

Nittany Mineralogical Society Bulletin

Nittany Mineralogical Society, Inc., meeting in State College, Pennsylvania
Contact information on back page

April, 2022

Visit our web site: www.nittanymineral.org

Editor (see back page):

David C. Glick

April 20th meeting, **IN PERSON** at **BOAL HALL**:

Landscapes and Geology of Pennsylvania: A Portrait of the Commonwealth

by
Robert J. Altamura

Our April meeting will be held Wednesday the 20th in Boal Hall (Boalsburg Fire Hall), 113 East Pine St., Boalsburg, PA 16827. Maps can be found on our web site.

7:15 to 7:45 p.m.: Social "hour." We plan to resume serving refreshments - snacks and a few beverages - or feel free to bring your own non-alcoholic beverage.

7:45 to 8:00 p.m.: Announcements, door prizes, sales about 8:00 p.m.: featured program

*The event has free admission and free parking (lot just east of Fire Hall along East Pine St.), and is open to all; **parents/guardians must provide supervision of minors.***

Bring your friends and share an interesting evening.

We hope you will join us in person, but if you can't, the Zoom link will be e-mailed to all paid members who receive our e-mails. Others are welcome to request it by e-mailing <xidg@verizon.net>. We plan to record the presentation for later posting to our web site. -Editor

The Commonwealth of Pennsylvania is naturally divided into six landscapes or geographic terrains. Each tends to have a distinct appearance, related largely to the nature of the underlying structure of the bedrock, and how it has been eroded or glaciated. The grain of these landscapes follows a general southwest to northeast trend; here in State College we are near the northwestern edge of the Ridge and Valley Appalachians, and beyond that edge in Centre County is the Allegheny Front, marking the beginning of the Appalachian Plateau. The lay of the land and its underlying bedrock and surficial geology have affected the course of human events as well as the distribution of zoology and botany, as the author will discuss during his presentation.

See pages 4-6 for the complete illustrated article.

NMS 2022 Spring Schedule

Landscapes & Geology Field Trip

Following up Bob Altamura's meeting presentation, he plans to lead a local tour on the same topic, **date to be determined**, expected to be in the next few weeks. We expect this will be a car pooling tour; vehicles suitable for somewhat rougher State Forest roads will be required. We'll discuss it at the April 20th meeting (express your interest before that if you won't be at the meeting), and will email current members with details. Contact Dave Glick (see p. 8) with questions or comments.

Caves Program and Lincoln Caverns Tour

May 18 meeting program: Caves, by Dr. Will White, to be followed by a tour of Lincoln Caverns on **Sunday May 22**. Details to be announced, and to be discussed at the April 20th meeting.

Pittsburgh Two-Museum Tour

Saturday, June 25: A trip to Jeff Smith's private **Geode Museum** and to **Carnegie Museum** of Natural History. Carnegie's temporary exhibit of Cut and Polished Pennsylvania Minerals and Gems (otherwise being called "Everything Pennsylvania") in Wertz Hall is planned to be available through the summer, so we can see that as well as the permanent exhibits in Wertz Gallery of Gems and Jewelry, Hillman Hall of Minerals and Gems which includes a section of Pennsylvania minerals, and their famous dinosaur exhibits. Details will be announced. If you have not already expressed interest, contact Dave Glick (see p. 8).



A small geode opened at Jeff Smith's March 2022 Geode Night program for NMS. D. Glick photo.

Pennsylvania Geology Magazine First Issue of 2022 available

Paul T. Fagley, now-retired Environmental Education Specialist at Greenwood Furnace State Park, has presented several programs to our Society. The new issue (Vol. 52, no. 1, Spring 2022) of Pennsylvania Geology Magazine, from the Pennsylvania Bureau of Geological Survey, includes his article, **Historical Perspectives on Iron-Ore Mining in Kishacoquillas Valley, Mifflin County, Pennsylvania**. The comprehensive article covers the history, geography, and geology of the area, then examines the iron ores and their formation in detail, with photographs of the various types, and reviews the mining history of the various “ore banks.” This is not only of academic interest, but of historical importance: “In the first half of the nineteenth century, iron from the Juniata Valley of south-central Pennsylvania carried a reputation as among the finest in the world. More than hyperbole, Juniata Iron’s reputation was well deserved... The expanding railroad industry especially favored Juniata Iron prior to the introduction of modern steel... At [the peak of production around 1828], the Juniata Iron District was producing almost half of the iron in Pennsylvania, which equaled about 20 percent of the national output.”

