

Ohio's Professional Soil Scientists

2021 Fall Newsletter Volume 48, Issue 4 Part 1

Message from our president – Dan Michael

I want to thank everyone that contributed to the Fall Training Meeting. It takes a lot of time and arrangements to put on the session. Thanks go especially to Matt Sullivan, President Elect, who managed the entire show.

I'm sure many of you found the topography and soils of the lake plains of Northwest Ohio to be odd and very different.

I'm sure many of you noticed a big difference in the operations at the meetings. You no doubt saw the operation of recording equipment at the meeting. The Executive Council is developing Continuing Education training materials. These future classes will be available for future CE credits. It is our hope that the materials offered will be of higher quality than we have come to expect from SSSA. Classes will include videos in addition to traditional PowerPoint methods.

Of course, this just began as an idea earlier in the spring. We are beyond fortunate to have the hard work of Rachel Warren and Susan Rice to make this actually happen. They both have put in countless hours making all of this happen. It has taken a lot of effort to get to the level they have achieved. There will be a lot more to 'get it to market'.

Since this idea is close to reality, the Executive Council has created a separate Continuing Education Development fund in the budget. So, similar to having a Scholarship fund there will be a Continuing Education Fund. The fund would cover expenses related to purchase of camera, lighting and audio equipment. In addition, there will likely be a need for editing software and internet posting expenses. It is a goal to increase the availability and quality of Continuing Education to our members and others that need the CE credits and information. It is quite possible that this fund will later be self-funding as people could pay for the credits that are offered on-line.

Anyone that wishes may contribute to this special fund to get it started. Any contributions would be greatly appreciated. This fund could help establish a big advancement in our field of soils and related fields.

Dan Michael, CPSS

News from our Treasurer, Rick Griffin

Annual Dues for 2022 and Registration for the March 4, 2022 Winter Annual Meeting at the ODNR Core Repository at Alum Creek Reservoir

You can also renew and sign up for the Annual Meeting on line at

<https://www.ohiopedologist.org/>

Meeting registration and dues payments - 2022

Name: _____

Do we have your correct contact information? Please provide contact information (only if there are changes to your previous contact information or if you are not getting the AOP newsletter by e-mail):

Street Address _____

City, State, Zip Code _____

Email Address _____

Phone number _____

March 4, 2022, Annual Meeting registration:

Attending: ___

\$35 per person

Meeting Total: _____

Association of Ohio Pedologists Membership Dues starting 2022 (and dues for 2021, if you haven't paid)

For members approved as Professional.....\$40

For members approved as Affiliate Members and Student Members.... \$20

Category of Membership (circle one): Professional, Affiliate Member, Student Member,

Honorary (No annual dues)

AOP Dues Amount: _____

Contributions to Scholarship Fund: _____

Continuing Education Fund: _____

TOTAL AMOUNT ENCLOSED: _____

Make checks payable to AOP and send to:

Rick Griffin, AOP Treasurer

937 Laurel Av.

Zanesville, OH 43701

In addition, we would like to hear from you regarding membership and meeting topic ideas.

Report on the Fall Field Days in Northwest Ohio

The AOP Fall Annual Meeting was held at the OSU NW Research Branch in Custar, Ohio on September 30 and October 1, 2021. The attendees were from AOP, county sanitarians, SWCD employees and county administrators. This diverse group allowed for good discussion and a lot of interest in the presentations and pit evaluations. There were 45 participants over the two days. From the conversations and programs, the event went well with a lot of interest.

There were several excellent presentations over the two-day event. On Thursday morning Mike Angle & Tom Valachovics, from Ohio Geological Survey provided an overview of the geologic features of NW Ohio. Mike's experience over the years working with AOP has been a great relationship and we wish him well in his retirement. Dan Michael's presentation of the soils of NW Ohio provided insight on the soil characteristics and what we would see in the pits as the program followed. Frank Gibbs presented on preferential flow in soils and he always provides that different perspective on how soil management affects the flow of water and nutrients.

The afternoon program on Thursday was outside looking at the USDA Subsurface Drainage and Watershed Plots at the NW Research Branch. Kevin King & Jediah Stinner, USDA ARS, Columbus, OH presented their research from the plots. The group took the opportunity to evaluate a Hoytville Soil Pit. Joe Ringler provided information on the pit and several others jumped in and evaluated the pit's features. It was a great group effort in the pit from an AOP perspective and teaching the attendees on the technical features of a Hoytville Soil Series.

