

NAAML P

NATIONAL ASSOCIATION OF ABANDONED MINE LAND PROGRAMS

NEWSLETTER
Spring 2019 Vol. 41 No. 1

INSIDE

President's Message
NAAML P 2019 Conference3
Hotel Information4
Pre-Conference Tours5
Flight 93 Tour7
Fallingwater Tour.....8
Carrie Blast Furnace Tour9
Botanic Garden Tour10
Meghan McDonald10
Article from the Society
of Women Engineers

UPCOMING MEETINGS

2019 NAAML P CONFERENCE
Pittsburgh, PA Sept. 8 - 11

MISSION STATEMENT

1. To provide a forum to address current issues, discuss common problems and share new technologies regarding abandoned mine land reclamation;
2. To foster positive and productive relationships between the states and tribes represented by the Association and the federal government;
3. To serve as an effective, unified voice when presenting the states'/tribes' common viewpoints; and
4. To coordinate, cooperate and communicate with the Interstate Mining Compact Commission and all other organizations dedicated to wise use and restoration of our natural resources.

Dear Membership,

It feels like just yesterday we were together in beautiful Southern Utah. Thank you to Steve, Dana, Jan and the rest of the Utah staff for the location and logistics, the meeting was outstanding. I am looking forward to seeing everyone in [Pittsburgh in September](#). Four months seems far away, but there is a lot of work to do between now and then.

I was excited by each State and Tribe's strides in preparing informational materials needed for Reauthorization efforts. I was particularly impressed by Oklahoma's materials and effort to reach out to the National Association of Conservation Districts. I urge you to continue to update your outreach materials, add information to [Our Work's Not Done](#) and get out there to inform the public and our partners of the importance of abandoned mine land reclamation.

Before I get too caught up in the future, I do want to take some time to reflect.

Shortly after the winter meeting, we lost a beloved colleague, [Jim Stephens](#). I am so glad we took the time to celebrate his accomplishments and retirement in Utah. He passed away on March 10, 2019. Jim dedicated his adult life to working for the State of Arkansas. He was a reliable and wise member of NAAML P. He will be missed.



Chuck Williams has officially retired. I think of him often and hope that he is enjoying his well-deserved retirement. He assured me before he left that he was leaving the Alabama AML Program in capable hands. Good luck to Jeff, Dustin and Les and we look forward to your contribution to NAAML P.

Finally, we are all still reeling from the announcement that Ryan Ellis is leaving IMCC to pursue a Master's Degree in Public Policy at the University of California San Diego. I know that he struggled with the decision to leave because he wanted to see the AML Program reauthorized, but he assured me he will be cheering from the sidelines. With all of my respect and gratitude, I want to thank Ryan for his years at IMCC and wish him the best. I am confident we have not heard the last from him. I promise that I will continue to work toward the passage of the Community Reclaimers Partnership Act. Thank you, Ryan.

It is important that we all take time to acknowledge our colleagues and celebrate successes. The National Association of Abandoned Mine Land Programs (NAAML) is requesting nominations for the third annual Hardrock Abandoned Mine Land Reclamation Awards. Nominations are due June 14, 2019 to NAAMLPhardrock@utah.gov. Visit www.NAAML.net for details on submittal requirements and judging. Nominations for the [Stan Barnard Memorial Award](#) for outstanding dedication, commitment, and hard work toward the enhancement of the Association are due to me by June 30, 2019 and nominations for the [Dave Bucknam Instructor Award](#) honoring those outstanding instructors for NTTP is due to me by June 15, 2019.

Abandoned Mine Lands in Congress

Community Reclaimers Partnership Act

Rep. LaHood introduced CRPA ([H.R. 315](#)) in January. The Committee Consideration and Mark-up Session was held on [May 1, 2019](#) along with RECLAIM. The passage of this bill would authorize partnerships between States and nongovernmental entities for the purpose of reclaiming and restoring land and water resources adversely affected by abandoned coal mining activities. We are looking forward to see this bill be considered by the full chamber of the House.

RECLAIM Act of 2019

The RECLAIM Act of 2019 has been introduced in both the House ([H.R. 2156](#)) and Senate ([S. 1232](#)). House Natural Resources held a full committee markup of [H.R. 2156](#) on [May 1, 2019](#). The Association is tracking the progress of the bills and their potential impact on Reauthorization legislation.