A Tribute to Dr Roger J. Cuffey is presented by our own Dr. Charles E Miller, Jr., a version of the article which appeared in our January NMS Bulletin. Dr. Anne B. Lutz, editor of the magazine, adds her own reminiscences and tribute.

Active Volcanoes . . . In Pennsylvania? by Adam J. Ianno of the Survey is not about the Precambrian, but “ice volcanoes” along the shore of Lake Erie during



From the Ice Volcanoes article by Adam J. Ianno: Figure 1. A well-formed, representative ice volcano at Lake Erie.

February, 2022. At the Lake Erie shore, “Ice volcanoes form when waves break against fast ice, gradually building up a large levee that is tallest near the water and slopes gradually away. The irregular scalloped shape of this ice levee causes waves to focus energy on the recessed surfaces of the levee that are more inland. Here, the water, slush, beach sand, and ice blocks crash against the funneled surface, resulting in some of this material being deposited on top of the ice levee and frozen into place, and the remainder draining through a lake-facing vent. Even one wave can add several centimeters of new material to a volcano. With enough time and sustained wind, a large ice volcano of up to 5–10 meters can form. Photographs illustrate this phenomenon, which relates to “possible cryovolcanoes on Pluto, Titan, Ceres, Europa, Enceladus, Triton, Quaoar, and other icy bodies in the solar system.”

Pennsylvania Geology magazine is available from the Survey’s web site, linked from the left sidebar of the NMS home page <www.nittanymineral.org>. -Editor

Geo-Sudoku

by David Glick

This puzzle contains the letters ADEIMNOPT one row or column includes one of the topographic terrains of Pennsylvania. Each block of 9 squares, each row, and each column must contain each of the nine letters exactly once. The solution is on page 8.

O	I	M	N					
		T	M	D				A
	D				I		M	N
T			A		M			P
		P		N	D		A	
	M			I			N	E
		I			E			O
E			I					M
M		N		P		A		

Fall 2022 Wildacres Speaker-in-residence: Mary Ehlers

by Helen Serras-Herman, Wildacres
Speaker-in-Residence Coordinator

From April 2022 EFMLS News
(which includes class list &
registration form)



Mary went to high school in Iowa, and then studied Jewelry Design and Metalsmithing at Iowa State University, where she also studied Textile Design and lost wax casting and received her M.A in 1970. Mary had a studio at the now famous Torpedo Factory Art Center in Alexandria, Virginia, and was the Jewelry instructor for the Alexandria Art League and the Adult Jewelry classes. She also has a wealth of retail experience, having her store in Old Town Alexandria in Virginia from 1974 to 2012.

Mary created jewelry commissions for notable clients and corporations. One of her special pins was a Presentation Gift to Former Secretary of State Madeleine Albright. The pin "Mushrooms & Pathways to Peace" celebrates the Middle East peace talks and has been on display at several museums. Mary also created the astronaut pins presented by Buzz Aldrin to the first two male citizen astronauts, Greg Olsen and Dennis Tito, at a Space Conference in California.



We are very fortunate to have another fabulous Speaker-in-Residence for the Fall 2022 EFMLS Wildacres Workshop, Mary Ehlers, a jewelry artist, goldsmith, and jewelry designer recognized for her amazing custom jewelry. The Fall Wildacres workshop will take place September 5 to 11, 2022.



Mary Ehlers is the owner of **The Nugget** custom jewelry design store, and currently works as a private jeweler. She designs, creates and sells custom design jewelry, as well as vintage and estate jewelry, precious stones, pearls, and designer jewelry from other designers, in 14K, 18K and platinum. Her specialty for over 30 years has been engagement and wedding rings. In addition, Mary creates unique, one-of-a-kind designs for clients with and without precious stones. She also designs logos for corporations, and special event jewelry designs for non-profit organizations.

