

THE CURIOUS PEOPLE

A bat, a bacterium and a banana scientist walk into a bar. Ok, not really. There's no joke here, but there are some seemingly unrelated ideas that recently came together in a fascinating story of hope and accidental discovery.

The banana scientist is Dr. Chris Cornelison, who at the time of his monumental breakthrough was a graduate student at Georgia State University. Here, he was studying how a certain kind of bacteria was able to prevent over-ripening of fruit, as the food journeyed from the tropics to our tables.

As he tells it to the website *Cool Green Science*, Cornelison was standing in front of two buckets of bananas – one covered in mold, one not – when the “Aha!” moment struck: What if the bacteria so adept at preventing mold growth on bananas, also worked against *Pseudogymnoascus destructans*, the fungus responsible for the deaths of millions of bats suffering from White Nose Syndrome? A couple of petri dishes later, things looked so promising that Georgia State immediately partnered with wildlife and forestry agencies for field tests, the results of which have proven remarkably successful.

I'd love to meet Cornelison, to shake his hand. Not just because he's cracked the case on the worst wildlife disaster in recorded history, but because anybody who could maintain an equal interest in things as divergent as bats and banana bacteria, sounds exactly like my kinda guy. I've only recently begun to notice this kind of worldly, cross-disciplinary thinking in people. Not everybody does it, though I see no reason why we're not all capable, why we can't keep our big ol' brains open to just a little bit of everything.

All of us should be wholly and endlessly curious about the world around us, and see it for the kind of joyously stimulating place it is.

My dad had this kind of curiosity, and it was only after I lost him last December that I came to appreciate the rarity of such an inquisitive mind. Pop's interests ran the gamut - everything from military aircraft to wildlife art, Ancient Egypt to astronomy. Had he ever developed a taste for opera and the theatre, I have no doubt he would've made for an unstoppable *Jeopardy!* contestant.

Pop approached every new topic with an open mind. He listened far more than he spoke, especially around people who had a lot to teach. Priests, doctors, and mechanics were among his favorite to talk to (some would say “interrogate”) and for them, there was always a question.

Usually it was about something he'd heard on the news or read in the paper—Pop read the local paper from cover to

cover every day, even though failing eyesight meant he needed a magnifying glass to do it.

I've since learned this is a key trait of curious people. They may well develop expertise in a given area of study (for my dad, it was history – he knew more about the battles and heroes of World War II than anyone on the planet) but they tend to seek out those with unrelated interests, probably in an effort to expand their own world view.

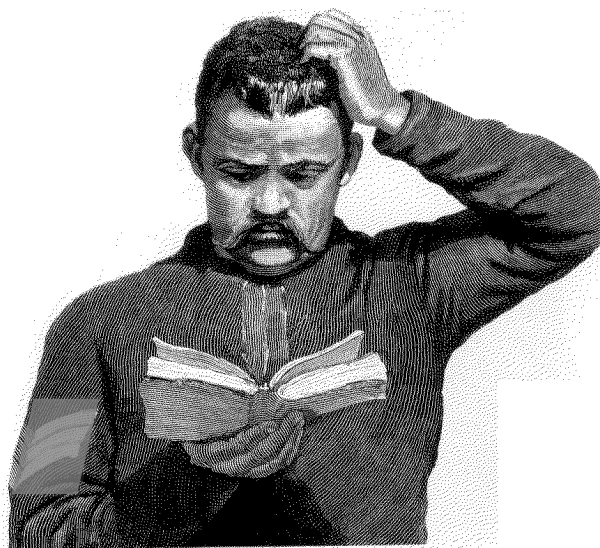
The curious are constantly re-evaluating their opinions and beliefs based on incoming information. They learn new things, ruminate for a while, then form fresh ideas. Like the banana scientist with an passing interest in bats, those ideas are sometimes the kind that only a curious mind can produce.

Susan Marshall's story is a good example, one that proves how curiosity can help to further scientific inquiry. It also offers a compelling argument for incorporating music, art, and physical activity into science and environmental education.

Marshall, a New Jersey choreographer, attended a 2009 Princeton University lecture by mechanical engineering professor Naomi Leonard, where Leonard spoke on what science then understood about the behavior of large flocks of birds.

Marshall approached Leonard after the talk, excited to marry what she knew about how people dance with what Leonard was saying about how birds move. The resulting collaboration between these two women has helped tease

Continued, page 8





Reminder!

