A. Hardgrave* and J. LaBar						
13	Experimental Assessment of Three Activated-Carbon-Based Sorbents in Remediating Hg-Contaminated Reservoir Sediments in the Historic New Almaden Mining District, California By: D. Phan* and M. Beutel						
14	Investigation of a Newly Observed Autumn Olive Pathogen on a Southwestern Virginia Coal Mine By: J. Kanouff*, S.K. Klopf, D. Putnam, J. Barney, and P. Donovan						
15	Experimental Approaches to Assessing Methylmercury Production Potential of Mildly Hg-Contaminated Soils in a Planned Storm-Water Treatment Wetland, California By: F.O. Onipede* and M.W. Beutel						
16	Development and Optimization of a Novel Reactor for Remediating Acid Mine Drainage Using Natural Substrates By: D.T. Maiga, A. Tshikovhi, T.T. Phadi, L.L. Sibali, and T.A.M. Msagati						
17	Effect of Fermentation Conditions on the Performance of Microbial Cellulose Membranes for Filtration Applications By: A. Raychaudhuri* and K. Ganesan						
18	Rare Earth Element Occurrences in Acidic Mine Drainage in Montana By: M. Vitale* and J. Quarels						

* Denotes Student



Join us for the Annual Poster Session Social!

Students will present their research posters and network with other academic and business professionals! There will be food, beverages, and a full bar.

Technical Sessions – Wednesday, June 4, 2025 (Morning)								
Time	SESSION 7A REMOTE SENSING/GIS Room Copper 1 Moderator – Steve Dent		SESSION 7B GEOMORPHIC RECLAMATION Room Copper 2 Moderator – Kevin Houck		SESSION 7C WETLANDS & WILLOWS Room Copper 3 Moderator – Natalie Kruse Daniels			
8:30 - 9:00 am	Using Remotely Sensed Imagery to Characterize the Historic Bentonite Mining Area Near Belle Fourche, South Dakota, to Develop an Ecological Restoration Patrick Kozak, South Dakota School of Mines		Geomorphic Reclamation of the Abandoned McIntosh Uranium Open Pit Mine Harold Hutson, BRS		Using Hydrology, Water Quality, Soils, and Vegetation to Evaluate Wetland Condition and Effects on Trace Metals in Natural and Treatment Wetlands in the Tar Creek Watershed Sam Taylor*, University of Oklahoma			
9:00 - 9:30 am	CDM Smith Sky Wave Remote Sensing and Machine Learning Technologies for Site Investigations and Monitoring Devin Wilson, CDM Smith		Sustainable Soil Erosion and Sediment Control in Surface Coal Mines, USA Semi-Arid Environment Anna Krzyszowska, Environmental Consulting		Hydrologic Controls on Nutrient Retention in a Restored Wetland Emily Fox* and Dupe Oluwesesan*, Ohio University			
9:30 - 10:00 am	Use of Digital Technologies and GIS to Improve Reclamation Monitoring and Reporting Zach Farmer*, Abnova Ecological Solutions		North Culbertson Mine Reclamation: Historic Coal Mine Subsidence and Erosion Mitigation through Geomorphic Design, GPS Machine- Controlled Equipment, and Native Species Revegetation Kyle L. Johnson, PE, Herrera Environmental Consultants		Investigating the Phytoextraction Potential and Metals Uptake for Willow Species in the Rocky Mountains Johannes Chandler*, Montana Tech			
	10:00 - 1	L 0:30 ar	n – BREAK – KING BALLRO	OOM AND EXHIBIT A	REA			
Time	SESSION 8A AMENDMENTS & BIOSOLIDS Room Copper 1 Moderator – Julie LaBar	SESSION 8B WYOMING RECLAMATION Room Copper 2 Moderator – Josh Oakleaf		SESSION 8C WATERFOWL, ETC. Room Copper 3 Moderator – Bill Henne		SESSION 8D SITE CHARACTERIZATION King Ballroom Moderator – Kyle Johnson		
10:30 - 11:00 am	Effect of Organic and Inorganic Soil Amendments on Zinc and Lead Availability in Soils Affected by Historic Mining Activities Chris Baxter, University of Wisconsin-Platteville	Mitigation of the UPCC Rock Springs Nos. 3, 4, 7, and 8 Mines Below Interstate 80 Ryan Reed, BRS		Waterfowl Protection at the Berkeley Pit Stella Capoccia, Montana Tech		Transport, Fate, and Exposure to Selenium from the Elk Valley British Columbia, Canada Coal Mines into Ecosystems of the Upper Columbia River Basin, United States Travis Schmidt, USGS		
11:00 - 11:30 am	Testing Soil Amendments to Reduce Lead Bioaccessibility at Bench- and Field-Scale Molly McDermott, Ramboll Americas Engineering Solutions	Lessons Learned from over 400 Years of Practitioner Experience in Wyoming Michael F. Curran, Abnova Ecological Solutions		The Use of Waterfowl Nesting Structures in Remediated Areas as an Educational and Research Tool Mark Mariano, Montana Wetlands and Waterfowl		Post-Wildfire Site Restoration in Steep Slope Terrain Dale Evans, IDR		
11:30 am - 12:00 pm	Mine Soil Reconstruction Protocols to Improve Internal Drainage and Plant Growth in Reclaimed Coastal Plain Mine Soils in Virginia Sara Klopf, Virginia Tech	Final Pit Backfill and Spoil Regrade using a Dragline and Dozer Allen Wellborn, Navajo Transitional Energy Company		Arbuscular mycorrhizal fungi combined with biosolid/biochar sustained phytostabilization and enhanced soil properties of mine tailings Mariam Al-Lami, Missouri University of Science and Technology		High Resolution Stormwater Monitoring: Study Design, Outcomes, and Lessons Learned from Contrasting Three Hydrologic Studies in the Western United States Joseph Gilbert, CDM Smith		
	12:00 – 1:30 pm – STUDENT AWARDS LUNCHEON – KING BALLROOM Sponsored by Navajo Transitional Energy Company							