The second day of the annual meeting also provided a wide range of topics and opportunities. During the morning session, the group traveled about three miles north of the research station to Liberty Township Winston Cemetery to evaluate a beach ridge soil pit. This was a very interesting pit of sand. Matt Tucker from NRCS, Findlay, OH provided insight to the pit along with a soil core from the surrounding area. As with the pit on the first day, there was a lot of activity and participation from the group. It was fascinating from my perspective to see a beach ridge in the middle of flat topography.

The afternoon session highlighted work in NW Ohio from a water quality perspective. Mike Libben, Ottawa SWCD, provide information based his experience as a farmer as well as a SWCD employee and the programs that will assist with improving the Lake Erie Watershed. The last presentation of the event was focused on H₂O Ohio Water Quality and Management in the Maumee Basin. Boden Fisher from OSU Extension provided information on the partnerships of OSUE, ODA, NRCS and the farming community dealing with agriculture's best management practices.

I appreciate everyone's help from the AOP Executive Committee and the AOP members. I want to send a shout out to Frank Gibbs for helping behind the scenes to make this a successful event. Organizing an event over two hours away is not an easy task and Frank assisted a lot in making it happen.

As we turn the page toward winter, I am looking forward to organizing the AOP Annual Winter Meeting. We have some good practical presentations planned along with looking at the carbon fraction of the soil profile. I look forward to seeing as many people as possible in person.

Until we meet again,
Matt Sullivan

Future meeting announcements and cancelations A meeting notice from Megan Conklin

The Ohio Onsite Wastewater Association

To create a forum to advance and promote all aspects of Ohio's onsite wastewater industry.

Our Upcoming Events

Mark Your Calendar & Register to Attend

Save the Date

OOWA Annual Conference
January 4-5, 2022
Nationwide Hotel and Conference Center
Lewis Center, Ohio

[Registration Form](#) [Tentative Schedule of Events](#)

The room rate is \$119.00 (plus tax). Be sure to book your reservation by December 29, 2021. To make a reservation, call (614) 880-4300 or visit www.nwhotelandconferencecenter.com. Be sure to book within the OOWA block!

Please note that CEUs for this event have been approved by the Ohio Department of Health for Contractors for 12 hours.

AOP Scholarships Announcements and Call Out for Applications

As was mentioned in the last Newsletter and at the Fall Field Days, The Executive Committee has decided to expand our pool of soils scholarships to students attending Wilmington College and Central State University, both who offer courses in soil science and related fields. We also want to extend our scholarship outreach to Ohio students who may be studying soil science either in person or on line in other states, so whether you are attending Perdue, Cornell, Michigan State or on-line at North Carolina State University but plan to work in Ohio, we want you to apply for an AOP scholarship as well. In addition, since you have very few college choices if you want to study soil science, we have decided to expand our outreach to younger students. We will be funding small awards for projects submitted to the Ohio Academy of Science middle school and high school science fairs. By making these award categories available and posted, hopefully we will inspire some youngsters to consider a career in soil science before they pick a school where it would not be an option.

Currently, our Ohio State University scholarship fund is fairly healthy so we will direct AOP collected scholarship funds to students at other schools. If you wish to contribute to Ohio State, by all means please feel free to continue to contribute directly to that program. Matt Sullivan has that information if you need it. If you wish to help us extend our student base, please make your scholarship contributions directly to AOP.

This is also a "shout out" to anyone who would be interested in applying for an AOP scholarship to help them study soil science. We need basic information about who you are, where you are going to school or plan to go to school and a short essay, 1-2 pages about why you want to study soil science, your

hopes and dreams for this career. If applicants would submit that information to me, I will distribute to the Scholarship Committee currently headed by Matt Sullivan. We would like to have applications by June 1st, 2022 at the absolute latest, earlier would be nice, so we have time to consider the applicants to award for Fall, 2022. If anyone knows of a potential student, please pass on my contact information.

We Need Your Help for On-Line Training Modules

Additional On-Line Training Opportunities and Materials Development

As you read in Dan's column in this newsletter and/or witnessed if you came to the Fall Field Days, we have begun exploring the options of creating training modules for AOP members and beyond. We are reminded that SSSA offers short training videos and PowerPoint programs that can be downloaded and taken for continuing education credit. In fact, this has been a source of revenue for the Society. Our organization is blessed with some gifted educators who have the ability to create short presentations that we can make available on the AOP web site.