Reauthorization

Senator Manchin (D-WV) has introduced legislation to reauthorize the AML fee for 15 years (to 2036) at the current rate. Senator Manchin is joined by Senators Jones (D-AL), Warner (D-VA), Kaine (D-VA), and Duckworth (D-IL) as co-sponsors for the bill, which is titled, "the [Abandoned Mine Land Reclamation Fee Extension Act](#)". *"The success of the AML fund is unquestionable. Since the creation of the program, we have seen 800,000 acres of damaged land and water reclaimed. It is our responsibility to leave the land in as good or better shape than we found it, and AML funding is a crucial resource in that effort. I am proud to lead the charge to extend the AML fees to ensure we can continue restoring abandoned mine lands to make them safer and more inhabitable for our coal communities,"* Senator Manchin said. I use the [Govtrack](#) website to track bills of interest, here is the [Reauthorization Act \(S. 1193\)](#). The Association is excited to see the legislation introduced and hopes for progress through both the Senate and the House. We are grateful IMCC's hard work on all of this legislation.

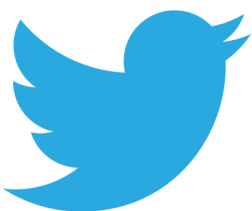
I would like to extend a huge THANK YOU to Eric Cavazza, for representing NAAML during the recent House Natural Resources Hearing on [Abandoned Mine Land Reclamation: Innovative Approaches and Economic Development Opportunities](#). *"All of the states and tribes involved in the AML program, spanning from east to west, have ongoing need for the AML program. Due to the way that regional circumstances differ throughout the country and the variety of AML impacts, AML programs are adapted to serve their citizens in the ways needed most."* Eric hit home the need for Reauthorization to all of the States and Tribes regardless of regional differences and delivered a clear message that NAAML and IMCC are lock step in the push of continued funding of the AML Programs.

Finally, in rather exciting news, we are on twitter now [@NAAML](#). Thank you, Pennsylvania, for bringing us into the social media age.

Kind Regards,



Autumn Coleman
NAAML President



[@NAAML](#)

[#RestoreTransformRevitalize](#)

[#NAAML2019](#)

[#AbandonedMineLand](#)

Looking Forward to Seeing Everyone in Pittsburgh for the 41st NAAML P Conference!

The National Association of Abandoned Mine Land Program's (NAAML P) 41st Annual Conference will be conducted jointly with the 2019 Pennsylvania Abandoned Mine Reclamation Conference (PA AMR), the 21st Annual, and the National Association of State Land Reclamationists' (NASLR) 47th Annual Conference.

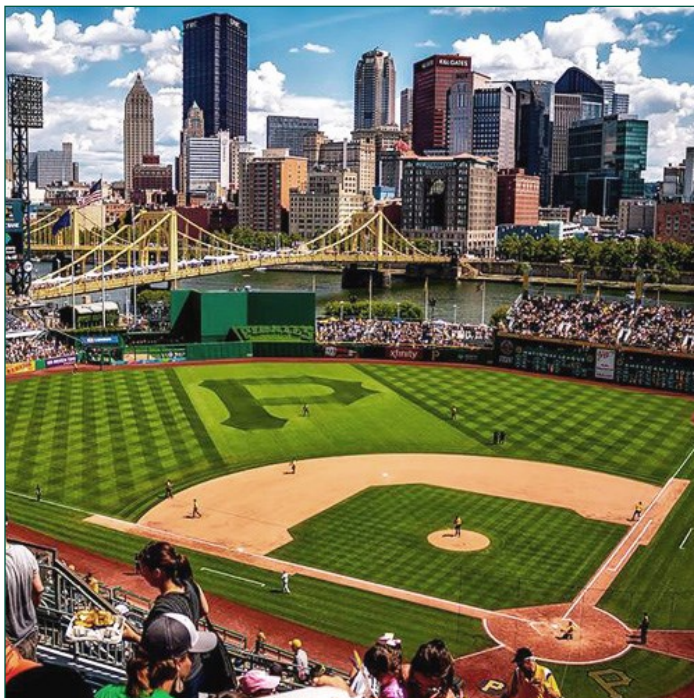
The conference theme is Restore-Transform-Revitalize

The conference will be held at the Wyndham Grand Downtown Pittsburgh Hotel and will run Sunday evening, September 8th, through Wednesday September 11th. It will kick off with a welcome reception Sunday evening. Monday, September 9th, will begin with the opening plenary session including a panel discussion on Reauthorization of the AML Program followed by technical presentations.