In Mary's words, "I am touched by all the wonderful commissions I have received and by the trust that many of those clients have had in me as they continue to place orders. I had no idea that I could have my avocation become my vocation and that I could become my own boss and actually earn a respectable living doing what I loved so much. I continue to learn more and more skills and I am working on learning more lapidary skills to add to my tool kit."

Mary Ehlers beams an incredible life and work experience. She is a wonderful, gentle soul, and humble jewelry artist, who will connect with everyone there. In her talks, Mary will share her journey, her special commission pieces, special jewelry designs, her love for vintage and antique jewelry, and much more. Mary Ehlers-Toth will be accompanied by her husband Stephen Toth, a Civil Engineer with a 42-year career for Chicago Bridge and Iron, a company serving the worldwide energy industry. I hope you can join her this fall and celebrate her birthday on September 5th with her!

Landscapes and Geology of Pennsylvania: a Portrait of the Commonwealth

by Robert J. Altamura

The Commonwealth of Pennsylvania is naturally divided into six landscapes or geographic terrains, which may be called respectively the Coastal Plain, the

Piedmont, the Reading Prong & Blue Ridge highlands, the Ridge & Valley Appalachians, the Appalachian Plateau, and a relatively thin edge of the Central Lowland of North America (see Figure 1). The Piedmont may be further divided into the Piedmont Uplands, the Conestoga Valley, and the Triassic Lowland. The Ridge and Valley terrain can be subdivided into the Great Valley section, which includes