As you read in Part 2 of the Summer newsletter, the Ohio effort has already begun. One set of PowerPoints from Barry Allred, USDA ARS and I have been hung. More are on their way. We currently have four more standalone PowerPoints in production which we hope to have hung on the AOP web page early in 2022. We also videoed the Fall Field Days and have plans to hang those videos on the site. The topics and opportunities are limitless.

If you are interested in participating, interested in being interviewed or just have topics that you think we should be covering, please let Kathy Sasowsky, kathryn@sasowsky.com or I, AOPEditor2020@gmail.com know so we can get you scheduled.

The Video Production efforts underway

To put it mildly, starting a video production endeavor is not for the faint of heart and if it had not been for my wonderful former graduate student Rachel Warren and my daughter Susan Rice, I would never have agreed to undertake this next leap into educational outreach, but these talented young women assured us it could be done as did Dan Michael and Matt Sullivan who both have children who have become proficient with Go-Pro video cameras and equipment. Research and conversations ensued, lists of needed equipment were made, I handed over my American Express card and orders went out. Since we had never done something like this before, we were not 100% certain that we had purchased everything we needed. We set up a double redundancy recording system, two recording stations, one with the Go-Pro and one with Susan's iPhone. There were last minute trips to MicroCenter for yet one more cable or recharge port for the car in case a battery went down. The Executive Committee gave us a budget of \$900.00 for purchases for the launch. In the end, that was not enough so Dan Michael and I covered the balance. We have started the Continuing Education Fund for 2021.

Then the Fall Field Days arrived and our research team went into video mode. Things did go wrong but the double redundancy saved us. At one point during Dan's presentation, his microphone battery died but fortunately Susan's iPhone picked him up. Finding the best positions to video from also took practice but we also had all the PowerPoints on Matt's computer. Our young camera and technical crew got better. Friday was better than Thursday. We got an on-site interview with Dan Michael on the core taken at the cemetery. They got more self-assured at directing and presenter placement. I'm sure they

Association of Ohio Pedologists Newsletter Volume 48 Issue 4 Part 1

will be that much better at the Annual Meeting. We ended up using just about all the equipment that we brought along.

Once home, we began post-video production which created a new set of challenges. These are huge files and we needed to download them from the Go-Pro and Susan's phone and get them onto our newest laptop here in Worthington and to Rachel's laptop in Cleveland via the Cloud. In addition, we had to move the PowerPoints off of Matt's computer and eventually onto the two production laptops. Piece of cake, except that it was not at all. We have been running AT&T Uverse and Internet here at the house after Time-Warner began to fail (we are on the same hub as Thomas Worthington High School so when school is in session, we are dead in the water). AT&T had not been great but at least it worked most of the time for regular tasks. However, it did not work for this video production effort. It took 11 days and nights, being hooked up non-stop to download the Go-Pro and iPhone onto our laptop and send the files to Rachel. Turns out AT&T is coming in on our telephone wire. The house was built in 1960. To fix the situation and speed up the transfer time, AT&T told us we needed to rewire the whole phone system in the house and we still were looking at two years before we could get fiber optics into our neighborhood.

Eventually, all the files got transferred and Rachel began the editing. Because we have not yet purchased dedicated video editing software, Rachel is making due with three free programs she was able to find. It's slower but it works until we decide what software we really need and can find the funds to purchase two copies. We also resolved our impossible internet problem by installing WOW mesh 500, whatever that means, here at our house yesterday. We can already see the difference. I am blessed to have two young engineering minds at work who simply research and trouble shoot each roadblock as they come to them but absolutely never give up. We will get better and faster with time. This has been a steep learning curve but the rewards for all of our AOP members should be worth it.

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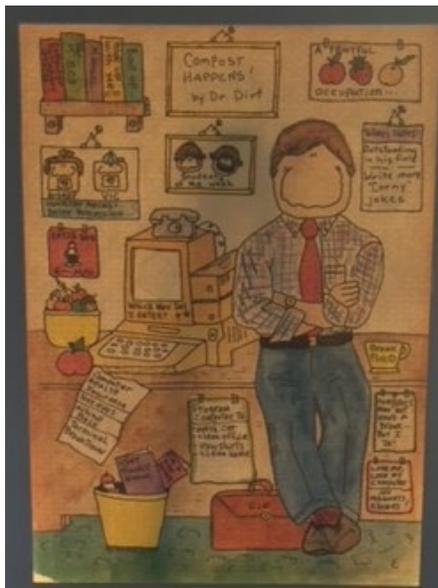
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Don Eckert's Memorial Gathering