The first full day of the conference will conclude with the annual awards banquet. Field trips on Tuesday, September 10th, will feature a variety of AML, AMD and unique Pennsylvania historical and cultural stops that are sure to both educate and entertain. Tuesday will conclude with a dinner cruise on Pittsburgh's three rivers aboard the Gateway Clipper Fleet's Empress Riverboat. Wednesday, September 11th, the conference will wrap up with additional technical sessions including presentations about the national award-winning reclamation projects.

The technical sessions will provide a valuable exchange of information on issues specific to those involved in mine reclamation, mine drainage abatement and/or treatment, and mine reclamation policy and current issues. The networking opportunities between federal, state and local government officials; design consultants; watershed groups; NGO's; contractors; equipment manufacturers; and suppliers are sure to be key components of the Conference.

For those interested in seeing more of Pittsburgh, a variety of preconference tours have been developed including: Wednesday, September 4th – Museum Tour; Thursday, September 5th – Art/ Nature Tour; Friday, September 6th – Pittsburgh Professional Sports Stadiums Tour; and Saturday, September 7th – AML/AMD Tour & Pittsburgh Pirates vs. St. Louis Cardinals Game Social.



PNC Park



The Wyndham Grand is located at the Point in the Golden Triangle of Pittsburgh where the Allegheny and Monongahela Rivers combine to form the Ohio River. While attending the conference, you will be able to experience all the excitement Pittsburgh has to offer. From museums, to outdoor activities, to cultural discoveries, to sporting events, Pittsburgh's bustling downtown landscape offers entertainment for all tastes. The Wyndham is located just 17 miles from the Pittsburgh International Airport and right across the street from the picturesque 36-acre Point State Park. The hotel is located within easy walking distance to Market Square, PPG Paints Arena (home of the Penguins), the Pittsburgh Light Rail station, and Pittsburgh's bustling North Shore where, among the many restaurants, shops and clubs, Heinz Field (home of the Steelers) and PNC Park (home of the Pirates) are located. Pennsylvania is pleased to be the venue for this joint conference and our organizations, NAAML P, PA AMR, and NASLR, jointly welcome you to the Commonwealth.

Visit www.naamlp2019.com for more information

Attendance at the Saturday pre-conference tour is not required to attend the game. If you are interested in attending the game, please contact [Pat Webb](mailto:PatWebb@Tours@NAAML P2019.com) at Tours@NAAML P2019.com

Eric Cavazza, Director
Pennsylvania Department of Environmental Protection
Bureau of Abandoned Mine Reclamation

Wyndham Grand Pittsburgh Downtown



We are delighted to be hosting this year's conference at the [Wyndham Grand Pittsburgh Downtown](#). The hotel is within sight of Point State Park, where Pittsburgh's famed three rivers meet, and is within walking distance of all of Pittsburgh's major sports and entertainment venues, the Cultural District, and endless dining and shopping. Key amenities offered by Wyndham Grand include free shuttles to local attractions, WiFi, an indoor pool, and restaurant.

**600 Commonwealth Place, Pittsburgh, PA 15222,
Telephone: 412-391-4600.**



The draw for residents and visitors alike is powerful, from the Pittsburgh Cultural District and its many theaters and restaurants and nightspots to the newly renovated Market Square with its European piazza flair, offering a charming and lively meeting spot throughout the day—and home to a weekly Farmer's Market and more events in the summer. No matter your style, there are always things to do in Downtown Pittsburgh.

Getting to the hotel

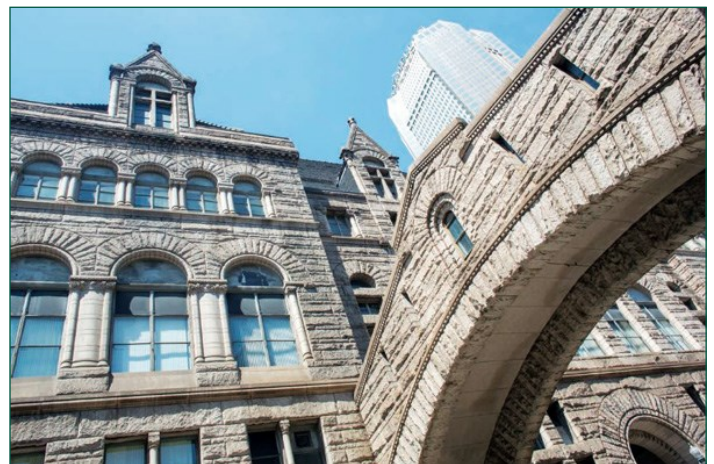
From the North: Travel I-79S, merge onto I-279 S to Pittsburgh. Exit 1A on left to Ft. Duquesne Boulevard. Turn right at Stanwix Street. Stay right on Penn Avenue. Turn right onto Commonwealth Place.