Technical Session – Wednesday, June 4, 2025 (Afternoon)						
Time	SESSION 9A APPALACHIAN RECLAMATION & RESTORATION Room Copper 1 Moderator – Brenda Schladweiler	SESSION 9B PASSIVE WATER TREATMENT Room Copper 2 Moderator – Tim Danehy	SESSION 9C MODELING Room Copper 3 Moderator – John Haney			
1:30 - 2:00 pm	Tetra Tech Abandoned Mine Land Reclamation Projects in the Appalachian and Mid-Continent Regions Eric Cavazza, Tetra Tech	Case Study: Design and Implementation of the Dream Mountain Passive Treatment System - Northern WV Cody Neely, BioMost	Optimizing Water Management at North Mara Gold Mine: Strategic Response to Excess Water Accumulation on the Tailings Storage Facility Andre van Coller, Digby Wells Environmental			
2:00 - 2:30 pm	Long-Term (10-Year) Effects of Mine Spoil Weathering on Leachate Quality Sara Klopf, Virginia Tech Performance of a Passive Treatment System over 30 Years in Tennessee Terry Schmidt, EARTHRES		Predicting Settling Pond Hydrology and Chemistry from Extreme Weather and Operations using GoldSim Kevin Wright, Trihydro			
2:30 - 3:00 pm	Soils Technical Division Meeting Seth Cude	Comparison of Pollutant Removal Rates for Three Limestone-Only Autoflushing Vertical Flow Ponds Kelsea Green, BioMost	Reducing Design Uncertainty with Comparative Numerical Groundwater Modeling at a Former Smelter Site Ross Monasmith, Pioneer Technical Services			
	3:00 – 3:30 pm -	BREAK – KING BALLROOM AND EXHIBIT Sponsored by O'Keefe Drilling	AREA			
Time	SESSION 10A INTERNATIONAL PERSPECTIVES Room Copper 1 Moderator – Paul Chugh	SESSION 10B WATER AML ISSUES Room Copper 2 Moderator – Kennet Bertelsen	SESSION 4A TECHNOLOGY ROUNDUP 2 Room Copper 3 Moderator – Kenton Sena			
3:30 - 4:00 pm	Turning Polluting Mine Wastes into Earth Materials - A Nature-Based Approach to Achieve Sustainable Ecological Rehabilitation Longbin Huang, University of Queensland	Insights and Lessons Learned from Launching New Mine Land Reforestation Program Kaela Walton-Sather, Cumberland River Compact	Advancements in Remote Sampling and Data Collection on the Berkeley Pit Bryce Hill, Montana Tech			
4:00 - 4:30 pm	Assessment of Mining Activities Impacts on Ecosystem Services: A Case Study Mao Zhen, School of Environment and Spatial Informatics, China University of Mining and Technology	Status of Abandoned Mine Lands Managed by the BLM Butte Field Office, Southwest Montana Amanda Rossi, Bureau of Land Management	Artificial Intelligence - A Primer and Potential Applications to Land Reclamation Y.M. Kanouff, JC2 Ventures Michael F. Curran, Abnova Ecological Solutions			
4:30 - 5:00 pm	4:30 - :00 pmThe Potential for Peatland Reclamation in the Smelter-Impacted Landscape of Sudbury, Ontario Dr. Peter Beckett, Laurentian UniversityEvaluation of Legacy Gold South Carolina4:30 - South Carolina Dr. Gwen Geidel, School of Ocean and Environment, U South Carolina		Technology Technical Division Meeting Kenton Sena			
6:00 – 9:00 pm – EARLY CAREER PROFESSIONALS SOCIAL – MONTANA TECH STUDENT SUCCESS CENTER						