As was mentioned in an earlier issue of the newsletter, Dr. Don Eckert passed away last winter from complication with Alzheimer's. His wife Holly and family held a lovely memorial for Don on Sunday, September 19th at the Golf Club of Dublin. Many of us knew Don from his years of teaching at Ohio State. He was Matt Sullivan's advisor. It was well attended by family and friends but far fewer people from the department who would have been there in the days before Covid. We have lost so many from the Department these last two years. Holly led off the eulogies. Several people spoke. Bob Vertrees gave a eulogy of his memories of working and traveling with Don in their years in the department. I spoke from the position of having been one of the students in the Department. There were memories about his love of gardening, his work with the Ohio Wildlife Center and his love of birds, his pets, the family travels, his hat and coffee mug collection. It was a sweet memory of a very nice and kind man.



Mike Angle's Retirement Party

Mike Angle's retirement as State Geologist was held on October 27th at the Sycamore Shelter House at Blendon Woods MetroPark, just a stone's through from the ODNR facilities where he spent 40 years working for the Division of Geological Survey, the Division of Water, Groundwater section where he spearheaded Ohio's Groundwater Pollution Potential mapping program and then back to the Division of Geological Survey as head of the Mapping Program, acting State Geologist and then State Geologist. Along the way he formed a close relationship with the soil scientists of Ohio, continuing the legacy developed by Jane Forsyth, George White and Doc. Goldthwait and has long been a valued member of AOP.



It was a great turnout; the shelter house was full of old timers, current staff, families and friends. We enjoyed a meal



from our favorite place, City Barbeque. Susan wondered why she didn't recognize any of the geologists as she hung out with them as a kid like the soil scientists. We realized that most everyone she knew was in the "retired" group, unlike the soil scientists who never quit! Mike promises to be at the Winter meeting and has offered a write-up in Part 2 of this issue on new maps to be available. We got to meet the new State Geologist, D. Mark Jones. Mark's last assignment was head of the ODNR Core Repository where we hold our Winter Annual meetings. We hope he joins us in March. I have included photos of Mike's gift and a gathering of the old timers who made such important contributions to the maps that we work with every day.

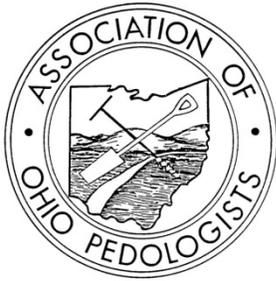
Letters to the Editor

This section of the Newsletter belongs to you, our members and future members, in the hopes that if we communicate with each other, we can find pathways to move forward to train the next generation. Please send your letters and/or responses to the Editor at AOPEditor2020@gmail.com and I will include them in upcoming issues of the Newsletter which is developed and disseminated quarterly.

There are no letters to the editor this issue.

Part one of the Fall Newsletter

This ends Part One of the Fall 2021 Newsletter. I will be completing the second part shortly and sending it out to all the members.



Ohio's Professional Soil Scientists

2021 Fall Newsletter Volume 48, Issue 4 Part 2

2021 Marks 30 years of Research by the Ohio Fracture Flow Working Group

It doesn't seem possible but it's almost 30 years since the day Frank Gibbs and I dug that backhoe pit in Putnam County and he gleefully pointed out the "fluffy clays" on the well-formed vertical fractures below the freeze-thaw zone of the pit. I have long suspected that Frank knew what we would find and he was counting on George Hall and I to figure out what was going on, carrying the research forward. And so began the Ohio Fracture Flow Working Group, made up of just about all the soil scientists in Ohio, a number of the geologists/hydrogeologists and agricultural engineers. We gathered formally Spring break 1993 in Kottman Hall and started working. Our big educational outreach day at Molly Caren was in 1997. We started writing up our observations and began publishing in 2000. Since then, our papers have been cited in peer-reviewed publications and now textbooks written all over the world. I receive notifications for the number of "reads" and citations for the papers that have my name on them, less than half of all the papers we produced, and I continue to get notifications on a regular basis. Those "reads" are over 900 now and there are more than 175 citations. If those numbers represent one-half of our worldwide exposure, it's clear our research and educational outreach continues.