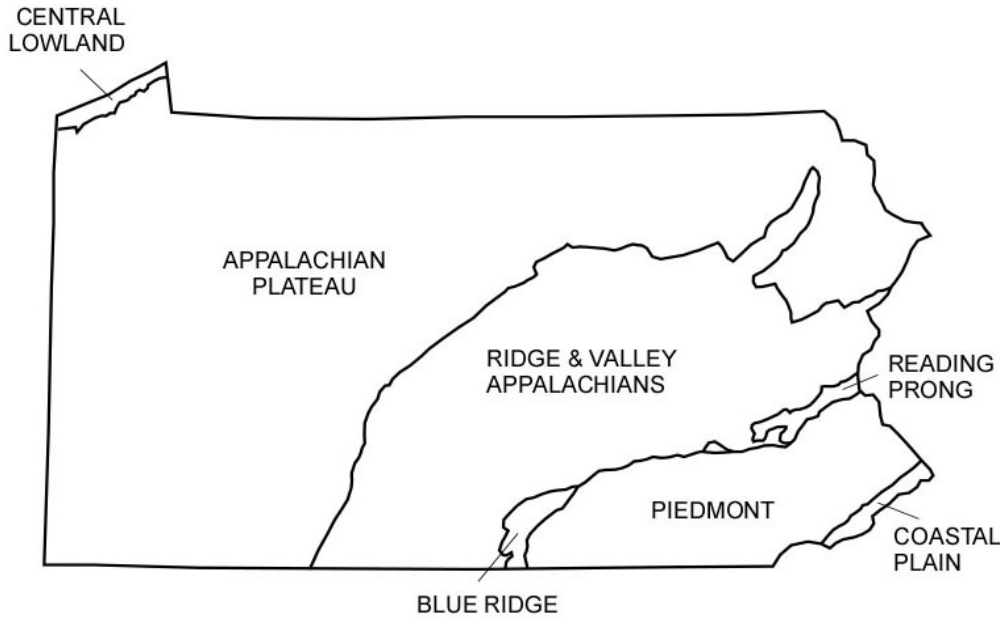
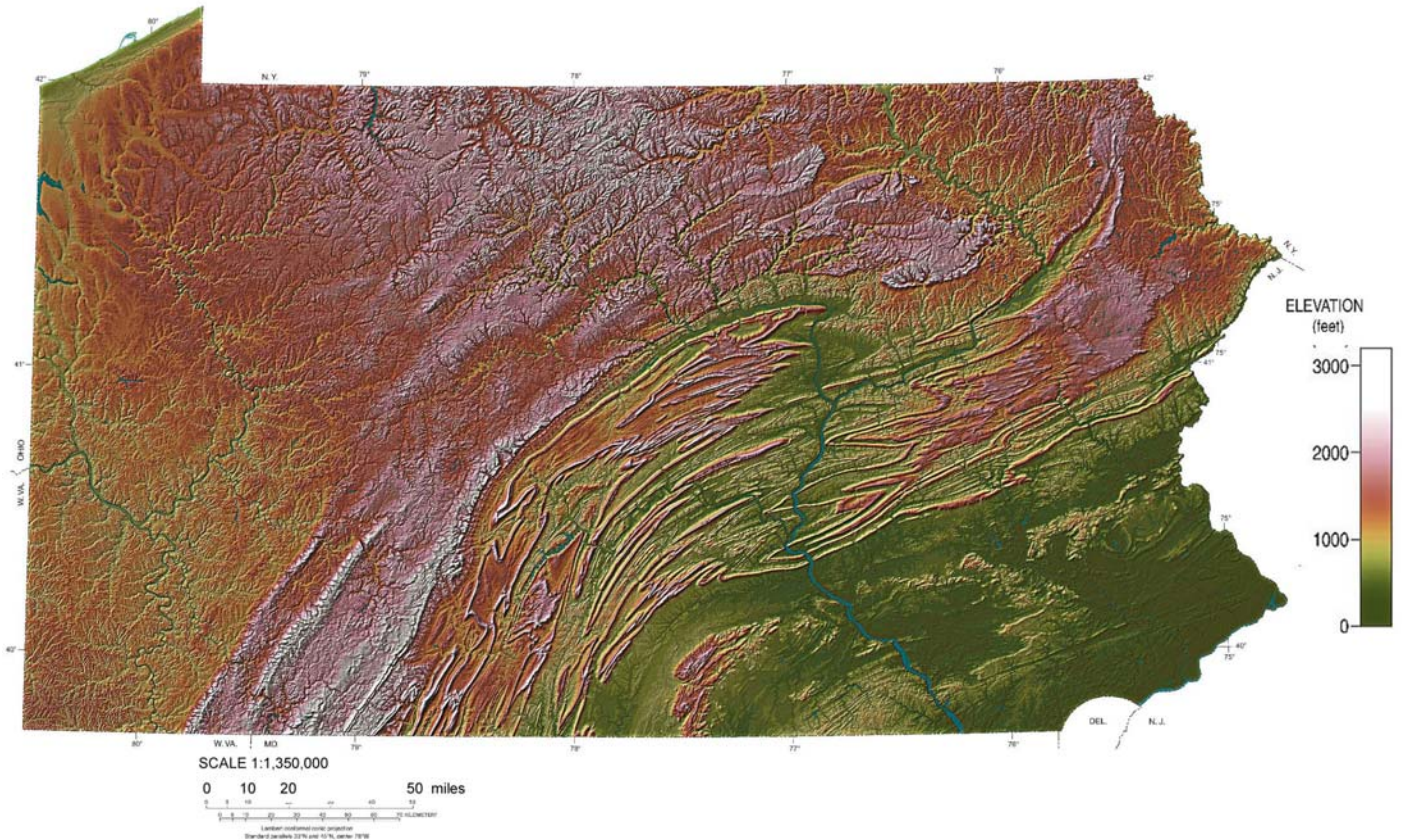


Figure 1. (1a, at left) Generalized map of Pennsylvania showing major topographic terrains (provinces on the map) and (1b, below) shaded relief map of Pennsylvania (modified from Digital Shaded Relief Map of Pennsylvania, Department of Conservation and Natural Resources, Map 65, Tabloid Edition).



