



ASRS

AMERICAN SOCIETY OF
RECLAMATION SCIENCES



ASRS/ARRI 2024 Conference Program

The 41stth Annual Meeting of the American Society of Reclamation Sciences (ASRS) is June 2-6, 2024, in Knoxville, TN. This conference will focus on the 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, and open discussion of public policy relating to the applied science of reclamation, rehabilitation, remediation, and restoration of areas disturbed by mining, oil and gas, conventional and alternative energy production, contaminated sites, agriculture, road construction, large-scale commercial development, and other disturbances to land and water resources.

Schedule at a glance:

Sunday, June 2	Monday, June 3	Tuesday, June 4	Wednesday, June 5	Thursday, June 6
	Haulin'/walking ASRS 6:30-7:15 am	Haulin'/walking ASRS 6:30-7:15 am	Haulin'/walking ASRS 6:30-7:15 am	
	ARRI core/Science team meetings 7:30-9:00 am	Wild Women of Reclamation 7:00 -8:15 am		
	Plenary session 9:00 am-noon Main Ballroom	ARRI Professional tour 8:15 am -4:00 pm Technical sessions 8:30 am - 12:00 pm	Technical sessions 8:30 am - 12:00 pm	Copper Basin Professional Tour 8:00 am - 5:00 pm
	ASRS and ARRI Awards Luncheon and ASRS Business Meeting 12:00 - 2:00 pm Main Ballroom	Lunch buffet 12:00- 1:30 pm Main Ballroom	Student awards luncheon Main Ballroom	
Registration and Exhibitor set-up 11:00 pm- 6:00 pm Convention Center Lobby and Ballroom	Technical sessions 2:00 - 5:30 pm ARRI Technical sessions 2:00 - 5:30 pm	Stream Restoration Professional Tour 1:30 - 3:00 pm Technical sessions 1:30- 5:30 pm	Ijams Quarry Professional Tour 2:00 - 5:30 pm NEC meeting 4:15- 5:15 pm	
NEC meeting 4:00-6:00 pm				
Welcome Exhibitor/Sponsor Reception 6:00 - 8:00 pm Convention Center Ballroom	Social Event and Dinner 6:30 - 10:00 pm Museum of Appalachia	Poster session 5:30 - 7:15 pm Main Ballroom Film festival 7:30 - 9:00 pm Lower Level Theatre	Early Career Professional Social 6:00 - 9:00 pm Hilton Firefly Lounge	

Sponsors and Exhibitors

PLATINUM



Office of Surface Mining Regulation and Enforcement

GOLD



Peabody Energy

BRONZE



Abnova Ecological Solutions



Albemarle



EARTHRES

ENGINEERING FOR SUCCESS™

Earthres



Brierley Associates



PUREWEST SM

Essential Energy. Responsibly Produced.

Purewest Energy



MORGAN

Morgan Contracting



SCHOOL OF
NATURAL RESOURCES

University of Tennessee School of Natural Resources

EXHIBITORS



Conservation Legacy



Costmine Intelligence



Truax



Full Circle Mushroom Compost



Williams Forestry

WILD WOMEN OF RECLAMATION SPONSOR



BKS Environmental
Associates, Inc.

A Special Thanks to Our Conference Planning Committee

CONFERENCE PLANNING COMMITTEE

Jennifer Franklin, 2024 Conference Chair
Julie LaBar, ASRS President
Michele Coleman, ASRS Past President
Kenton Sena, University of Kentucky
Gwen Geidel, University of South Carolina
Will Debord, OSMRE
Scott Eggerud, OSMRE

SPECIAL EVENT COORDINATORS

Brenda Schladweiler & Seth Cude- Silent Auction
Brandon Holzbauer-Schweitzer - Film Festival
Allen Wellborn - Early Career Professionals
Michele and Gwen - Wild Women
Paul Griswold - ASRS Awards
Scott Eggerud - ARRI Awards
Michele Coleman & Bill Zeaman - Haulin' ASMR

KNOXVILLE CONVENTION CENTER – 3rd FLOOR



SUNDAY, JUNE 2, 2024 AGENDA

All Day

- 11:00 a.m. – 5:00 p.m.
- 4:00 p.m. – 6:00 p.m.
- 4:00 p.m. – 6:00 p.m.
- 5:00 p.m. – 8:00 p.m.
- 6:00 p.m. – 8:00 p.m.

- ASRS Office – Henley Meeting Room
- Exhibitor Setup – Convention Center Ballroom
- Registration – Convention Center Lobby
- NEC Meeting – Convention Center Ballroom
- Exhibitor Show – Convention Center Ballroom
- Welcome Reception - Convention Center Ballroom

MONDAY, JUNE 3, 2024 AGENDA

- 6:30 a.m. - 7:30 a.m.
- 7:00 a.m. - 5:00 p.m.
- 7:00 a.m. - 8:30 a.m.
- 7:00 a.m. - 8:30 a.m.

- Haulin' ASRS – Meet at the Knoxville Convention Center main entrance on Henley Street
- Registration – Convention Center Lobby
- Breakfast – Ballroom
- Student Breakfast Mixer – Ballroom

7:30 a.m. - 8:15 a.m.
7:30 a.m. - 8:15 a.m.
8:15 a.m. - 9:00 a.m.
9:00 a.m. - 5:30 p.m.
9:00 a.m. - Noon

9:15 a.m. - 10:00 a.m.
10:00 a.m. - 10:30 a.m.
10:30 a.m. - 11:15 a.m.
12:00 noon - 2:00 p.m.
1:00 p.m. - 6:00 p.m.
2:00 p.m. - 5:30 p.m.
6:30 p.m. - 9:30 p.m.