The conference rate is \$129.00 per night (plus taxes and fees). The block of rooms at this rate extends from September 3rd through September 15th 2019. Reservations must be made prior to August 6, 2019. The rate for qualifying state and federal government employees will be the prevailing government per diem rate.

Reservations in our reserved block of rooms are being accepted now and can be made by following this link:

[NAAML 2019 Conference](#)

Cancellations made within 24 hours prior to arrival will forfeit one night's room and tax.



From the South: Travel I-79N, merge to I-376 E via exit 59A to Pittsburgh. Take exit 70A to Liberty Avenue. Turn left onto Commonwealth Place.

From the East: Travel I-376W, exit 70D on left to Stanwix St. Turn left at Ft. Pitt Blvd. Turn right onto Commonwealth Place.

From the West: Travel I-376 E, exit 70A to Liberty Avenue. Turn left onto Commonwealth Place.

From the Airport: Go North on Airport Blvd and bear slight left to exit Airport. Take I-376E towards Pittsburgh to I-279N. Exit at 70A for PPG Paints Arena and take Blvd of Allies/Liberty Avenue exit. Make left at the end of the ramp onto Commonwealth Place.

Pre-Conference Tours

[Mount Washington](#) - Enjoy a scenic incline ride and a fantastic view of the city skyline atop Mount Washington. The Monongahela Incline is located in Station Square, near the T-station. Station Square has many restaurants and bars that include a Brazilian steakhouse, Hard Rock Café, The Melting Pot, Joe's Crab Shack, and Buca di Beppo, an Italian family style cuisine. At the top of the Monongahela Incline, there are micro diners, casual restaurants, and bars.

[The Monongahela Incline](#) ride is included in the Wednesday through Friday pre-conference tours only.



Wednesday September 4th - Museum Tour

[Heinz History Center](#) is devoted to the history and heritage of Western PA. The center is Pennsylvania's largest history museum and a proud affiliate of the Smithsonian Institution. There are more than 40,000 artifacts that document the lives of Western Pennsylvanians over the past 250 years. Within the History Center, is the Western Pennsylvania Sports Museum, which celebrates Western PA's sports legacies.

[Carnegie Museum of Art](#) collects, preserves, and presents artworks from around the world to inspire, sustain, and provoke discussion, and to engage and reflect multiple audiences. It is arguably the first museum of contemporary art in the United States, boasting 30,000 objects featuring a variety of spectrums that include paintings, sculptures, drawings, photographs, architectural casts, renderings and models, film and video imagery, and decorative arts and design.



[Carnegie Museum of Natural History](#) is among the top natural history museums in the U.S. It maintains, preserves, and interprets an extraordinary collection of artifacts, objects, and scientific specimens used to broaden understanding of evolution, conservation, and biodiversity.

The incline ride to Mount Washington is included with this tour.

Thursday September 5th - Art/Nature Tour

[Andy Warhol Museum](#) - Andy Warhol was an American artist, director, and producer who was a leading figure in the visual art movement known as pop art. The Andy Warhol Museum tells Andy Warhol's story and explores his legacy through the largest collection of Warhol art and archives in the world. Admission includes all permanent and special exhibitions, daily film screenings, daily gallery talks, and The Factory. Café and gift shop are located at the museum.

[The National Aviary](#) is America's only independent indoor nonprofit aviary in the United States. The National Aviary features more than 500 birds of 150+ unique species from around the world. Experience local butterfly species up-close as they flutter around you in a specially designed outdoor tent in the Rose Garden. Meet a sloth! Daily feedings are included with admission but times vary daily. Additional interactive encounters are available at your personal expense and vary daily.



[Randyland](#) is the home of artist, Randy Gilson, who bought Randyland on a credit card in 1995. Every day after waiting tables, he came home to paint and bring happiness to his neighborhood. Now people travel all over to share his dream. Visitors are welcome to come and explore the public art displays in and around the property. Using paints, plants, plastic animals, yard sale finds, and discarded construction materials, creator Randy has transformed his home and surrounding buildings into a colorful Pittsburgh landmark.