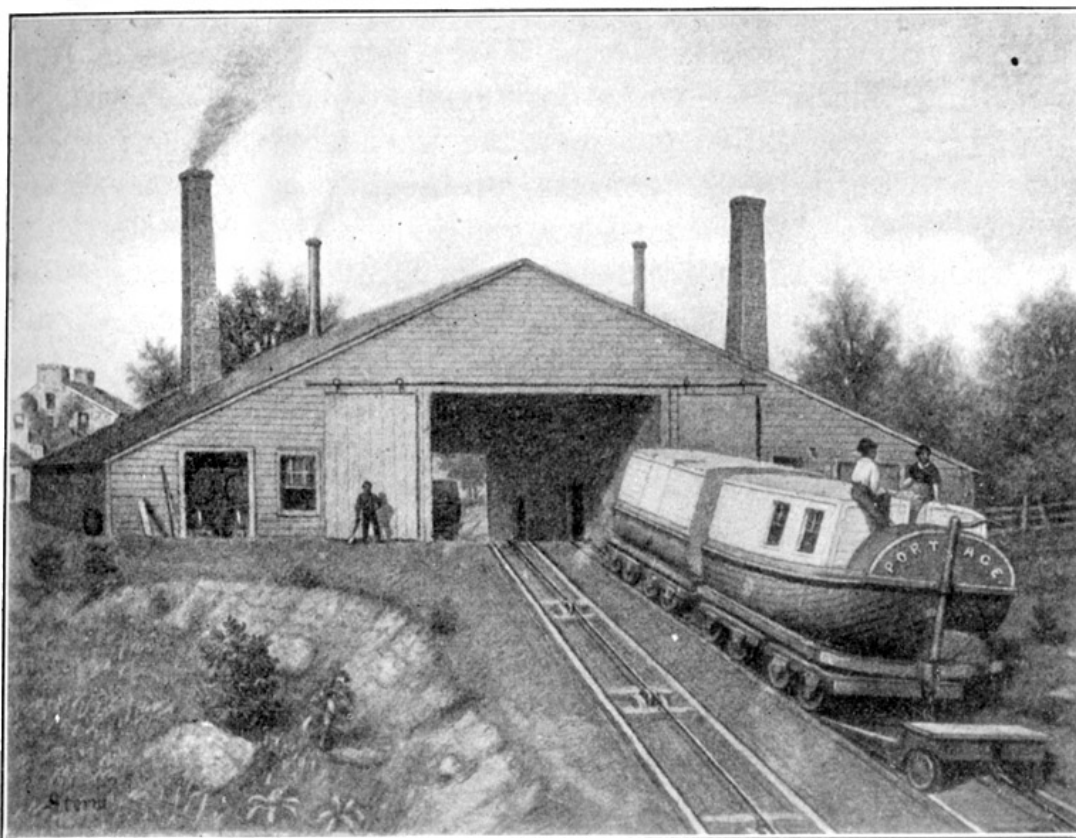
the Belleville area, and the Appalachian Mountains section, ranging from the first southwest-northeast trending ridge of many to the northwest of the Great Valley, named Blue Mountain, to the furthest ridge to northwest, Bald Eagle Mountain. The grain of Pennsylvania's landscapes follows a general southeast to northwest trend and is related largely to the nature of the underlying structure of the bedrock, as the author will discuss during his presentation.

Pennsylvania is, of course, not isolated in its physical geography from adjacent States. The relative flat land of the Coastal Plain extends northeastward, as a well-marked region, into Delaware and New Jersey - and to the southwest into Maryland, Virginia, North Carolina, and further south along the southern coast of the United States all the way to eastern Texas. The Piedmont terrain also extends into States to the northeast and the southwest.

The highlands of South Mountain in southern Pennsylvania are part of the Blue Ridge Mountains and can be traced through northern Maryland and Virginia. The Reading Prong portion of this terrain extends to the northeast into New Jersey as the New Jersey Highlands and on into New York State as the Hudson Highlands. The Ridge and Valley terrain extends to the southwest across the panhandle of Maryland and into Virginia and West Virginia. The Appalachian Plateau extends into New York State where it seems to truncate against the constricted segment of the Ridge and Valley terrain. To the south and west the

Appalachian Plateau extends into Ohio, West Virginia, and beyond.