ARRI Core Team Meeting Room 301C
ARRI Science Team Meeting Room 301A
ARRI Science and Core Team Joint Meeting Room 301C
Exhibitor Displays – Ballroom
Plenary Session – Ballroom
Jennifer Franklin – Conference Chair – Welcome
Julie LaBar – ASRS President – President’s Welcome
Keynote Speaker: Kathryn Newfont, Univ. of KY
Break
Keynote Speaker: Michael McKinney, Univ. of TN
ASRS and ARRI AWARDS LUNCHEON / ASRS BUSINESS MEETING
Silent Auction opens - Room 301B
Technical sessions
Social Dinner at the Museum of Appalachia

KEYNOTE SPEAKERS

Kathryn Newfont: Environmental historian Kathryn Newfont, of the University of Kentucky, focuses especially on forest history in North America’s Appalachian mountain region. Her research documents and analyzes forest commons systems and commons-based forest protection efforts using a combination of oral history, archival sources, and evidence from lands and ecologies. Her first book, *Blue Ridge Commons: Environmental Activism and Forest History in Western North Carolina* (UGA Press, 2012), won the Appalachian Studies Association’s 2012 Weatherford Award for Non-Fiction and the 2012 Thomas Wolfe Memorial Literary Award. She is co-editor with Debbie Lee of *The Land Speaks: Voices at the Intersection of Oral and Environmental History* (Oxford, 2017). She has held fellowships from the National Endowment for the Humanities, the Mellon Foundation, and the U.S. Forest Service. Her current project focuses on “the Monongahela case,” a landmark federal suit brought by West Virginians that changed U.S. national forest management policy in the 1970s and continues to shape it—as well as North America’s capacity for climate resiliency—in the present day.



Michael McKinney is a Professor and former department head in the Department of Earth and Planetary Sciences at UTK. He is Director of the Environmental Studies Program and is the Sustainability Fellow for the new College of Emerging and Collaborative Studies. He serves as the Editor-in-Chief for the journals *Urban Ecosystems* and *Urban Naturalist*. He has published over 100 peer reviewed scientific articles and several books, including *Environmental Science* (7th edition).



2024 ASRS William T. Plass Award: Zhenqi Hu

Dr. Zhenqi Hu is a professor of China University of Mining and Technology and a life member of the American Society for Reclamation Sciences (ASRS), has dedicated 36 years to mine land reclamation in China. He received his Ph.D., Master's, and Bachelor's degrees from the China University of Mining and Technology in 1991, 1987 and 1984 respectively. Notably, he also participated in a joint Ph.D. program at Southern Illinois University at Carbondale from 1989 to 1991, focusing his doctorate research on land reclamation. Dr. Hu is well-known as the pioneer of mine land reclamation in China, and he made outstanding contributions to the innovation and internationalization of China's mine ecological restoration. Since 1991, he has led numerous wide-ranging research projects. His work has shed light on the mechanism and consequences of surface ecological damage caused by underground mining, and creatively proposed concurrent mining and reclamation technology, and yellow river sediment filling technology for restoring subsidence land to prime farmland in coal mining areas. Additionally, Dr. Hu developed methods for the ecological restoration of coal waste piles prone to spontaneous combustion. He established a soil reconstruction theory and technical system with "soil layer niche" and "soil key layer" as the core. These remarkable achievements have been widely implemented in 276 coal mines across 14 provinces in China. His work has significantly advanced the field of mine land reclamation theory and technology. It has also made substantial contributions to protecting farmland, maintaining ecological security, and promoting the development of green mines, leading to significant economic, social, and environmental benefits. He has published more than 500 papers and 21 academic books. He has won 3 national second-class prizes for technological progress, and 9 first-class prizes at the provincial and ministerial level. He has also done great contributions to training students and technical transfer on land reclamation. Dr. Hu's mentorship has nurtured a new generation of talent in land reclamation. Under his guidance, an impressive 9 post-doctoral fellows, 108 Ph.D. graduates, and 128 master's graduates have entered the field. Nominated by Brenda Schladweiler



2024 ASRS Richard I. and Lela M. Barnhisel Reclamation Researcher Award – Jenise Bauman

Dr. Jenise M. Bauman is a restoration ecologist with a research career that has focused on the balance of energy demands and environmental initiatives. She has been involved with ASRS since 2010, currently on the Editorial Board for Reclamation Sciences, and is excited to begin her new role as a member of the National Executive Committee. Dr. Bauman earned her Ph.D. from Miami University of Ohio, M.S. from West Virginia University, and B.S. from Eastern Kentucky University. Her graduate work focused on the reforestation of landscapes impacted by mining for coal and natural gas. She completed a two-year post-graduate position as a Director of Conservation Science Research, which operated on 10,000 acres of reclaimed coal mines in southeastern Ohio. Dr. Bauman relocated to Washington State to join Western Washington University's College of the Environment in 2014. During her tenure she continued forest restoration projects on previously coal mined landscapes in Appalachia. She initiated new projects in the Pacific Northwest that included reforestation post-dam removal, as well as estuary, nearshore, and riparian projects that evaluate plant community, fish counts, soil development, and fate of soil metals in urban estuaries. Other projects include assisted migration as a climate adaptation strategy to restore riparian zones adjacent to estuary restoration projects. Most recently in 2024, Dr. Bauman joined Tacoma Power's Natural Resource Division of Tacoma Public Utilities as Research and Science Manager. She is now working with a team of scientists to initiate restoration and reclamation projects to improve anadromous fish passage and wildlife habitat in several rivers harboring hydroelectric dams in western Washington. Nominated by Richard Barnhisel.