2021 AOP Annual Winter Meeting Summary – Morning Session Coming to the AOP Web Site soon - we hope

We gathered together by Zoom last March and all the talks were located on Ohio State's Zoom account. Unfortunately, after we decided to capture them to hang on the AOP web site, Scott Demyan discovered that they had been erased and had disappeared. Scott still has the PowerPoints and we are hoping that he and his students will be able to recreate at least some of the presentations so that we can offer them on the web site. State tuned for more information on that effort in upcoming newsletters.

The Technical Corner

This is a new column open to any and all members who want to discuss technical issues, equipment, new methodologies, observations, any of the discussions that we would typically have at field days and training sessions which, because of the Covid-19 Pandemic, have not been available to us at this point in time. The Executive Committee is hoping that this column will encourage the ongoing dialogue that has made AOP gatherings so very informative. We may also find that these materials can be used for training the next generation of soil scientists. Would you like to be next?

New Exciting Maps from ODNR DGS – Mike Angle
Ohio Geological Survey to release new series of Groundwater Vulnerability Maps

By Mid-January, the ODNR, Division of Geological Survey, Groundwater Group will be releasing a new seamless series of statewide Groundwater Vulnerability (GV) Maps. This effort is a culmination of a three year project, partially funded by a grant from the Ohio Water Development Authority (OWDA). The GV maps are compiled using the DRASTIC system and will replace the earlier series of Groundwater Pollution Potential (GWPP) Maps that have been in existence since the late 1980's. DRASTIC is an acronym for the seven components that are evaluated: **D**epth to water, net **R**echarge, **A**quifer media, **S**oil Media, **T**opography (% slope), **I**mpact of the vadose zone media, and hydraulic **C**onductivity. These components are evaluated and a vulnerability index (aka DRASTIC number) is derived. Every polygon is assigned the vulnerability index number along with a hydrogeologic setting. The hydrogeologic setting quickly infers the geologic setting (often landscape, aquifer and/or vadose zone). Examples include Buried Valleys, Thin till over Sandstone, Glacial Lakes, etc.

The new seamless GV maps will have improvements over the earlier GWPP series. The settings and ratings have been standardized and reevaluated and earlier border matching issues have been resolved. The GWPP series was mapped over 30+ years and a variety of authors, methods, and mapping philosophy changes were made. Technologically, roughly the first 45 counties were mapped using paper and mylar methods with a slow conversion to GIS beginning about 2000. The first maps totally created in GIS occurred about 2007. All the previous existing maps were reevaluated, checked, and matched in order to create the seamless GIS coverage. In addition, 11 new counties, mainly along the Ohio River in SE Ohio were mapped for the first time.

Soil scientists will be most interested in the soil media, slope, impact of the vadose zone media, and the net recharge components. Soil media are derived from looking at the overall soil profile and determining how restrictive to water flow the soil profile is. Soil types with ratings in ascending order are clay (1), clay loam (3), silt loam (4), loam (5), sandy loam (6) high shrink-swell clay (7), peat/muck (8), sand (9), and gravel (10) and thin or absent (10). Thin or absent soils contain bedrock in their profiles, usually within 54 inches. Slope was derived from looking at DEM and hill shade in GIS and follows increments used in soil mapping: 0-2%=10, 2-6%=9, 6-12%=5, 12-18%=3, and >18%=1. The vadose zone is typically the soil parent material and includes till, alluvium, outwash, and various bedrock lithologies. The vadose media ratings will vary depending upon texture, lithology, compaction, fracturing, weathering, etc. Recharge ratings are somewhat of a summation of all the other properties and are rated in increments of inches per year such as 2-4 in/yr, 4-7 in/yr, etc.

The hydrogeologic setting, vulnerability index number, and all of the component ratings can be viewed by polygon in GIS. There will be an interactive map on the Geological Survey's website by mid-January. In addition, both the Hydrogeologic Setting and Vulnerability Index will be in layouts for wall maps.

CAD Anyone?
A Brief Introduction by Dan Michael

This is a brief article to bring a simple introduction to CAD as a reporting tool. CAD stands for Computer Aided Design. Most of you are familiar with drawing tools such as pencils, rulers, protractors, 'T' squares and a really big eraser. A trained designer can put together a good drawing using these tools.

ASSOCIATION OF OHIO PEDOLOGISTS NEWSLETTER VOLUME 48 ISSUE 4

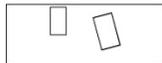
Part 2

Of course, there is a better way. CAD uses a Mouse and a keyboard to create drawings and reports on a computer screen. Later, these creations can be printed out on a plotter and printer.