The lay of the land and its underlying bedrock and surficial geology have affected the course of human events as well as the distribution of zoology and botany. For example, the earliest major settlements of the American colonies tended to be established near the break in topography near the border of the Coastal Plain terrain and the Piedmont known as the Fall Line. Streams crossing the Fall Line, not uncommonly, result in waterfalls and there was an opportunity for hydropower for mills. Transportation of goods to the west during the age of westward expansion was hampered by the steep escarpment of the Allegheny Mountains eastern front since early settlement. During the age of canal transportation (1826 to 1857), boats on rivers and canals could go only as far west as the Allegheny Front. One solution to navigating this abrupt change in topography was the Allegheny Portage



Head of Plane No. 6. Old Portage Railroad.
Geo. W. Storm, Artist.

Figure 2. Looking up grade on inclined Plane Number Six showing a sectional canal boat almost at the top of the Allegheny Portage Railroad; drawing by George W. Storm (1830-1913). From http://www.jaha.org/edu/flood/why/img/canal_gallery/pages/allegheny_portage_rr_plane_.html This work is in the public domain in its country of origin and other countries and areas where the copyright term is the author's life plus 100 years or fewer.

Railroad (Figure 2), which installed rail on numerous inclined planes to carry the canal boats up the Front. The boats continued by rail to Johnstown where they once again navigated on canals, taking one as far as Pittsburgh and its major rivers. Since those days, rail accomplishes the rise in elevation of the front by navigating the 'Horseshoe Curve' near Altoona. These days goods being transported from west to east are perhaps equally as important as goods moving west.

The landscapes of Pennsylvania can be directly correlated to the underlying bedrock of the State. During the peak of Appalachian mountain-building, elevations may have reached the height of the present-day Rocky Mountains, some 14,000 feet above sea level. Currently the highest elevation in the Pennsylvania Appalachians (3,213 feet) occurs at Mt. Davis near the Maryland state line. The bedrock geological history of the State is complex. Bob's presentation will review the distribution of bedrock geology and its geological history including plate tectonic history, as well as cover erosional modification of the land, mostly by running water since the creation of the Earth's hydrosphere, and also by relatively recent glaciation during the Pleistocene Epoch's last ice age (~10,000 years ago).

Bob plans to offer a field trip to the Seven Mountains area of Rothrock State Forest that is intended to complement the content of the upcoming talk described in this abstract. (See **Spring Schedule** on page 1.)

References cited

U.S. Geological Survey, compiler, 1999, Digital shaded-relief map of Pennsylvania: Pennsylvania Geological Survey, 4th series, Map 65, scale 1:500,000. [Available online.]

NMS BOARD MEETING NOTICE

NMS members are invited to attend Board of Directors meetings, which are generally held at 7:30 p.m., early in the month or as decided by the Board, although we do not meet every month. The next date is not set yet. Members who would like to attend should contact president David Glick to verify time and place; those who would like to have their discussion item placed on the agenda should contact him at least one week in advance of the meeting.

FEDERATION NEWS

Nittany Mineralogical Society, Inc., is a member of EFMLS, the Eastern Federation of Mineralogical and Lapidary Societies, and therefore an affiliate of AFMS, the American Federation of Mineralogical Societies. The AFMS News is linked from our web site, <<http://www.nittanymineral.org>>, and can be found at <http://www.amfed.org/afms_news.htm>. While the Eastern Federation is working on its web site, their newsletters are available on the NMS web site (linked from the left sidebar of the main page).

The AFMS April Newsletter is available on the web site. The main safety article covers 'Kid Safety'; another covers Field Trip safety; Club Rockhounds of the Year are introduced; Future Rockhounds of America youth programs are discussed. A Call to Donate to AFMS Scholarship Foundation (which covers scholarships in the regional federations including our own) provides lots of history and details of the Foundation.

The Eastern Federation April newsletter is available on the NMS web site. Its editor Mary Bateman says in her cover letter, "This issue is jam packed with a lot of important news: Just a few are:

1. The Federation has begun **Regional Vice Presidential elections** (page 1). Included are a letter and the nomination forms from the EFMLS 1st Vice President.
2. Wildacres has announced their fall Speaker-in-Residence [see page 3 of this NMS Bulletin] and class schedule. An application is also included. Another great speaker and a class for almost everyone to choose from (page 1; class list on p. 14).
3. Each One Teach One is back! (page 3) and the Club Rockhound of the Year still awaits your 2022 club nominee (page 4)
4. An update on what's happening with the EFLMS.org website and a webmaster is needed ASAP. (Page 9)
5. A call for volunteers to either chair or serve on committees (pages 9, 11)
6. More club shows have been added to the Show and Swap list. Hope you can attend one of them and support a club."