2024 ASRS Reclamationist of the Year – Michael French

Michael French received a B.S. in Biology and M.S. in Forestry from the University of Kentucky where he focused his undergraduate and graduate studies on linking American chestnut restoration with coal surface mine reforestation efforts while working as an intern for The American Chestnut Foundation. Since 2015, Michael has served as the Director of Operations of Green Forests Work, a non-profit whose mission is restoring native forests on former coal surface mines. Michael has also served as a co-chair for the Appalachian Regional Reforestation Initiative's Science Team since 2018, promoting research into reclamation and ecological restoration on formerly mined lands. Prior to joining Green Forests Work, Michael worked for The American Chestnut Foundation as a restoration ecologist and in the private sector for Williams Forestry and Associates, where he supervised the planting of millions of trees across the Appalachian region. During his leadership of Green Forests Work, the organization has planted millions more trees on active, legacy, and Abandoned Mine Lands throughout the Appalachia with a focus on restoring forest types that have undergone significant declines over the past several decades. Michael currently resides in Indiana with his wife and two boys, where he also promotes native ecosystem restoration. Nominated by Kenton Sena



2024 ASRS Early Career in Reclamation – Michael Curran

Dr. Michael Curran owns and operates Abnova Ecological Solutions, a small ecological consulting and research firm which specializes in ecological restoration, land reclamation, environmental monitoring, environmental data management, and a variety of other ecology related matters. Mike is originally from Manasquan, NJ and has a bachelor's degree in Biological Sciences, Geography, and Ancient Greek & Roman Studies from University of Delaware, where he worked as an undergraduate research assistant studying native vs. non-native plant impacts on terrestrial food webs. He has a Master of Science degree in Rangeland Ecology & Watershed Management as well as a PhD in Ecology and a Graduate Minor in Statistics from University of Wyoming. Curran received both the MS and PhD Student Awards from the American Society of Reclamation Sciences upon completion of each degree, both of which has a research component focused on land reclamation and ecosystem services associated with oil and gas development in Wyoming.



In graduate school, Curran worked with 26 oil and gas operators along with numerous State and Federal Government agencies. Between graduating from University of Wyoming and starting Abnova, Curran held a post-doctoral research position studying how to monitor wildlife with drones at Mississippi State University and has become a Certified Ecological Restoration Practitioner and Certified Wildlife Biologist. He also managed a native plant section at a large retail nursery in New Jersey. Through Abnova, Curran works with numerous oil, gas, renewable energy and mining groups as well as with several government agencies to solve simple and complex ecological problems, mostly related to reclamation, threatened and endangered species, and decision management. Nominated by Michele Coleman

2024 ASRS Pioneer in Reclamation – Rick Williams

Rick Williams, founder and president of Williams Forestry and Associates, LLC has been an advocate for diverse, high quality native tree plantings on surface mined lands for over 30 years. Since its inception, Williams Forestry has planted over 500 million trees in the eastern U.S. of which at least 72 million have been planted on mined lands. Rick has always been a staunch advocate for diversity and productivity, having conducted his business in this area in a way that would result in the restoration of the native Appalachian Forest. Often this was done at cost to his business and occasionally at the risk of losing a customer as he pushed to have reclamation performed in a way that gave trees their best chance at thriving. Williams Forestry planted many of the experiments that led to the development of the Forestry Reclamation Approach and Rick instituted a study of his own to test survival and growth of numerous native shrub species to provide better results for his customers and to diversify his planting mixes. Over the years, Rick's clients have won numerous reclamation awards and Rick has always been a great partner to his clients, going above and beyond to help them win these awards. This same quality-first mindset also pervades Rick's personal life. He brings the same work ethic and appreciation of natural beauty to his home farm where he spends his free time with his family and maintaining the farm's beauty and diversity. Nominated by Chris Barton



2024 ASRS Distinction in Reclamation – The Coteau Properties

The Freedom Mine of The Coteau Properties Company is in Mercer County in southwest North Dakota. The Coteau Properties Company is a surface mine that delivers approximately 13-14 million tons of lignite coal annually to three facilities owned by Basin Electric Power Cooperative. Coteau has approximately 49,300 acres in their mining permits authorized by the North Dakota Public Service Commission (PSC), and the mine has reclaimed nearly 35% of their permitted acres. Coteau has three common post mine land uses for the reclaimed tracts; cropland, native grassland, and hay land, and a smaller portion of reclaimed acres are preserved as wildlife enhancement areas.