Student Scholarship Awards

Bachelor of Science | Scotland Souders



Scotland is a fourth-year Environmental Science student at Oklahoma State University. She has been doing research with Dr. Julie LaBar on the behavior of manganese in passive treatment systems. During her time at OSU, she has also enjoyed being president of the Environmental Science Club and the Juggling Club. After graduating with a Bachelor's degree in May 2024, she plans to pursue graduate-level education in Environmental Science, while also working as an Environmental Specialist in Midland, Texas.

Master of Science | Aliching Marma



Aliching is a second-year Master's student in the Environmental Studies program at Ohio University's Voinovich School of Leadership and Public Service. She holds a Bachelor's degree in Civil and Environmental Engineering from the Military Institute of Science and Technology in Bangladesh. She previously worked as a process engineer in Bangladesh, designing wastewater treatment plants for industrial and sewerage systems. Her current research is focused on treating mine water using hydrochar in compost bioreactors. Her goal is to get more expertise and develop novel solutions to wastewater and acid mine drainage treatment.

Doctor of Philosophy | Anna Vietmeier



Anna is a fifth-year PhD candidate at Duquesne University in the laboratory of Dr. Nancy Trun, and earned both her B.S. and M.S. from Youngstown State University in Biological Sciences. Anna's PhD work is on the impact of microbial metal cycling in abandoned coal-mine drainage (AMD) to improve bioremediation and limit biocontamination within passive remediation systems. Through being awarded the Department of Energy National Energy Technology Laboratory Oak Ridge Institute for Science Education Fellowship, Anna has collaborated with the laboratory of Dr. Djuna Gulliver to investigate the ability of harbessing microbes for the biomining of AMD waste. After earning her doctorate, Anna plans to continue her research as a postdoc on the interaction of microbes and chemical cycling. She enjoys painting, is learning to play the piano, and loves her houseplants.

Professional Awards

William T. Plass Award | Michele Coleman, PE, PG



Michele Coleman possessed a unique educational background for her career, which included degrees in Geology (B.Sc 1983; M.A. 1986) and Chemical Engineering (B.Sc 1985) from the University at Buffalo (State University of New York). She is a registered Professional Engineer and a registered Professional Geoscientist in New Brunswick. Her love of nature and curiosity about a sustainable natural world sparked her devotion/drive to create sustainable ecosystems on mined lands. Her career focused on collaborative research, knowledge transfer, and mentoring in the reclamation field in Canada and the U.S.