Please register in advance by phone at (570) 645-8597, or by email at cceec@ptd.net. Unless noted, all ages are welcome at each program. Programs are free for EEC members, with a \$5 fee per person for non-members, unless otherwise indicated.

Creepy Crawlers

Monthly - Mondays, 10:00—11:30 am

Open to all 2, 3 and 4 year-olds, each session focuses on some aspect of the natural world. Children participate in age-appropriate games, crafts, stories and other activities.

February 29 – Snow Business

March 21 – Go Green!

April 18 – Get A Round To It: Nature Shapes

Ranger Rick Club

Monthly - Sundays, 1:00 – 2:30 pm

Open to all students in grades K through 6, each meeting focuses on some aspect of the natural world. Children enjoy age-appropriate games, crafts, hikes and other activities.

February 14 – The Color Red

March 13 – The Color Green

April 10 – Reptiles & Amphibians

May 8 – Water Wonders

Feed the Birds

**Saturday, February 13, 10:00 am
(Snow Date, February 20)**

Many birds migrate in search of food, but those attracted to feeders may depend on a good supply of seed for their survival. Find out how you can help your backyard feathered friends, and go home with lots of goodies. The program is limited to 15 people, and a \$5 donation per person is suggested.



Bird Box Building

Wednesday, February 17, 6:00 pm

Build your own bird box, designed to attract bluebirds, chickadees, titmice, wrens or deer mice. Individual registration only (no groups, please) so box kits can be prepared.

Limited to 15 participants. Assembled boxes will also be available for sale throughout the year.

Photography Contest

“The Four Seasons”

Deadline for Drop-Off, March 4th

CCEEC’s annual photography contest is back, challenging participants to submit their best works representing the four seasons.

Winners to be selected in Wildlife, Macro, and Landscape categories. Photographers may submit up to three framed and wired entries, which will be on display at CCEEC throughout March.

Call for details, or email Jeannie Carl at naturalist_eec@yahoo.com.



Star Party

Tuesday, March 8, 7:00 pm

Rain/Cloud Cover Date: Wednesday, March 9

It’s peak time for spotting Jupiter and several of her moons in the evening sky, in addition to many constellations.

We’ll begin with a short indoor lecture, then head out for some spring star-gazing. Bring binoculars if you have them, and wear warm PJs if you like! The program is led by astronomy enthusiast and PSU biology professor Dr. Carl Frankel. Hot chocolate and hot tea will be provided.

A Time to Plant

**Saturday, March 26, 10:00 am – Noon
and 1:00 – 3:00 pm**

Penn State Master Gardeners are offering this workshop, expanded in 2016 to a full day of sessions on herb and pollinator gardening, composting, soils and more. There is a \$6/person fee for morning sessions only, an \$8/person fee for afternoon sessions only, and a \$10/person fee for all day sessions.

Drinks will be provided, but participants are encouraged to bring their own lunch. Space is limited, so register early by calling the Penn State Extension Office at (570) 325-2788, or email the office at CarbonExt@psu.edu

Mushroom I.D. Skills: An Intro to Field Guides

Sunday, April 17, 10:00 am - Noon

Learn basic techniques needed to identify fungi with a field guide, and compare the usefulness of various guides available on the market today.

Participants will leave with an understanding of the major characteristics of fungi families, and get useful handouts to help build needed vocabulary. This is an indoor program, but will include a hike if weather allows.

Participants should dress appropriately, and bring their own field guides if possible.



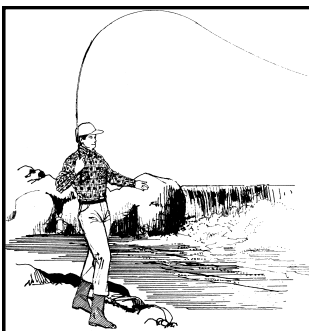
Ferns and Mosses

Saturday, May 7, 10:00 am - Noon

These “lower” plants are often underappreciated, and overlooked when it comes to identification. Yet, the grounds around CCEEC hold an abundance of interesting species.

Dr. Susan Munch of Albright College has literally written the book on identifying and understanding the area’s ferns and mosses. She leads this spring hike in search of whatever is of botanical interest this time of year.

The program is free of charge, but space is limited. Registration required.