At first glance, Soils, Geology, Agronomy and other Natural Sciences do not seem to marry well with a design program that deals with straight lines and geometric shapes. However, many have found CAD to be a great tool to express information about the Natural Sciences.

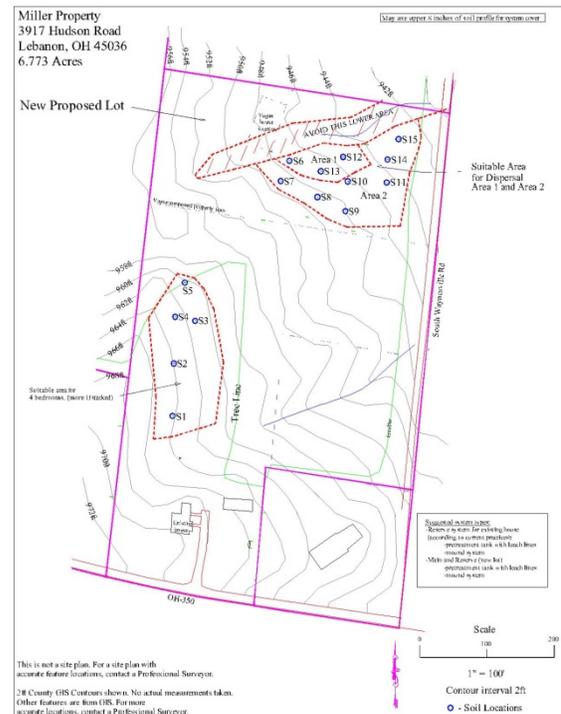
Most drawings come from the simple shapes of POLYLINES, CIRCLES AND RECTANGLES. A Polyline is a series of lines connected end to end. Polylines are the most important drawing features.

The following shows a few of these basic shapes.

Basic Shapes - Quantitative May Input Exact Values - lengths. <i>This feature separates CAD from artistic drawings.</i>	
Polylines 	Rectangles 
Circles 	Text Soil

These were created in CAD. These are rather simple shapes that would be too simple to be of practical use. The figure on the right is a more advanced drawing:

Wow!!! This seems to be much more than lines, etc. But let's look a little closer. The houses and structures are simply rectangles. In some cases, they are multiple rectangles that have been merged. The property line borders are simply polylines. These lines are quite accurate. One major feature of CAD is that features can be drawn at exact lengths and dimensions. So, for example a line could be drawn at a length of 212.33 feet at an angle of 90.234 degrees.



The dashed soil line borders again are polylines that are edited by a simple dashed line command. The Scale itself is actually a few lines together drawn in ortho mode (straight left to right or up and down).

The North arrow is rather complicated. It would have taken someone a long time to create that shape. However, once it is created it can simply be copied to any drawing. The most notable features are the contour lines. They are simply polylines with many segments per line each. They are generated by other programs such as County GIS data into polylines readable by CAD. The soil site locations are performed with a type of circle command.

Finally, CAD does allow the placement of text throughout the drawing in any size or font at any angle.

LOOKING MORE PROFESSIONAL

A CAD drawing typically looks more professional than a hand drawing. However, it is not just about looking more professional. CAD is more professional because accuracy and scale is under total control.

- Because CAD is digital, other digital data can be merged. Most GPS units can export their point locations into CAD files with CAD readable data.
- County GIS data is almost always exportable to CAD files.
- State LIDAR data can also be converted to CAD files.
- State LIDAR photos are also readable by CAD as a background image.
- All of these sources are on the same Ohio coordinate system. So, they can all blend together easily.
- The majority of Surveyors and Engineers use CAD. So, this hastens back and forth communications with those professions.

CAD is somewhat inexpensive. Typically, it cost about \$40/ month for a Lite version. There are also lower cost programs available.

You can teach yourself how to operate the program or classes are available in most areas.

The use of CAD can help a Natural Resource professional create more meaningful reports and maps. It also allows us to create more accurate reports that are more usable by other professionals. It truly is worth the consideration to advance your business and science.

The Second Frontier Revisited – Bob Parkinson, Soil Scientist/State Resource Inventory and GIS Coordinator, Ohio NRCS Retired

Seventy-four years ago, on October 2, 1947, was held in Licking County a conservation field day true to that county's self-proclaimed and well-deserved reputation as "The Land of Legend". Known for its prehistorical features like the Great Circle and Octagon Earthworks and the Flint Ridge State Memorial as well as its historical features like the site of ground breaking for the *Ohio* and Erie Canal *in* 1825 in Heath, the National Road (US-40), and the planting of orchards by the legendary and forward-thinking John (Johnny Appleseed) Chapman, The Second Frontier field day was an epic event in the county that held statewide as well as national significance.