Regional Vice President Nominations

If you have a nomination to suggest, contact NMS President Dave Glick no later than the April 20th NMS meeting. Bill Stephens, EFMLS First VP, requests

nominations: “The EFMLS system of Regional Vice Presidents is your first link in contacting and working with the EFMLS. Please give this important vote regarding nominating a candidate all due consideration. This is an opportunity to make your voice heard and have a vote on the EFMLS Executive Board for your region.”

EFMLS President’s Message: PROGRESS

Ellery Borow, President

The encouraging word is -- progress. In conversations with EFMLS clubs more clubs are returning to pre-COVID activities. The progress is slow, but it is progress. Another thing mentioned by many clubs is the need for more members to volunteer. To do what clubs do best, volunteers are needed to keep the club experience rewarding, to keep it creative, to keep it a learning and sharing experience, and to keep it fun.

Progress is being made within the EFMLS. The convoluted e-mail system is being simplified. The Treasurer’s documents have been transferred to the new Treasurer to prepare long-needed financial reports, budgets and tax preparation. The EFMLS Website is being brought back up to speed. There is much repair needed so we ask for your patience. (See page 9 for a progress report.) The EFMLS Zoom account is a work in progress. We soon hope to be offering programs to member clubs and the public. The EFMLS News is publishing more member club show dates. The club bulletin BEAC contest is underway.

The nomination and election process for the EFMLS Regional Vice Presidents is beginning (see page 1). Dates will be set as we make more progress with the process. Until those election results are in, existing Regional Vice Presidents (RVP) have agreed to continue serving. Clubs are encouraged to check in with their RVP or contact any of the other EFMLS officers or any committee for which you have specific questions. (See page 9 for a list of Regional Vice Presidents and committee chairs.)

Openings still exist with several EFMLS committees. If you, or someone you know, might be interested in helping with the progress, promise, or programs of the EFMLS, please contact any executive officer and mention your interest. (Officers are listed at the top of page 2 of the April EFMLS News.)

For the progress to date, I wish to thank the current officers and committee members for their effort, and members of the Past Presidents Advisory Committee for their sage advice.

EFMLS CONVENTION

Did you mark your calendar for September 23-25, 2022?

This year, the in-person (hybrid) EFMLS convention will be held in **Harrisburg, PA**. The convention and show will be hosted by Central Pennsylvania Rock and Mineral Club. Watch for more information to be coming soon.

September 23rd – Cracker Barrel Meeting and
Annual Meeting

September 24th -- Auction, Banquet,
Editor’s Breakfast and Show

September 25th – Show

Election of EFMLS officers will take place at the convention. Positions that will be voted on are:

President Assistant Treasurer (2-year term)

1st Vice President Newsletter Editor (2-year term)

2nd Vice President

The nominating Committee would like to have your input. If you would like to nominate someone for any of the positions (or you would like to serve in one of the positions), please contact a member of the nominating committee—Matt Charsky (matt2430@comcast.net); Bob Livingston (gemguy@verizon.net); Betsy Oberheim (aoberheim@comcast.net).

Pending EFMLS Website Enhancements

Bill Stephens writes: “As first VP and EFMLS Website ‘Coordinator,’ I am pleased to report that our professional website team is working on solutions to enhance the website for better functionality for our member organizations. First and foremost, and as originally recommended by the ad hoc website committee enabled by the 2018-2019 EFMLS Executive Board, we are working toward a solution that will allow each club limited administrative privileges to manage their own profile (officers, contact info and the like)... Other enhancements envisioned include, but are not necessarily limited to: Speaker announcements, links to other important sites, special articles and featured club profiles, a more functional “find a club in your area” page and the like.

UPCOMING EVENTS

Confirm details of events before attending.