Trout Unlimited Meetings

The Western Pocono Chapter holds monthly meetings at CCEEC, open to the public free of charge. Meetings usually feature a short talk on a topic of interest to anyone who enjoys the outdoors—not just fishermen!

There is no fee and **no registration** required. Come to one meeting, come to all. Bring a friend! Upcoming dates and speakers below.

February 16, 7:00 pm at CCEEC

This month’s guest speaker is Guest Speaker will be SkyBlue Outfitters’ trout fisherman, Rick Nyles. Rick will talk about his fishing trips to Clarks Fork and Bitterroot Rivers in Montana and Penns Creek in central Pa.

March – At PSU Hazleton

A special waterways program.

April – At Nescopeck State Park

Featured speaker Ken Undercoffer talks Brook Trout

Dates and other details will follow in CCEEC’s email updates, or contact Trout Unlimited’s Mike Gondell at gondell@ptd.net.

If you do not receive email updates from CCEEC, but would like to, contact Chief Naturalist Susan Gallagher at sugal@ptd.net



CCEEC PHOTOGRAPHY CONTEST

“The Four Seasons”

Open to all, with one 1st prize winner in Landscape, Macro and Wildlife categories, plus a “People’s Choice Award”
Cash prizes and gift certificates!

Entries should highlight the beauty of the four seasons in our area

- Entries **must** be original work of photographer.
- There is a \$5 entry fee per submission.
- **(Limit of 3 entries per photographer)**
- Entries must be displayed for the month of March.
- Photographs may be sold with 10% commission to CCEEC.
- Submissions must not be more than 3’ in any direction.
- All entries must be **framed and wired** securely for hanging.
- Submissions that are flimsy or have sharp edges cannot be accepted.
- The theme may be interpreted in any manner by the photographer
- Each entry must have an entry form secured to the back of the photograph.
- **Submission Deadline** March 4th, 7:30 pm
- **Photographs can be dropped all week prior to this date**
- **Photographs must be picked up before April 15**



CARBON CONSERVATION DISTRICT

40th Annual Poster Contest

“We All Need Trees”

Providing Carbon County students in grades K through 12 with an opportunity to convey their thoughts about soil, water and related natural resource issues through art. The contest highlights the educational outreach efforts of conservation districts and their state conservation associations, auxiliaries and agencies.

Winners at the high school level move on to state competition, where Carbon County students have fared well in the past, sometimes garnering national recognition.

For a complete list of rules, contact Carbon Conservation District Secretary Audrey Wargo at (610) 377-4894

Forestry Notes

By Frank Snyder

Invasive species create new winners and losers in our forests. Over the past decade or so, our forests are changing in species diversity and composition by the spread of invasive plants.

Invasive plants (aka: exotic, alien, introduced, or non-native) are plants which grow quickly and aggressively, spreading and displacing our native plants, thus resulting in future forests that may not provide the same benefits that we enjoyed today.

The topic of invasive plants are disheartening to foresters, but this story reports a WIN for forestry over the invasive plant called stilt grass!

More specifically, Japanese stilt grass, *Microstegium vimineum*, is a sprawling annual grass that can tolerate a wide range of soils and light levels in a forest. This invasive plant was probably introduced by its use as packing material for china porcelain and other fragile products from Asia sometime around 1920.

Thence, its other common name is Japanese packing grass. This grass spreads by seeds. An individual plant can produce as many as 1000 seeds in one growing season. Besides being prolific, the seeds may stay viable for three to five years in the soil and this seed bank ensures the establishment of an annual crop.

Stilt grass resembles a small delicate bamboo with 1 to 3 inch long leaves that are attached alternately on branched stalks. Pale silvery strips of hairs are found along either side of the midrib of the leaf. Mature stands of stilt grass form a thick mat of 3 to 4 feet high grass that smothers everything beneath it. Young tree seedlings don't stand a chance to survive.

My story starts with a phone call from a forest landowner who had recently purchased some additional land next to his property. The new purchase was just clear cut the winter before by the previous landowner. Few trees remained and those trees were mostly in poor health or deformed.

The landowner described the clear cut as hopeless because the area was lacking trees and scattered with tree top slash.



Japanese Stilt Grass, aka Japanese Packing Grass

His phone call was a call for help!

In June following the clear cut harvest, the forest landowner Robert Koppenhaver and I examined the new purchase. There was good news to report. The barren forest floor was populated with thousands of small little tulip poplar seedlings. The sheer numbers of seedlings were adequate to regenerate the area into the next forest.