Named the "Second Frontier" to reflect a new period of good soil management required for sustainability following the initial clearing of the land for farming and the resulting accelerated soil erosion during the "first" frontier, this gigantic conservation field day was a cooperative effort of the U.S. Soil Conservation Service (SCS) and the Licking County Soil Conservation District assisted by many others including the Newark Chamber of Commerce, the Ohio Farmer and radio station WLW, and it was designed to convert two adjacent run-down hill farms suffering from accelerated soil erosion and

ASSOCIATION OF OHIO PEDOLOGISTS NEWSLETTER VOLUME 48 ISSUE 4

Part 2

reduced productivity to new improved soil management and conservation practices that would dramatically increase the value of the two farms virtually overnight.

Conceived after the regular business meeting of the Licking County Soil Conservation District some months earlier and patterned after a similar demonstration in Iowa, Pearl Fogle, SCS District Conservationist, J. F. Morrison, Licking District Chairman, Morton Hamilton, SCS Farm Planner, Bill Diehl of the Newark Advocate, and possibly others, brainstormed the idea of a large conservation field day hosting tens of thousands of interested farmers.

It was recognized that beyond improved soil management and the increased farm value, this was an historic event affecting the future welfare of every American citizen, some 130 million strong. The adopted theme: "Poor land – poor people – good land – strong people."

Two adjacent run-down hill farms were selected along the National Road – the route of many original pioneers - just west of Brownsville, OH that met the criteria of relative ease of access, ample parking, and that formed a natural amphitheater to accommodate tens of thousands of anticipated attendees. Farm owners were John Rodman, a veteran of WWII who bought the farm with a G.I. loan, and his interested neighbor George Latham.

In preparation for the Second Frontier field day, a whole-farm conservation plan was developed by SCS based on a scattered farm soils map of the two properties showing the various soil types along with their land capability subclassification. Fogle and Hamilton then determined the conservation needs and worked with Rodman and Latham on the details of the conservation plan.

Conservation practices would include removing 3 miles of old fence and placing new fence on the contour; laying out contour strips; planting trees; constructing diversion ditches; renovating pastures; installing artificial drainage; building a conservation pond; terracing fields; liming and fertilizing cropland; and establishing a wildlife area by planting pine trees and living fence (aka multiflora rose). There was even an exchange of deeds involving 15 acres or so that some field fences could conform to the contour of the land.

Pearl Fogle was in charge of 40 SCS staff who supervised operators. Six hundred volunteers included many vocational-agricultural students from Fairfield, Licking, Muskingum and Perry Counties as well as many former GI's. Equipment dealers were eager to help out the machinery committee, lending hundreds of pieces of equipment to accomplish in a single day what normally would take one individual about 4 years.

Equipment included some 75 tractors; 27 plows; 5 post-hole diggers; 6 disc harrows; 8 grain drills; 2 side delivery rakes; 54 lime spreaders; 4 field cultivators; 3 cultipackers; 2 disc terracers; 2 hydraulic loaders; 2 roll over scoops; 6 bulldozers; and 2 tractor power mowers.

Dozens of concession stands were set up to sell hot dogs and such. The US Army provided public address units, walkie talkies, a battery of jeeps and trucks and some airplanes. Not to be outdone, the navy was rumored to be sending a helicopter and a blimp. To date, this is unverified.

There was a crew of special deputies and Ohio State Highway Patrol to direct traffic and parking in designated fields and the Newark Chapter of the Daughters of the American Revolution cooperated with

ASSOCIATION OF OHIO PEDOLOGISTS NEWSLETTER VOLUME 48 ISSUE 4

Part 2

the Licking County Historical Society and the Ohio State Historical Society to develop a “First Frontier” exhibit with historical farm implements.

The national press attended the event including the Chicago Tribune, Look magazine, Pathe News, the Associated Press, the United Press and Scripps-Howard newspapers as well as leading radio stations, including WLW in Cincinnati which also televised the event. Many stories were published in newspapers around the country.