The Section 6 Wildlife Enhancement Area is 177 acres which contains many wetland features, some undisturbed and some reclaimed; 52 acres of undisturbed native grassland with the remainder seeded to perennially vegetated hay land. The enhancement area will act as an island of diversity within an otherwise large tract of uninterrupted reclaimed cropland and will provide food and cover for waterfowl, grassland birds, shorebirds, and pollinator insects. The Coteau Properties Company partnered with North Dakota 4-H Pollinator Program to provide an educational opportunity for North Dakota youth to help develop and install pollinator plots on reclaimed surface coal mine land. North Dakota 4-H was selected as a candidate for the 4-H Pollinator Habitat program, and eight youth from around the state of North Dakota were selected to participate in the project. Coteau collaborated with the ND 4-H Pollinator Habitat group to provide reclaimed land in Section 6 to establish two pollinator plots. The Coteau Properties Company provided the group with post-mine land use maps, topographic maps, and post reclamation soils information as well as the native grassland seed mixture used in the surrounding reclaimed hay land. The youth group assisted in choosing the locations for the pollinator plots, helping create the seed mixture for the pollinator species, and aided in prepping and loading the seeding equipment. The Coteau Properties Company in conjunction with the 4-H group installed two large pollinator plots within the Section 6 Wildlife Enhancement Area. The pollinator plots are two acres in size and were seeded with pollinator species selected by the youth based on their research. Nominated by Rylan Sundsbak



2024 ASRS Distinction in Reclamation – Jonah Energy LLC

Located in Sublette County, Wyoming, Jonah Energy operates nearly 2,400 natural gas wells within the sagebrush-steppe ecosystem, home to abundant antelope, Greater Sage Grouse, and many other wildlife species. At over 7,000 feet above sea level, with less than 39 frost free days per year and inconsistent precipitation the soils are poorly developed with low organic matter. In one of the harshest environments in the lower 48 states, Jonah Energy has been able to achieve remarkable reclamation results. They've done this by being dedicated stewards of the land on which they operate, through strategic partnerships with universities, consultants, and government researchers, and by adapting their operations to lessons learned through science and on the ground practices. Jonah Energy has shown, despite the harsh climatic and soil conditions, that they can truly leave the land in better shape following reclamation than prior to disturbance. With over 7,300 acres of disturbance, of which 80% has been reclaimed, herbaceous production on average has increased 40%, species richness has increased 77% and wildlife utilization of reclaimed lands from insects to ungulates has increased. In their quest to improve upon existing reclamation, Jonah Energy continues to fund scientific research and has co-authored 3 peer reviewed, published articles. In addition to pushing the envelope for reclamation associated with oil and gas development in the western US, Jonah Energy has implemented cutting edge air and water quality programs, showing a full commitment to environmental responsibility. Nominated by Mike Curran



2024 ASRS Distinction in Reclamation – Peabody Energy/Kayenta Mine

The Kayenta Mine Complex (KMC), which includes mines separately designated as the Kayenta Mine and Black Mesa Mine, is located on Black Mesa in Navajo County, Arizona on lands leased from the Navajo Nation and Hopi Tribe. The Black Mesa is a massive highland in Northeastern Arizona covering approximately 2.1 million acres. Along its northern boundary, the Mesa rises abruptly in a 1,200- to 2,000-foot-high uneven wall then descends gently southward in a plane of rolling hills to the Little Colorado River. Near the northern rim and in some of the canyons there are dense stands of pinyon and juniper trees, forming a dark vegetative cover from which the Mesa derives its name. Most of the Mesa, however, is rolling country covered primarily by a sagebrush shrubland. The Peabody lease covers 64,858 acres on the northern part of the Mesa just south of Kayenta, Arizona. Within the Kayenta



Mine, there are several pit areas, one of which is J19. The J19 pit was mined from 2003 to 2016 and final reclamation was completed in 2022. The spoil ridge created on the edge of the pit during mining had to be placed back into the final pit, which required Peabody to move the backfill several times. This could be achieved most cost effectively with a dragline, and the site committed to reclaiming the pit with the dragline prior to shutting the machine down. A support fleet including dozers, trucks, loaders, scrapers, and excavators also aided with completion of the reclamation from backfilling to drainage construction. The permitted post-mining land uses for KMC are rangeland grazing, wildlife habitat, and cultural plant habitat. To demonstrate that these land uses are being achieved, Peabody manages a sustainable community-based grazing program, conducts annual monitoring to document wildlife use across the mine permit area, and conducts annual vegetation monitoring. In 2019, this reclamation area of the mine received the: "Excellence in Surface Coal Mining and Reclamation Director's Award" from the "Office of Surface Mining and Reclamation Enforcement". This award recognized the importance of the Cultural Plant Habitat and domestic grazing opportunities that the mine had returned to the local indigenous people's life and culture. Nominated by Jen Schlotthau