April 23, 2022: 31st Annual Chesapeake Gem, Mineral, Jewelry & Fossil Show, by Chesapeake Gem and Mineral Society. 2210 Fairgrounds Road, West Friendship, MD 21794. 10:00 AM – 4:00 PM
www.chesapeakegemandmineral.org/club-show.html

April 30- May 1, 2022: 18th Annual Treasures of the Earth weekend show and sale, by Mineralogical Society of Northeast Pennsylvania. St. Joseph’s Oblates, 1880 Highway 315, Pittston, PA. Sat. 10:00 AM – 5:00 PM, Sun. 10:0 AM – 4:00 PM.
<http://msnepa.org/gem---mineral-show.html>

April 30-May 1, 2022: World of Gems & Minerals Show, by Berks Mineralogical Soc. The Pavilion at Leesport Farmers Market, next to Banquet Hall, 312 Gernant’s Church Rd. Leesport, PA 19533. Sat. 10-5, Sun. 10-4.
<https://berksmineralsociety.com/events-shows/>

April 30 – May 1, 2022: Annual North Jersey Gem, Mineral and Fossil Show, by North Jersey Gem, Mineral and Fossil Club. Midland Park High School, 250 Prospect Street, Midland Park, New Jersey.
<https://nojms.webs.com/annual-show>

May 14, 2022: Spring Rock Swap & Sale, by Franklin County R&M Club. South Mountain Fairgrounds, West of Arendtsville, PA on Route 234. Sat. 8-3. See their facebook page posting Jan. 28.

May 16-22, 2022: EFMLS Wildacres Workshop Spring Session, North Carolina. <http://www.efmls.org/wildacres>

June 4, 2022: Spring Mineralfest, by PESA. Macungie Memorial Park, Macungie, PA. 8:30 a.m. to 3:00 p.m.
<http://www.mineralfest.com>

Sep. 5-11, 2022: EFMLS Wildacres Workshop Fall Session. See p. 3 and www.efmls.org/wildacres

Sep. 23-25, 2022: EFMLS Annual Convention and Central PA R&M Club Show. Harrisburg Consistory, 2701 N. 3rd Street (next to Zembo), Harrisburg, PA 17110 <https://rockandmineral.org/annual-show/>

Geo-Sudoku Solution

O	I	M	N	E	A	P	T	D
N	E	T	M	D	P	I	O	A
P	D	A	O	T	I	E	M	N
T	N	E	A	O	M	D	I	P
I	O	P	E	N	D	M	A	T
A	M	D	P	I	T	O	N	E
D	A	I	T	M	E	N	P	O
E	P	O	I	A	N	T	D	M
M	T	N	D	P	O	A	E	I

A FRIEND TO JOIN THE SOCIETY

The Nittany Mineralogical Society prides itself on having among the finest line-up of speakers of any earth sciences club in the nation. Everyone is welcome at our meetings. If you’d like to be part of our Society, dues are \$20 (regular member), \$7 (student rate), \$15 (seniors), \$30 (family of two or more members, names listed). Those joining in March or later may request pro-rated dues. Your dues are used for programs and speakers, refreshments, educational activities, Bulletins, and mailing expenses. Please fill out a membership form (available at www.nittanymineral.org), make checks payable to “Nittany Mineralogical Society, Inc.” and send them in as directed, or bring your dues to the next meeting.

We want to welcome you!

CONTACT INFORMATION

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 e-mail: gold@ems.psu.edu
 Door Prizes: Dr. Bob Altamura (see above)
 Facebook & Publicity: John Dziak: jjd264@psu.edu

The Bulletin Editor will welcome your submissions of articles, photos, drawings, cartoons, etc., on minerals, fossils, collecting, lapidary, and club activity topics of interest to the members. Please contact:

David Glick E-mail: xidg@verizon.net
 425 Armagast Rd. phone: (814) 810-2116 (h)
 Bellefonte, PA 16823-9762

Newsletter submissions are appreciated by the first Wednesday of the month. Photographs or graphics are encouraged, but please do not embed them in word processor files; send them as separate graphics files (good to highest quality JPEG files, about 1050 pixels wide, are preferred). Please provide captions and name of photographer or artist.

Visit us at www.nittanymineral.org