As for the slash, the seedlings are afforded more protection from the whitetail deer, which loves to browse on the tender buds and shoots.

Besides, slash rots relatively fast, thus returning a great deal of nutrients back into the soil that nourishes the young regeneration. The trend of regeneration was heading in the right direction to establish the next forest.

In August at the end of the growing season, we returned to evaluate the health and growth of the tulip poplar seedlings. The seedlings were about 2 inches in height but an unwelcome invasion of stilt grass started to fill in around the seedlings. The trend appeared to be positive but there was some concern that stilt grass may overtop and smother the seedlings before they were tall enough to outgrow the invasion.

Wildlife Pages



Clockwise from left—An immature Bald Eagle returns to the shores of the Susquehanna! The inset shows a split screen, with fractured leg on left (look between the two black lines) and healed fracture on right.

A Screech Owl escapes from his cage in our clinic. Got news for ya pal, you're not camouflaged there!

"Don't hate me because I'm beautiful." One of CCEEC's resident educational bats shows off a delicate wing. The stick-like looking struts of the wing are arm and finger bones.

Baby season ran looong last year. This bunny was the last of our orphans, released on a beautiful sunny day at our Christmas tree hedgerow in November!

Mourning Dove mugshot! These guys are notorious for flying into windows. Some aren't near as lucky as this lovely little bird, who suffered only a mild concussion.

Bird feeding specialty stores and internet sites offer reflective decals that alert birds to large windows and glass doors. Visit your nearest Wild Birds Unlimited for details.



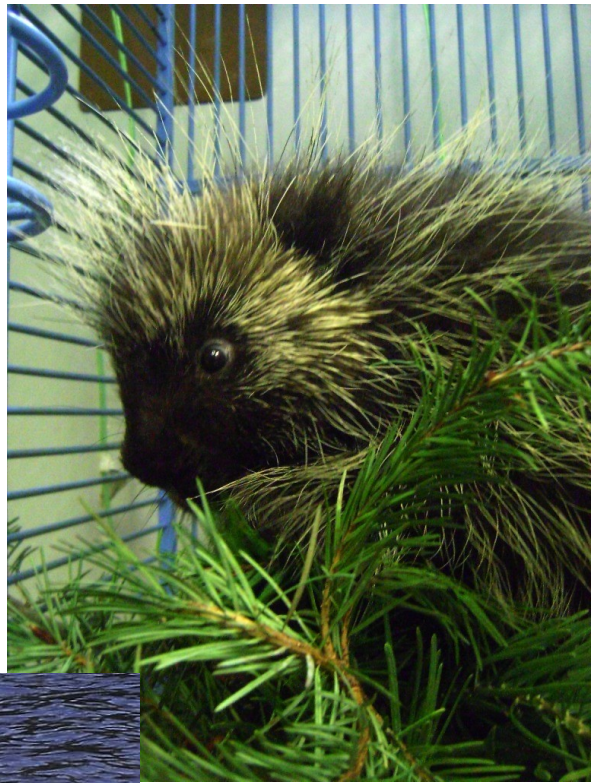


At left, Coco our new domestic rabbit hides under a taxidermied bear. We doubt she'd survive long in the wild.

At right, a porcupine nibbles at some evergreen branches while being evaluated for head trauma.

Below left, Jeannie Carl captures this remarkable shot of a Snowy Egret just after release at Mauch Chunk.

Below right. Four orphaned coyote pups, transferred late last summer to more appropriate facilities at Red Creek Wildlife Center.



Below left, CCEEC babysits poison dart frogs over the winter for Bear Mountain Butterflies. Too bad the guy on the left refused to face the camera.

Below right, a Common Nighthawk fitted with his "figure 8" bandage wrap.



Read All About Us!



CCEEC staff is happy to have partnered with our local Times News to further our education mission. Our staff is penning monthly articles on issues affecting wildlife and our environment. To date, several have already appeared in a “Nature Talks” column.

We welcome feedback on this and any of our activities at cceec@ptd.net. You’re also invited to be in touch if there are programs or topics you’d like us to cover in the column.

We strive to provide content that’s timely, interesting and informative, and extend our thanks to Times News editors for this opportunity.

Articles are also available online at www.tnonline.com.

“Curious” from page 1

away at the mysteries of the collective motions of flocking birds and schooling fish.