MONDAY, JUNE 3, TECHNICAL SESSIONS			
*indicates student presenter			
Time	SESSION 1 ARRI: Forestry Reclamation in Appalachia Room 301A Moderator - Sara Klopf	SESSION 1 Bat Conservation and Mine Land Reclamation Room 301C Moderator - Bill Zeaman	SESSION 1 Abandoned Mine Lands (AML): Programs and Projects Room 301E Moderator - Tim Danehy
2:00 p.m. - 2:30 p.m.	"Assessment of American chestnut (<i>Castanea dentata</i>) hybrid stem count, growth, and surrounding vegetation on two reclaimed mines restored using The Forestry Reclamation Approach for soil amendment". Z Griffith, R Homsher, J Chapman, K Gilland, JM Bauman.	"Bat activity on high elevation reforested coal mines in the Monongahela National Forest, WV". B Snyder, C Barton, M Lacki, S Price, Z Hackworth.	"Federally funded coal abandoned mine land (AML) program overview". EE Cavazza.
2:30 p.m. - 3:00 p.m.	"Pond-breeding amphibian response to the Forestry Reclamation Approach and wetland creation on legacy surface coal mines in the Central Appalachians". S Price, L Sherman, J Newman, R Davenport, J Cox, J Larkin, C Barton.	"Is this working? The effectiveness of current mitigation strategies for conserving use of abandoned mines by bats". RE Sherwin, DL Waldien.	"Lessons from Ohio's year one of BIL funding". M Lautzenheiser, C Kinney.
3:00 p.m. - 3:30 p.m.	"Reforestation Pennsylvania's Green Heart: The Continental Divide Reforestation Project". E Oliver.		"Construction of a subsurface fire wall on the Rock Springs No. 9 mine". HJ Hutson.
3:30 P.M. - 4:00 P.M. - BREAK - Ballroom			
Time	SESSION 2 Forest and Rangeland Restoration Room 301A Moderator - Scott Eggerud	SESSION 2 Reclamation Sciences: Broader Conversations Room 301C Moderator - Cassidy Mollick	SESSION 2 Abandoned Mine Lands 2: Programs and Projects Room 301E Moderator - Lee Daniels
4:00 p.m. - 4:30 p.m.	"Mountain rangelands: large-scale, open-range, small ruminant production on reclaimed surface mines in Appalachia". HZ Angel, KM Andries, FW Harrelson, NL Haan, J Lay, PN Angel.	"From mining reclamation to reclamation sciences: expanding the scope and influence of ASRS". RW Nairn, JA LaBar.	"The Banning/West Newton Coal Logistics Coal Refuse Pile Reclamation Project Rostraver Township, Westmoreland County, Pennsylvania". EE Cavazza.
4:30 p.m. - 5:00 p.m.	"Only 5% of mining disturbed forest successfully reclaimed in the Amazon for the past three decades". W Xiao, T He, W Chen.	"ASRS-II: reclamation without borders". B Schladweiler, Y Chugh.	"Carissa Gold Mine: Making an Abandoned Mine into a State Park". B Drake, G Robson.
5:00 p.m. - 5:30 p.m.	"Identifying metrics of ecosystem recovery on reclaimed minesites in eastern hardwood forests". I Kennedy*, J Franklin, D Buckley, K Sena.	"Reclaiming Communities through National Service". AE Badtke, P Silva, J Micahel.	"Strategic Planning Tools for Abandoned Mine Void Subsidence Mitigation". M Bautz, D Hibbard

MONDAY JUNE 3 EVENTS

Social Event and Dinner at the Museum of Appalachia 6:00 p.m. - 10:00 p.m.

Please reserve your spot on the first bus, leaving the Convention Center at 6:00 p.m., or the second bus, leaving the Convention Center at 7:00 p.m. Busses will return at 9:00 or 10:00. A sign-up sheet is located at the registration desk. Join us for a catered dinner and drinks on the grounds of the Museum of Appalachia. Stroll through the 65 acre grounds and 35 buildings full of pioneer and Native American artifacts in this Smithsonian affiliated museum.

Tuesday, JUNE 4, 2022 AGENDA

6:30 a.m. - 7:30 a.m.

6:30 a.m. - 8:30 a.m.

7:00 a.m. - 8:15 a.m.

7:30 a.m. - 5:00 p.m.

8:00 a.m. - 7:00 p.m.

8:00 a.m. - 4:00 p.m.

8:15 a.m. - 6:00 p.m.

8:30 a.m. - 10:00 a.m.

10:00 a.m. - 10:30 a.m.

10:30 a.m. - 12:00 p.m.

11:30 a.m. - 12:00 p.m.

12:00 p.m. - 1:30 p.m.

1:30 p.m. - 3:00 p.m.

3:00 p.m. - 3:30 p.m.

3:30 p.m. - 5:30 p.m.

5:00 p.m. - 5:30 p.m.

5:00 p.m. - 5:30 p.m.

5:30 p.m. - 7:15 p.m.

7:30 p.m. - 9:00 p.m.

Haulin' ASRS

Breakfast - Ballroom

Wild Women of Reclamation - Room 301A

Registration - Convention Center Lobby

Exhibitors - Ballroom

ARRI Reforestation Professional Tour

Silent Auction - Room 301B

Technical Presentations

Break - Ballroom

Technical Presentations

Soils Technical Division Meeting - Room 301A

Buffet Lunch - Ballroom Lunch Speaker: Matt Drury

Stream Restoration Professional Tour

Break - Ballroom

Technical Presentations:

Wildlife Technical Division meeting - Room 301A

Engineering and Construction Technical Division meeting - Room 301A

Poster Presentations - Ballroom

Film Festival - Second Floor Theater

LUNCH SPEAKER

Matt Drury: Matt was born in Louisville, KY and moved down to Western North Carolina in 1997 to attend Warren Wilson College, where he studied Environmental Studies with a Sustainable Forestry Concentration. He has worked in ecological restoration, environmental education, forestry, wildland fire, trails, and ornithology for a variety of governmental, private, and non-profit organizations across the US. Matt also spent 3.5 years in Peace Corps Vanuatu primarily working in agro-forestry and conservation. Most recently Matt was the Yancey County Ranger with the North Carolina Forest Service. Matt's primary responsibilities with ATC are invasive exotic plant control, vegetation management in open areas and grassy balds, wildlife habitat management, and forest health and protection work including high-elevation spruce-fir restoration and protecting ash trees against the emerald ash borer.