Michele retired in 2020 from her position of Environmental Engineer/Coordinator at the New Brunswick Power Corporation (NBPC). Her responsibilities included adherence to environmental standards for active mines and reclaiming 42 coal mines. Her work improved reclamation outcomes through research, innovation,

and collaboration with government, industry, academics, community representatives, landowners, and the general public to foster transparency and ensure that reclamation goals were aligned with local interests. She pioneered the concept of sustainable ecosystems on reclaimed mines in New Brunswick, including reestablishing two extirpated tree species, native forest cover and habitat, improving and increasing fish habitat, and creation of hundreds of acres of fully functioning wetlands. Through scores of international to local presentations, she played a lead role in reclamation education and policy throughout the Atlantic Provinces. The research collaboration with the University of New Brunswick focused on tracking acid mine drainage and the impact of reintroducing treatment sludge back into the waste rock. This provided decades of university students with real-world experience and helped advance the management of acid rock drainage-related issues.

Her contributions for outreach extended to ASRS through holding multiple positions, including President, among many others. She was passionate about the Atlantic Chapter of the Canadian Land Reclamation Association and the National Canadian Land Reclamation Association, where she was either Chair or on the organizing committee of nine regional and three national conferences, and recipient of both National CLRA Awards.

Professional Awards

Distinction in Reclamation Award | Raccoon Creek Restoration and Recovery



Unregulated coal mining through the 1970s resulted in acid mine drainage and sedimentation throughout the Raccoon Creek watershed. For many years, Raccoon Creek was considerd "unrecoverable"... too far gone to ever rebound from the impacts of prelaw coal mining. Fortunately, concerned citizens in the 1980s cared deeply about the watershed and succeeded in getting the support of agency partners. The grassroots Raccoon Creek Improvement Committee, becoming the Raccoon Creek Partnership (RCP) in 2007, has been an integral part of the recovery of Raccoon Creek.

RCP has worked with countless partners over the years, but those responsible for most of the funding, project construction, and monitoring are the Ohio Department of Natural Resources Division of Mineral Resources Management (ODNR DMRM), Ohio Environmental Protection Agency (OEPA), Office of Surface Mining (OSM), and the Ohio University Voinovich School. These partners have secured ~ \$17 million in funding for the completion of 22 restoration projects in the watershed. Projects include active and passive treatment, standard reclamation, and the removal of one low-head dam. These projects have greatly improved water quality in Raccoon Creek and restored this once "unrecoverable" watershed, devoid of aquatic life and choked with sediment and metals, back to a thriving, healthy biological community.

In 2022, OEPA officially approved upgraded Aquatic Life Uses for much of Raccoon Creek. The headwaters, previously designated as Limited Resource Water (the lowest degree of biological integrity) are now meeting Warmwater Habitat standards and over 30 miles are now meeting Exceptional Warmwater Habitat standards. On November 12, 2024, Ohio Governor DeWine and Ohio Department of Natural Resources Director Mertz officially designated Raccoon Creek as the first Scenic River in Southeast Ohio. After many decades being one of the most impaired watersheds in the state, it is very exciting to share the story of recovery. Designation showcases the partnerships that have resulted in recovery of Raccoon Creek over the past several decades; from "dead as a bag of hammers" to meeting Warmwater and Exceptional Warmwater Habitat standards.

Richard I. & Lela M. Bernhisel Reclamation Researcher of the Year Award | Dr. Michael Curran



Dr. Michael Curran owns and operates Abnova Ecological Solutions, where he serves as CEO and Principal Ecologist. Abnova is a small ecological consulting and research firm primarily focused on land reclamation and restoration, wildlife and insect research, and environmental data management. Mike has a PhD in Ecology and a Graduate Minor in Statistics from the University of Wyoming. During his time at UW, he won the M.S. and PhD Scholarships from ASRS and pioneered the use of spatially-explicit dashboards to improve understanding of reclamation performance across Wyoming's oil and gas fields. He also developed techniques to improve vegetation monitoring efficacy with handheld imagery and drones.

Between graduating from UW and starting Abnova, Curran held a post-doctoral research position at Mississippi State University studying wildlife populations with remote sensing technologies, and then worked at a large plant nursery in New Jersey, where he worked as both a grower and a manager. More recently, he won the ASRS Early Career Award in 2024. He serves as the Editor of *Reclamation Matters* and is an Associate Editor of both *Reclamation Sciences* and the *Natural Areas Journal*.