The incline ride to Mount Washington is included with this tour.

Friday September 6th - Sports Tour

[Heinz Field](#) is the home of the Pittsburgh Panthers and 6-time Superbowl Champs, the Pittsburgh Steelers. Tours provide guests with a 90 minute behind-the-scenes look into the FedEx Great Hall including the new Hall of Honor, club, luxury suites, press box, field and much more!

[All guests must adhere to the stadium security policies.](#)

[PNC Park](#), home of the Pittsburgh Pirates! Tours highlight the dugout/warning track, batting cages, Pop's Plaza, Pittsburgh Baseball Club, luxury suites, press box, and legacy theater. All areas are subject to change without notice.

Tours are wheelchair and stroller accessible.

[All guests must adhere to the stadium security policies.](#)



Heinz Field



[PPG Paints Arena](#) is the home of the 5-time Stanley Cup Champions, the Pittsburgh Penguins. The tour provides guests with an exclusive look at all seating levels, the KeyBank Captain Morgan and Lexus Clubs, a Jim Beam Make History suite, select locker rooms and more! Tours also highlight the environmentally friendly components of the building that qualified PPG Paints Arena to become the first NHL Arena to receive LEED Gold Certification.

The incline ride to Mount Washington is included with this tour.

Saturday September 7th - AML/AMD Tour and Pirates Game Social

Saturday morning, transportation will leave from the Wyndham Grand and travel to the [Lancashire No. 15 AMD Treatment Plant](#), which is an active treatment plant, restoring approximately 25 miles of the AMD impaired West Branch Susquehanna River. The treatment plant has the capacity to treat up to 10 million gallons per day (MGD). Our next site is the [Cresson AMD Treatment Plant](#), which is under construction, but once complete will treat up to 6 MGD of AMD, restore 21 miles of stream, and provide supplemental flow to the Susquehanna River Basin. The last site of the day is the [Ehrenfeld 2016 AML Pilot Site](#). The active construction project is reclaiming a 62-acre AML site comprised of over 3.2 million tons of coal refuse material that is leaching highly acidic material into the Little Conemaugh River. The refuse material is being excavated, transported and disposed of in an active surface mine permit.

Evening - [Pirates Game](#)

Take me out to the ball game! Saturday evening, watch as the Pittsburgh Pirates take on the Saint Louis Cardinals in one of the most scenic ballparks in the United States. Group tickets will be included in the registration price.

The AML/AMD Tour will return to the Wyndham Grand before the start of the Pirates game at 7:05 p.m.

The incline ride to Mount Washington is NOT included with this pre-conference tour.

[Pre-Conference Tour - Attraction Entrance Fees](#)