TUESDAY, JUNE 4, TECHNICAL SESSIONS

Time	SESSION 3 Reclaiming Soils in Appalachia Room 301A Moderator – Aliching Marma	SESSION 3 Mercury Site Remediation Room 301C Moderator – Stephen McCord	SESSION 3 Urban Restoration Room 301E Moderator – Kenton Sena
8:30 a.m. - 9:00 a.m.	“Harnessing biosolids to reclaim mine lands: Case studies from Appalachia”. R Cherwinski, S Liebl.	“Mercury mine site remediation using a novel powder product”. S McCord.	“Restoring University Drive: An urban campus restoration story.” K Sena, C Samuelson, H Dockery.
9:00 a.m. - 9:30 a.m.	“On The Use of Biochar As Soil Amendment”. A Hass, R Cantrell.	“Use of MercLok™ P-640 to reduce elemental mercury beads and remediate highly contaminated mining wastes”. C. Fontenot, J. Miller, K. Pingree.	“Botanical index of the reclamation of an urban limestone barrens”. DR Holdridge*, JA Franklin.
9:30 a.m. - 10:00 a.m.	“Classification and land use potentials of two reclaimed mine soils in Virginia”. HZ Angel, WL Daniels, RD Stewart, ZW Orndorff, D Johnson, JM Galbraith.	“Application of a polymeric equilibrium-based passive sampler for methylmercury to measure a sediment porewater depth profile.” J Diamond*, U Ghosh, C Gilmour	“Riparian Repairing: Effects of conservation efforts on microbial communities and soil characteristics”. CR Samuelson*, H Dockery, K Pham, L Moe, K Sena.
10:00 A.M. - 10:30 A.M. - BREAK - Ballroom			
Time	SESSION 4 Soils and Vegetation Room 301A Moderator – Hannah Angel	SESSION 4 Metals in Freshwater Systems Room 301C Moderator – Steve Dent	SESSION 4 Understanding and Mitigating Acid Drainage Room 301E Moderator – Gwen Geidel
10:30 a.m. - 11:00 a.m.	“Soil stockpile age does not impact vegetation establishment in a cold, arid natural gas field”. M Curran, J Sorenson, T Robinson.	“Implications on Periphyton as a Relevant Methylation Source in Mercury Contaminated Aquatic Ecosystems and its Potential Use as a Passive Sampler”. S Dent	“Investigation of acidic discharges at the Monahan abandoned mine lands site, Kansas”. P Behum, M Spence, J Arruda, R Johnson, C Kiser.
11:00 a.m. - 11:30 a.m.	Soils Technical Division Meeting	“Trace Metal Bioaccumulation in Planted Vegetation of a Mine Drainage Passive Treatment System and Potential Ecological Risk”. OJ Mitchell*, LH Olson, RW Nairn.	“Management of acid-forming sediments at the Stafford Airport expansion project in Virginia”. WL Daniels.
11:30 a.m. - 12:00 p.m.		“The Use of Terrestrial Laser Scanning to Assess the Mobilization of Contaminated Creekbank Soils in Oak Ridge, Tennessee”. T Musante, M Mayes, K Lowe, A Johs.	“Treating mine drainage in batch: greater efficiency and cost savings”. T Tasker, B Roman, J Eckenrode, N Himes, H Warner, B Neely, C Denholm, W Strosnider, J LaBar, T Danehy.
12:00 P.M. - 1:30 P.M. - LUNCH - Ballroom			
Time	SESSION 5 Biodiversity and Ecology Room 301A Moderator – Joshua Sorenson	SESSION 5 Uranium Mine Reclamation Room 301C Moderator – Paul Griswold	SESSION 5 Mitigating Acid Mine Drainage Room 301E Moderator – Travis Tasker
2:00 p.m. - 2:30 p.m.	“Reclamation of natural gas well pads and pipeline right-of-ways to create biodiversity hotspots and ecological corridors.” M Curran	“Novel approaches to dryland reclamation enhance vegetation and soil stability at a former uranium mine”. KD Eckhoff, RK Mann, S Munson, K Walton-Day, JE Hinck, MC Duniway.	“Sandy Creek restoration - the tale of two acid mine drainage treatment systems”. B Fancher
2:30 p.m. - 3:00 p.m.	“Red Spruce Restoration and Ash Protection on the Appalachian Trail”. M Drury.	“Shirley Basin Investigative Geotechnical Drilling Design and Construction”. C Sloan, M Gentry.	“Use and regeneration of hydrochar as a metal sorbent from acid mine drainage”. S Jamshidifard, N Kruse Daniels
3:00 p.m. - 3:30 p.m.	“Future Restoration Priorities based on 50 Years of Lessons Learned in the NJ Meadowlands”. T Doss.	“Enhancing geomorphic reclamation through 3d soil modeling: insights from an abandoned uranium mine in Wyoming”. S Cude.	“NPDES Compliance with Passive Treatment for Acid, Iron, Manganese, and Aluminum-bearing AMD - A Four Year Performance Evaluation”. T Danehy, D Guy, R Mahony, C Neely, D Clayton.