You’ve seen these exquisite movements if you’ve ever watched a flock of blackbirds twist and change direction in the sky, as if responding to some unknown command. Marshall and Leonard have successfully taught groups of dancers to replicate these motions by giving them a few simple rules, such as maintaining a certain distance from each other while avoiding an obstacle.

I’ve seen Marshall’s “Flock Logic” videos online, wherein she turns a Princeton dance studio into an animal behavior laboratory. The dancers’ movements are graceful and fascinating to watch, and I can’t help but think that my dad would have been mesmerized.

Minutes before the heart attack that took his life, Pop and I had just wrapped up an hour-long conversation. The talk was typical of a Sunday afternoon visit to his bedside, and yet it was nothing typical at all. I wrote down every topic we covered, because I didn’t want to forget – I *never* want to forget – how seamlessly his brainwaves flowed from one thing to the next.

We talked about bad horror movies, pocket knives, childhood friendships, guns, sheep, aircraft carriers, Saudi Arabia, and how Moammar Gadhafi once slept in a tent on the White House lawn. To me, therein lies the beauty of a curious mind, and the greatest magnifier of my grief; few people I know could possibly hold such a magical conversation.

As luck would have it, I ran into one of those “few” people just last week. A frequent visitor to CCEEC had stopped in to show the place to his daughter who’d been visiting from out of town. I’d always liked talking to this guy, but had never stopped to wonder why.

Within minutes our conversation had gone from fossils to eyeballs to Einstein, and it occurred to me he was just like my dad. I poked a finger in his direction and told him so, told him how much I admired the way his curious mind worked. There was great satisfaction in saying this in front of his daughter. It’s too late for me to tell my dad how much I admired his curiosity, because I didn’t notice it until after he was gone. But it’s not too late for this woman to understand, and to fully appreciate what an honor it is to be her father’s daughter.

It happens to everyone, I guess – the death of a parent forces us, in a way, to look at where we’re headed in life, and reminds us there’s a lot less time to get there than we might think. And after nearly 30 years at CCEEC, it’s hard for me not to slip into “legacy mode” sometimes, and to wonder if I’ve done something here worth doing.

I’d like to think I’ve helped create a center that fosters curiosity where it exists, and instills it where it hasn’t yet taken root, where perhaps a dancer and an Ivy League engineer might bump into each other and start talking about birds, only to end up on the cusp of some great scientific discovery.

I hope CCEEC is a place where people stop in on their way to becoming just a little bit more curious about the world, because I believe only the curious can go on to do great things. Only the curious make for the most inspired and productive banana scientists, and – by far – make for the very best of dads.

- Susan Gallagher

"Forestry" from page 5

Our next inspection was a year later in September; the growth of tulip poplar seedlings was excellent with height growth of 10 to 12 inches. However the stilt grass started to overtop the seedlings and in some places the grass concealed the seedlings from view. At this point, the situation was dire and intervention would be needed to reverse the trend.

After consulting with Al Gover, researcher at Penn State, Dave Jackson, forester with Penn State forest resources extension service, and Todd Hagenbuch, Arborchem sales representative, the landowner decided to use an overspray of herbicides to treat the stilt grass without harming the poplar seedlings.

Since tulip poplar is very sensitive to herbicides, the appropriate chemical and dosage rate is paramount. Oust, (trade name) was suggested herbicide. The dosage rate was 1 oz. per acre with no surfactant. Since Oust is required to wash into the soil to kill the germinating seeds, a surfactant which is a chemical to help the herbicide adhere to the leaves was not needed. The treatment was applied by a backpack mist blower and perfectly timed to coincide with the flowering of forsythia bushes in April.

A post treatment inspection was conducted in June to evaluate results. Stilt grass was controlled, thus releasing the tulip poplar seedlings to full sunlight and free to grow. We are ecstatic with the results. The seedlings grew 6 feet tall over the summer season making them well above the threat of stilt grass.

Even though stilt grass may continue to survive in the under story of the new forest, our mission to regenerate a new forest is accomplished. So, for this event: forestry scored one and invasive plants zero!

How sweet it is to win!

Frank Snyder is the Service Forester for Carbon and Schuylkill Counties.



Robert Koppenhaver of Spring Glen stands in a sea of tulip poplar seedlings after a successful treatment of herbicides to control stilt grass.

Robert is a forest steward since 2000 and cares for a healthy forest, a diversity of habitats for flora and fauna and recreation.