Reclamationist of the Year Award | Monty Parke



Monty Parke holds the position of Senior Manager of Conservancy and Reclamation. He has 46 years of experience in mining, farming, and land reclamation, including more than two decades of developing innovative solutions in coal mine reclamation in Indiana and Illinois. Contributions include safe and efficient methods for capping and reclaiming coal refuse slurry impoundments, backfilling underground slopes, exhaust, and intake shafts. He developed and implemented passive systems for water treatment that require litle active management, grass waterways, buffer strips, cover crops, and fertility management for water quality.

He is the current Manager of Reclamation at the Peabody Midwest closed mine sites still under reclamation status, and advises sites still in operation with reclamation issues. He is responsible for erosion control, maintenance, and tree planting of tens of thousands of acres of reclaimed mine land. To date, he has had a hand in over 52,000 acres reaching or exceeding the requirements and obtaining final bond release, resulting in \$355 million of bond released and over 20 mine permits released.

Professional Awards

Pioneer of Reclamation Award | Laurel Vickland



Laurel Vickland is a respected leader and Environmental Scientist, whose distinguished career spans over three decades in mining, environmental stewardship, and organizational leadership. A Colorado State University graduate with a concentration in soils, Laurel is widely recognized for her work in land reclamation and sustainable resource development. Laurel's extensive experience in environmental engineering and reclamation began with technical roles at Kennecott's Cordero Mine and progressed through senior environmental leadership positions at Alpha Coal West and Peabody Energy. Currently serving as President of Peregrine Global Services, she has held several key roles within the company since co-founding it in 2003, including Vice President of International Operations and President of the Peregrine Global Foundation.

Her professional accomplishments have been widely recognized. She directed several projects which won awards, including the Office of Surface Mining Reclamation Director's Awards, and the Wyoming Game and Fish Wildlife Reclamation

Award. In 2011, she earned the title of Sportswoman of the Year from the NW Wyoming Chapter of Sportsmen for Wildlife and Wyoming Business Report's Woman of Influence in Energy. She has served in leadership roles with ASRS and received the Society's award of Reclamationist of the Year in 2002. Her contributions include numerous publications on sagebrush establishment and mined land reclamation, including her editorial role in producing the *Western Handbook of Reclamation Techniques*.

Beyond her professional achievements, Laurel is deeply involved in community service. She serves on numerous boards and advisory groups, including the Edible Prarie Project, Energy Capital Economic Development, the Gillette College Foundation, the Thunder Basin Grasslands Prarie Ecosystem Association, and is the Chair of the Northeast Wyoming sage-grouse Working Group. She is also President of the Peregrine Global Foundation and is active in her local faith community at Holy Trinity Episcopal Church.

Early Career Award | Kelsea Green



Kelsea Green is an Environmental Engineer working in mine water reclamation for BioMost, Inc. of Mars, Pennsylvania. Kelsea obtained her Bachelor's degree in Environmental Engineering from Saint Francis University with a concentration in ecological engineering and a minor in mathematics. During her Sophomore and Junior years, she completed international research in Bolivia, presented at the 2012 Tupelo Meeting, and interned at BioMost.

Kelsea began her professional career in consulting where she worked on projects like Corridor H and environmental inspections with a sprinkle of passive system operation and maintenance until making the switch to academia and returning to Saint Francis University. As the SFU Environmental Engineering Lab Manager and Instructor, she took students to AMD sites, taught field and lab measurement methods, and

developed student networking, including bringing them to two ASRS Annual Meetings. Kelsea has volunteered with the Center for Watershed Research and Service, the Stoneycreeek-Conemaugh River Improvement Project, and the Clearfield Creek Watershed Association. Following a few years off to raise her kids, Nora and Emmett, Kelsea returned to consulting with BioMost in 2022. Kelsea's projects include passive and active mine water treatment design in Pennsylvania and West Virginia, as well as operation and maintenance of treatment trust sites. Through BioMost, she has obtained her E.I.T. certification and became more involved with ASRS as an NEC Delegate. Kelsea is excited to continue working toward her professional engineering license and continue her involvement in ASRS as she and her colleagues plan the 2027 Annual Meeting in Pittsburgh, Pennsylvania.



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> See you in Laramie! https://www.asrs.us/2026-conference/







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