3:30 P.M. - 4:00 P.M. - BREAK - Ballroom			
Time	SESSION 6 Remediation and Restoration Room 301A Moderator – Brandon Holzbauer-Schweitzer	SESSION 6 Engineering and Construction Room 301C Moderator – Paul Griswold	
4:00 p.m. - 4:30 p.m.	“From Remediation to Restoration: A Tar Creek Story”. S King.	“Use of industrial residuals and earthworks in the reclamation of abandoned aggregate pits”. P Beckett, J Lavigne, M Hebert, G Spiers, N Basiliko, O Baudet, R Rochon.	
4:30 p.m. - 5:00 p.m.	“Nature-based solutions linking reclamation, environmental remediation, ecological restoration, and sustainable resource extraction”. RW Nairn, DM Dorman, JI McCann, LH Olson, HN Seago, CM Morgan, NL Shepherd, RC Knox.	“Progress and prospect of coal mined land reclamation in China”. Z Hu, Z Mao.	
5:00 p.m. - 5:30 p.m.	Wildlife Technical Division Meeting	Engineering and Construction Technical Division meeting	
5:30 p.m.- 7:15 p.m. – Poster Session - Ballroom			
“Land cover accounting of appalachian surface mines”. DJ Putnam, RH Wynne, VA Thomas.			
“Preserving the Past, Nurturing the Future: Inorganic Fertilizers and the Role of Phosphorus and Potassium in Native Prairie Restoration”. K Hays, DB Arnall, L Goodman, R Sharry, J Derrick, S Akin.			
“Thin Section Petrographic Optical Analysis of Sandstones from the Central Appalachian Coalfields”. D Johnson, W Daniels, K Eriksson.			
“Riparian Repairing: Effects of conservation efforts on microbial communities and soil characteristics”. CR Samuelson, H Dockery, K Pham, L Moe, K Seha.			
“Sulfate-reducing bioreactor for acid mine drainage treatment using hydrochar as an amendment”. A Marma, B Madden, N Kruse Daniels.			
“A Study of Groundwater Conditions within the Abandoned Underground Coal Mines of Hanna, Wyoming”. J James, D Hibbard, A Schlattmann.			
“Effects of forest reclamation on avian occupancy, species richness, and abundance within Appalachian reclaimed surface mines”. M Varias, R Davenport, C Barton, J Cox, L Sherman, J Larkin, T Fearer, S Price.			
7:30 p.m.- 9:00 p.m. – Film Festival – 2 nd Floor Theater			

TUESDAY JUNE 4 EVENTS

Wild Women of Reclamation

7:00 a.m.- 8:15 a.m. – Room 301A

Every woman is welcome. Previous topics - choosing your own path, mentoring, starting a business, and juggling a career with family and community obligations. Coffee, tea, and pastries will be provided.

ARRI Reforestation Tour (pre-registration required)

8:00 a.m. – 4:00 p.m.

Meet in the lobby of the Convention Center. We will visit The Nature Conservancy Ataya property about 75 miles north of Knoxville to see areas of various ages reclaimed using the Forestry Reclamation Approach.

Knoxville Stream Restoration

1:30 - 3:00 p.m. – Registration Desk

Meet in the Convention Center lobby in front of the registration desk for a 1.5 mile walk along the Second Creek Greenway. The University of Tennessee Stormwater Management team will give an overview of the completed upper section of Second Creek, and plans for restoration of the lower section which will begin in 2024. Students with the Society for Ecological Restoration will give an update on student-led vegetation improvement projects.

Poster Session Networking Event

5:30 p.m.- 7:15 p.m. - Ballroom

Poster presentations will be on display with authors after the technical sessions. Food and cash bar.

Reclamation Film Festival

7:30 p.m. - 9:00 p.m. - Theater

Join us for the Third Annual Reclamation Film Festival. We will bring reclamation-related topics to you via short (~2-10 minute) films highlighting exciting and intriguing reclamation projects. Awards will be presented to the best in show in Pro and Amateur/Student Categories.

Wednesday, JUNE 5, 2022 AGENDA

6:30 a.m. - 7:30 a.m.

Haulin' ASRS

7:30 a.m. - 8:30 a.m.

Breakfast - Ballroom

7:30 a.m. - 12:00 p.m.

Registration – Convention Center Lobby

7:30 a.m. - 8:30 a.m.

Reclamation Sciences Editorial Board Meeting, Room 301E

8:00 a.m. - 6:00 p.m.

Exhibitors – Ballroom

8:00 a.m. - 11:00 a.m.

Silent Auction Last Day – Rm 301B - Winners announced at lunch

8:30 a.m. - 10:00 a.m.

Technical Presentations

9:30 a.m. - 10:00 a.m.

Vegetation Technical Division Meeting – Room 301C

10:00 a.m. - 10:30 a.m.

Break - Ballroom

10:30 a.m. - 12:00 p.m.

Technical Presentations

11:30 a.m. - 12:00 p.m.

Technology Technical Division Meeting – Room 301A

11:30 a.m. - 12:00 p.m.

Water Technical Division Meeting – Room 301E

12:00 p.m. - 1:30 p.m.

Buffet Lunch – Student Awards/Silent Auction - Ballroom

2:00 p.m. - 5:00 p.m.

Quarry Restoration Professional Tour

4:15 p.m. – 5:15 p.m.

NEC Meeting – Henley Meeting Room

6:00 p.m. - 9:00 p.m.