NOTE—Penn State's Schuylkill Campus is offering a seminar on habitat improvements for landowners, targeting those with 10 acres of property or less.

The event takes place on Saturday, February 20th, from 8:00 am to noon. Cost is \$15 per individual, or \$25 per couple.

For more information, email Lorie Reichert at lreichert@co.schuylkill.pa.us, or call (570) 622-3742, extension 5.

Membership Drive

Thank you to all those who've renewed their membership for 2016. We appreciate your timely support. Others will soon be received a renewal notice in the mail, and are reminded that renewing now saves CCEEC the time and expense of a mailing.

Use the renewal form on page 11, print and mail one from our website or—new for this membership drive—renew with a visit to www.carboneec.org, where you can click on “Donate Now” to make a contribution. Also new this year, our membership drive includes an opportunity to enter a unique fundraising raffle.

Noted local artist Ned Ramm donated the osprey pictured below, in a effort to help raise funds for our wildlife rehabilitation efforts. The bird was painstakingly carved from poplar, and hand-painted in striking detail. We extend our sincere appreciation to Mr. Ramm, and are proud to offer our supporters the opportunity to own this one-of-a-kind piece.

See below for several ways to enter, and good luck!



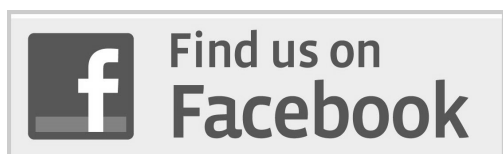
- If you donated fish to our “feed the osprey” campaign, and we noted your name and phone number, you are already entered!
- If you dropped off fish and we did NOT take your name and number, give us a call or send a note to cceec@ptd.net.
- If you'd like to enter with your membership renewal, include an extra \$5, and write “Osprey” anywhere on the member renewal form.
- If you've already renewed your membership, donate an extra \$5, and include the word “osprey” anywhere in your correspondence.
- Finally, if you purchase a gift membership for a friend or family member, you'll BOTH be intered to win. Again, simply note “Osprey” on your correspondence..



CCEEC members who choose to share an email address receive monthly updates, notifying them of special programs and other happenings.

Our Facebook followers get even more frequent notices of what's going on.

As has always been our policy, CCEEC does not share any of your information with other organizations.



CCEEC MEMBER BENEFITS

- A subscription to our newsletter, Reflections from the Lake
- Free or discounted admission to many public programs
- Email updates on programs & other activities
- A discount on our already low-priced summer rafting trip
- Free skull cleaning services for family level members who are sportsmen
- As available, free owl pellets for educators
- Discounted admission & gift shop purchases at dozens of other centers, through a reciprocal benefits program
- A discount on children's swim lessons at Mauch Chunk Lake Park

www.facebook.com/carboneec



www.carboneec.org

CCEEC MEMBERSHIP

NAME: _____

ADDRESS: _____

E-MAIL: _____

Membership category, please check.

<input type="checkbox"/> STUDENT.....	\$10	<input type="checkbox"/> ORGANIZATION....	\$50
<input type="checkbox"/> SENIOR CITIZEN.....	\$10	<input type="checkbox"/> SPONSOR.....	\$100
<input type="checkbox"/> INDIVIDUAL.....	\$15	<input type="checkbox"/> PATRON.....	\$500
<input type="checkbox"/> FAMILY.....	\$25		

MAIL TO: CCEEC, 151 E. WHITE BEAR DR., SUMMIT HILL, PA 18250

CCEEC DOES NOT SHARE YOUR PERSONAL MEMBER INFORMATION WITH ANY OTHER ORGANIZATION.

PLEASE LIST ANY PROGRAMS, ACTIVITIES OR BENEFITS YOU WOULD LIKE TO SEE AVAILABLE TO MEMBERS:

“Reflections from the Lake” is published three times annually by the Carbon County Environmental Education Center. It is mailed free to all members of CCEEC and Mauch Chunk Lake Park.

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DAVID HORVATH, DIRECTOR, PARKS & RECREATION

Mauch Chunk Lake is administered by the Carbon County Parks and Recreation Commission. CCEEC is administered by the Carbon Conservation District. Funding is provided in part by the Carbon County Commissioners.

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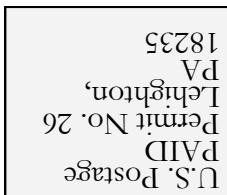
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