Lancashire No. 15 AMD Treatment Plant

Tour 1 - Flight 93 National Memorial



United Flight 93 National Memorial

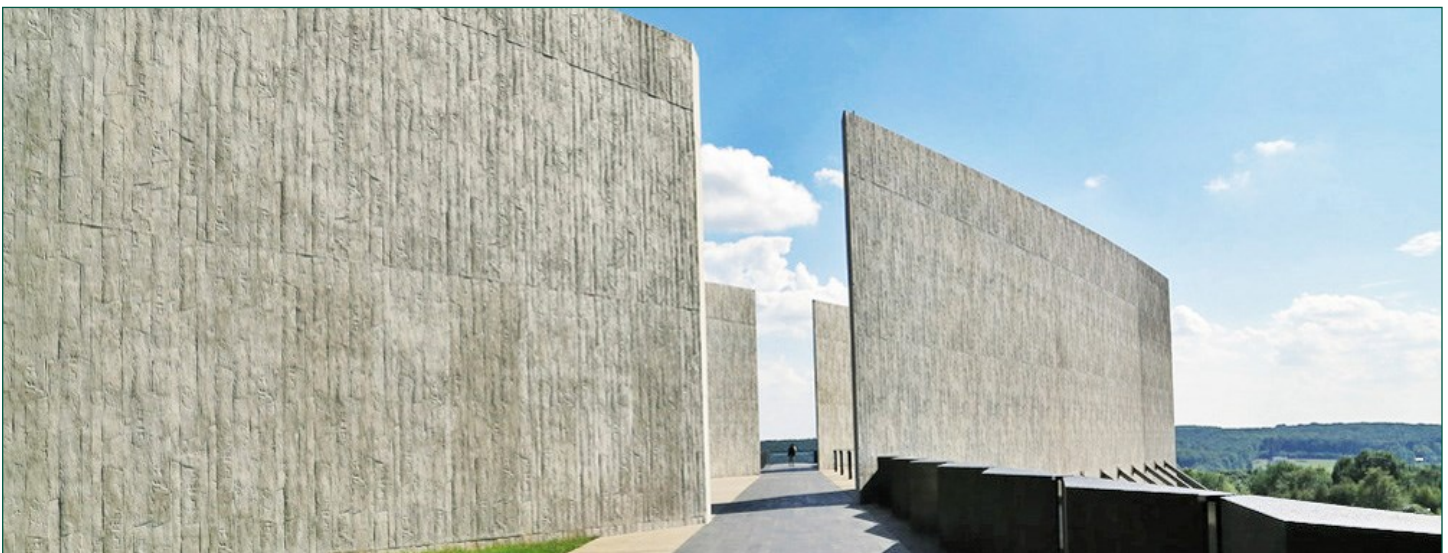
Once a former coal mine site, now the National Memorial for the passengers and crew of United Flight 93 that prevented terrorists from attacking the U.S. Capitol on September 11, 2001. The Visitor Center Complex includes the Visitor Center with exhibit area, Learning center, Allee and Western Overlook trailheads, and the Flight 93 Path Walkway and Overlook. The Memorial Plaza marks the edge of the crash site, which is the final resting place of the passengers and crew. There are 40 Memorial Groves, one for each of the passengers and crew, radiate along the Ring Road and Allee from the Visitor Center Complex to the Wetlands Bridge. The Allee, a formal walking path, follows the edge of the grove and connects the Visitor Center Complex and the Memorial Plaza, crossing the wetlands via the Wetlands Bridge. A grant from OSMRE has reclaimed the former coal mine site by installing acid mine drainage treatment facilities, which will be visited on the tour. Considerable efforts to reforest the site have been conducted and are ongoing.

Tower of Voices

Constructed in 2018, the Tower of Voices (TOV) serves as both a visual and audible reminder of the heroism of the forty passengers and crew of United Flight 93. It is conceived as a monumental, 93 feet tall musical instrument holding forty wind chimes. There are no other chime structures like this in the world. The shape and orientation of the Tower are designed to optimize air flow through the TOV walls to reach the interior chime chamber. The chime system is designed using music theory to identify a mathematically developed range of frequencies needed to produce a distinct musical note associated with each chime. The applied music theory allows the sound produced by individual chimes to be musically compatible with the sound produced by the other chimes in the Tower. The intent is to create a set of forty tones (voices) that can connote through consonance the serenity and nobility of the site while also through dissonance recalling the event that consecrated the site.



There will be additional AML and/or AMD sites in this tour.



Tour 2 - Fallingwater and Ohiopyle State Park



Fallingwater

Fallingwater is a world-renowned house designed by architect, Frank Lloyd Wright in 1935 for his Pittsburgh clients, the Kaufmann family. Fallingwater is one of Wright's most widely acclaimed works and best exemplifies his philosophy of organic architecture: the harmonious union of art and nature. It has been the focus for many famous photographs and paintings. Fallingwater was entrusted to the Western PA Conservancy in 1963 and was designated as a National Historic Landmark in 1966. It is nestled within the beautiful Laurel Highlands of the Allegheny Mountains, with walking trails surrounding the home. Today, more than 5.5 million people have visited and explored Fallingwater.

Ohiopyle State Park

Located on the southern reaches of the Laurel Ridge, Ohiopyle State Park encompasses approximately 20,500 acres of rugged natural beauty and serves as the gateway to the Laurel Highlands. Passing through the heart of the park, the rushing waters of the Youghiogheny River Gorge are the centerpiece for Ohiopyle.

Cucumber Falls is one of at least a half-dozen great waterfalls within Ohiopyle State Park. The water cascades over a 30-foot drop and flows into the Yough River. The falls are very picturesque amongst the boulders and trees that dot the landscape, especially in Autumn when the leaves change colors.

There are several passive treatment plants that are a part of Ohiopyle State Park working to clean up the waters of the Commonwealth.

There will be additional AML and/or AMD sites in this tour.