Early Career Professional Event

WEDNESDAY, JUNE 5, TECHNICAL SESSIONS

Time	SESSION 7 Technology for Reclamation Planning and Monitoring Room 301A Moderator – Jenise Bauman	SESSION 7 Reclamation in Diverse Settings Room 301C Moderator – Michele Coleman	SESSION 7 Hydrologic Applications for Reclamation Challenges Room 301E Moderator – Paul Behum
8:30 a.m. - 9:00 a.m.	“Long-term monitoring strategies for ecological reclamation programs using spatially balanced rotating panel designs”. M Curran, B Robertson, T Robinson.	“A River Runs Through It; Restoration of a Highly Contaminated Site in Central New Jersey”. W Young.	“Metal Loads Accounting at a Legacy Mine Site: The Tar Creek Watershed, Oklahoma, USA”. JI McCann*, RW Nairn.
9:00 a.m. - 9:30 a.m.	“Using a construction-grade drone to map stream and wetland restoration sites”. L Kijek*, C Mollick, N Kruse Daniels, S Teas, N Sullivan.	“Solar-farm grass establishment on the edge of the Mississippi Delta”. W Stark*, BR Stewart, JD McCurdy.	“Treatment and reclamation planning in Rehobeth, Rush Creek, Ohio”. N Kruse Daniels, J Bowman, RG Riefler.
9:30 a.m. - 10:00 a.m.	“Employing machine learning and UAS for effective autumn olive treatment on reclaimed surface mines”. S Keane*, P Kinder, M Strager, W Veselka.	Vegetation Technical Division meeting	“Fill type and hold time impacts to limestone-only automatic-flushing vertical flow pond performance”. CA Neely, TP Danehy, DA Guy, RM Mahony.
10:00 A.M. - 10:30 A.M. - BREAK - Ballroom			
Time	SESSION 8 Technology for Reclamation Planning and Monitoring 2 Room 301A Moderator – Ryan Mahony	SESSION 8 International Perspectives Room 301C Moderator – Brenda Schladweiler	SESSION 8 Hydrologic Applications for Reclamation Challenges 2 Room 301E Moderator – Terry Schmidt
10:30 a.m. - 11:00 a.m.	“Use of Telemetry at a Passive Treatment System to Monitor Flow, pH, and Water Level”. D Guy, T Danehy, C Neely, L Hauck, R Mahony.	“A short history of changes in reclamation of Central Appalachian coal mined lands over the last 45 years”. L Daniels	“A Study of Groundwater Conditions within the Abandoned Underground Coal Mines of Hanna, Wyoming”. J James, D Hibbard, A Schlattmann.
11:00 a.m. - 11:30 a.m.	“Spatially explicit dashboards as a tool to enhance project management and decision making in reclamation”. M Curran.	“Community engagement as a key requirement for integrated mine closure. Coal mines in South Africa a Case Study”. J Pryor, L Ratsoenyane.	“Upper He Creek hydraulic and hydrogeologic control solutions in east central Tennessee”. TW Schmidt.
11:30 a.m. - 12:00 p.m.	Technology Technical Division meeting	“Coal mine closure practices in China: an overview”. J Li, Y Chugh, Z Hu.	Water Technical Division meeting
12:00 P.M. - 1:30 P.M. – LUNCH and Student Awards - Ballroom			

STUDENT AWARDS

Anna Vietmeier

Anna is a 5th year PhD candidate at Duquesne University in the laboratory of Dr. Nancy Trun, and earned both her BS and MS 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 (DOE) National Energy Technology Laboratory (NETL) Oak Ridge Institute for Science Education (ORISE) fellowship, Anna has collaborated with the laboratory of Dr. Djuna Gulliver to investigate the ability of harnessing 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.



Aliching Marma

Aliching Marma is a second-year master's student in 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 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 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.



Scotland Souders

Scotland Souders 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, TX.



WEDNESDAY JUNE 5 EVENTS

Wednesday, June 5 - Quarry Restoration

2:00 p.m. - 5:00 p.m. - Professional Tour

Vans will depart from the lobby of the convention center every half hour from 2:00 p.m. until 3:30 p.m. for Ijams Nature Center, approximately 15 minutes' drive from downtown. The first stop will be at "The Crag", a reclamation of an industrial lime packing facility. You may take the van to the second stop, or walk. The trail is approximately 1.5 miles, and of moderate difficulty. The second stop is a former quarry which has been turned into a recreational area for swimming, kayaking, and biking. After a short presentation by Ijams Nature Center staff, you can catch the next van back to the convention center, or stay and enjoy the area until the last van leaves at 5:00 p.m.

Early Career Professional Event

6:00 p.m. - 9:00 p.m.

Join us at the Firefly Lounge on the first for an evening of networking! The Firefly is located on the first floor of the Hilton Hotel. Light snacks will be provided along with a cash bar.

WEDNESDAY JUNE 5 EVENTS

Copper Basin Reclamation (pre-registration required)

8:00 a.m. - 5:00 p.m. - Professional Tour

8:00 Board bus for Ducktown, TN, about 90 miles south of Knoxville.

10:15 Arrive at the Ducktown Mining Museum.

11:00 Depart for Burra Burra Creek to see constructed wetlands for the treatment of acidic drainage

12:00 Lunch at the Hoist House

1:00 Visit London Mills tailings pond, and tour tailings management areas

2:30 Depart for Knoxville