Cascades of Meadow Run

Tour 3 - Underground Mine and Museum and Steel Facilities



Carrie Blast Furnace

Carrie Furnace is a former blast furnace located along the Monongahela River in the Pittsburgh area industrial town of Swissvale, PA, and it had formed a part of the Homestead Steel Works. The Carrie Furnaces were built in 1884 and they operated until 1982. All that is left of the site are furnaces #6 and #7, which operated from 1907-1978. The furnaces, designated as a National Historic Landmark in 2006, are among the only pre-World War II 20th Century blast furnaces to survive. At one time, the furnaces and the steelworkers who labored in them produced more than 1,000 tons of iron a day. Now these 92-foot-tall structures stand as sentinels to Pittsburgh's steel heritage.

Tour - Ed Mine & Museum

Experience what it was like to be a coal miner in the 1850s and today. Your guides will treat you to an amazing, educational tour 160 feet below the earth's surface. All guides are experienced coal miners, educated in mine safety. The tour is in an inspected, safe mine environment modified for group tours and attraction comfort. There will be a live demonstration showcasing the authentic mining tools and methods from the 1850s through today. A light jacket is suggested with a mine temperature of 52 to 55 degrees year-round.



Russellton Coal Refuse Site

The Russellton Coal Refuse site is located in West Deer Township, Allegheny County, about 30 miles northeast of Pittsburgh. It is a multi-million ton coal refuse valley-fill disposal site that was fed for more than six decades by the coal mines in the Upper Freeport "Thick Freeport" coal, and associated coal cleaning plant. In many places the original stream valley was buried more than 100 feet deep by the waste coal. The refuse on site is currently being recovered for electricity generation by a Fluidized Bed Combustion boiler plant, Scrubgrass Generating Station, LP located approximately 70 miles north of the site. Refuse removal and reclamation is expected to take another 10 to 15 years to complete.

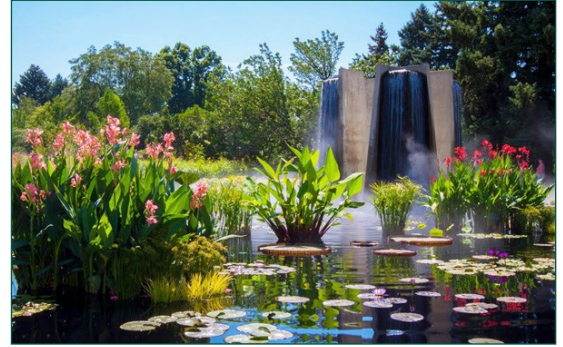
This tour is not recommended for anyone unable to walk great distances, negotiate rough terrain, is claustrophobic, and/ or unable to climb steel stairways and cat walks. Boots or solid shoes with no open toes should be worn on this tour. Much of the tours are outdoors, rain or shine, and weather appropriate clothing should be worn that could become dirty. Temperatures underground at Tour-Ed are between 52 to 55 degrees, so please dress appropriately.

There will be additional AML and/or AMD sites in this tour.

Tour 4 - Pittsburgh Botanic Garden and Airport AML Pilot Site

Pittsburgh Botanic Garden

Since opening to the public in 2015, tens of thousands of visitors have come to Pittsburgh Botanic Garden to enjoy cultivated woodlands, gardens, wildlife, and trails. Pittsburgh Botanic Garden features thousands of native trees, shrubs, and perennials planted since 2010 in an effort to cultivate and restore a native habitat to land once damaged by decades of deep-mining, strip-mining, and clear cutting. Acid mine drainage had polluted a pond in the Woodlands: neither plants or animals could live in the pond. The pond is now the centerpiece of the Japanese Garden, a key feature of the Asian Woodlands. The Woodland's AMD problem was awarded the 2014 Governor's Award for Environmental Excellence and is a good example of a public-private partnership. Partners in the pond restoration project include the Office of Surface Mining and the PA DEP Growing Greener Program, the Allegheny County Conservation District, the Foundation for PA Watersheds, Trout Unlimited, Colcom Foundation, and an anonymous foundation. A 2016 AML Pilot project is underway to reclaim underground mine workings, surface mine cuts, and a dangerous highwall, stabilize 30 subsidence holes, relocate the Lotus Pond's sludge basin, and install a passive mine drainage system for an underground mine discharge. Additional AML reclamation and garden development is continuing using funding from the 2016 AML Pilot Program.



Pittsburgh International Airport AML Pilot Site

The 2016 AML Pilot funding is being used to facilitate the reclamation of two dangerous highwalls on an abandoned surface mine site located on Pittsburgh International Airport property. After the AML conditions are removed, the Allegheny County Airport Authority will develop the Pittsburgh International Airport World Trade Center. This international trade center plans include office space, research and development facilities, and a 400- room hotel/convention center immediately adjacent to the Pittsburgh International Airport.

There will be additional AML and/or AMD sites in this tour.

A Day in the Life of Mining Engineer Meghan McDonald

What does mining engineer Meghan McDonald love about her job? The opportunity to visit beautiful places around the state, to be out in the field during construction and work on challenging designs that keep people safe, and designing solutions that require out-of-the-box thinking.

I grew up in a small mining town called Clifton in Arizona. Nearly everyone in my family worked in the nearby Morenci open-pit copper mine, including my grandfather, who was my role model when I was a kid. He had an amazing collection of rocks and minerals from the mine, and this sparked my interest in geology. My twin sister shared similar interests with me, and when it came time for us to head to college, we explored the geology program at the New Mexico Institute of Mining and Technology (New Mexico Tech). During our tour of Tech, we met the chair of the Mining Engineering department, who explained that mining engineering would allow us to work with cool geology and also do important design work as engineers. I was hooked that day and graduated from Tech with my bachelor's degree in Mining Engineering several years later.

"NEARLY EVERYONE IN MY FAMILY WORKED IN THE NEARBY MORENCI OPEN-PIT COPPER MINE, INCLUDING MY GRANDFATHER, WHO WAS MY ROLE MODEL WHEN I WAS A KID."

After I graduated, I knew there was so much more to learn so I stayed on at Tech to complete my master's degree. After college, I worked as a consulting engineer for nine years at Kleinfelder Inc., where I worked on a variety of Mining Engineering and Civil Engineering projects. Consulting gave me the opportunity to encounter complex engineering problems to which I could apply my educational background. I later went on to complete another master's degree in Civil Engineering to better address some of the civil work I performed at my company.

SWE member Meghan McDonald, a mining engineer



After my time in consulting, I began work as an engineer for the state government in the [New Mexico Abandoned Mine Land Program](#). Our program's mission is to safeguard the public from adverse effects associated with historic mining practices. We safeguard and remediate abandoned mines all over the State of New Mexico. My job has a field work component, and a typical field day involves hiking around doing field reconnaissance, observing construction of projects I've designed, and revisiting sites after construction to see how the project performed. My typical office days involve developing design drawings, technical specifications and contract documents to get projects to construction.

I recently worked on a project near Gallup, New Mexico, where a large sinkhole developed in someone's backyard above abandoned underground coal mine workings. We created a design to safeguard the public from this dangerous abandoned mine problem and prevent it from happening in the future.

Mining Engineer in the field

I love that my job gives me the opportunity to visit beautiful places around the state, to be out in the field during construction and work on challenging designs to keep people safe from the dangers of abandoned mines. I also love that my work allows me to design solutions that are unique and require out-of-the-box thinking. Many animals, such as bats, use abandoned hard-rock mines as their habitat, and engineering design solutions must take them into account so that they can thrive.

Traditionally, there are not very many women in the field of Mining Engineering, although that is slowly changing. When I first began my career, it was sometimes difficult to be the only woman in the room. I soon learned, however, that my input and educational background was just as valuable as my male colleagues and that I brought a unique perspective to the table. I relied on the support of other women I knew in engineering to build confidence and form a community.

"I RELIED ON THE SUPPORT OF OTHER WOMEN I KNEW IN ENGINEERING TO BUILD CONFIDENCE AND FORM A COMMUNITY."

So my advice is to form a community with other women in the STEM field as you progress through high school and college and grow in your career. You will be support for each other, advocate for each other and solve technical challenges together. Participating in the local [Society of Women Engineers](#) section is a great way to do this in college! During high school, participate in [SWENext](#).

Article From the Society of Women Engineers Society of Women Engineers Student Program—SWE Next

NEWSLETTER ARTICLE SPECIFICATIONS

400 - 500 words. Articles subject to editing. Submit in e-mail or hard copy. Include author's name, title of article, captions for photos. Submit photos in TIF (preferred) or JPG format, and original photo size.

E-mail photos as individual files, not embedded.

Deadline for Fall Edition is November 15, 2019.

Email articles to **Bob Scott** (bobf.scott@ky.gov) or

mail articles to: Bob Scott, Director
Division of Abandoned Mine Lands
Department for Natural Resources
300 Sower Blvd.
Frankfort, KY 40601

For more information call **Bob Scott**, or **Ben Enzweiler** at 502-564-2141.