An official program was prepared with Louis Bromfield, author, farmer and Pulitzer Prize winner welcoming all. Other prominent speakers were Dr. Hugh Hammond Bennett, early soil surveyor and Chief of the SCS, and Ohio SCS State Conservationist Thomas Kennard along with Governor Thomas J Herbert, and US Senator John Bricker. Local farmer and WWII Congressional Medal of Honor recipient Melvin Mayfield of Nashport also attended and was involved with the flag raising ceremony. The program started with an air salute fly-over of the US Air Forces and the Ohio “Flying Farmers” who were to land 1 ½ miles away on a temporary landing strip.

On October 2, fields were terraced; laid out in contour strips for wheat and grass; plowed, disked and fertilized; one hillside field was limed in strips into the shape of the American flag, 1000 feet long and 770 feet wide. In all, 475 tons of lime was spread; 45 tons of fertilizer was applied; 12 acres of trees were planted. By some estimates, ninety thousand people attended.

Commemorating the impact Dr. Hugh Hammond Bennett had as the “Father of Soil Conservation” in America, a special Second Frontier Memorial Plaque honoring him was affixed to a roadside granite boulder along the National Road, presumably at the “Eagles Nest”, where the highway department later built a picnic table, inviting passers-by to enjoy a picnic lunch while watching conservation in action. A decade and a half later, in 1962, a follow-up article written by Emil Ebert, a local SCS technician espoused the Second Frontier field day with its positive outcome for the two farms relative to contour farming with the increased crop yields, reduced soil erosion, and improved wildlife habitat. But as the years progressed into the decade of the late 1970’s and beyond, on these two farms (and many others) a number of fields had been idled, the contour strips were gone and many fields were reverting to brush as part of natural plant succession.

I had the honor of meeting John Rodman when I mapped the area back in the late 1970’s. He was retired by then indicating his farm was leased for coal mining, and that he’d like to move to Alaska. Working alone, soil mapping these farms in my usual peace and tranquility was an interesting contrast to the excitement and noise of 90,000 people scattered over these same fields some 30 years earlier. While a tremendous experience for me, at times I literally was crawling on my belly trying unsuccessfully to navigate through the multiflora rose that had spread from the initial wildlife planting near the pond – an experience I wouldn’t trade for anything.

In the late 70’s, the late Rodney Hayden, then Licking County District Conservationist (and WWII Bronze Star recipient), viewed the condition of the farms as a poor reflection on the esteemed Dr. Hugh Hammond Bennett and consequently removed the commemorative plaque from the granite boulder, putting it in the office storage closet where it resided when I worked on the Licking County Soil Survey. Looking back, an agricultural economist or other analyst might examine this project from any number of aspects involving space, scale and time over the seven and a half decades since the Second Frontier. Short term over the first couple decades at the farm level, the value of both farms increased

dramatically with the improved management, increased crop yields, reduced erosion, increased water for livestock and dairying as well as other ecological benefits. Longer term at the farm level, the success of the Second Frontier would depend on the sustained interest and efforts of the landowners to continue applying good management incurring its associated costs involving time, material and labor given the macroeconomic forces at work. In this case, it's obvious the level of management changed significantly over time as some fields were idled, potentially inevitable as with any conservation farm plan. But in a larger societal sense, the Second Frontier definitely had a statewide and national impact, possibly more difficult to assess. It represented a movement anticipated by the planning committee to travel west down the National Road from Brownsville all the way to the Pacific Ocean to the benefit of each and every American, and that continues today. My kudos goes out to those early conservationists and conservation farmers who were involved with the Second Frontier with its manifold impacts as well as those who carry on today.

The above article was sourced from numerous newspaper articles including the September 30, 1947 evening edition of the Newark Advocate, Emil Ebert's 1962 article "The Second Frontier Today", The Ohio Story, October 1, 1947 No. 116 "The Second Frontier" and personal recollection.

Sept - 1962

The "Second Frontier" Today

Location - on Hill area west of Brownsville

By Emil E. Ebert

IT was a decade and a half ago that the conservation face lifting of two rundown farms in Licking County in Ohio was billed as the "Second Frontier."

The event attracted people from all over Ohio and neighboring States. The late Hugh Bennett, father of the modern soil and water conservation movement and first chief of the Soil Conservation Service, was the featured speaker; and a monument was erected in honor of this pioneer conservationist.

Now that conservation farming has spread across the Nation, and a lot of water has gone through the spillways of thousands of conservation dams, many are wondering what is left of all the commotion of the "Second Frontier." The two farmers on whose land the event was held recall the story of the event that took place at the highest elevation in Ohio, along the nearly 50-mile long Old National Trail, now U.S. Route 40. They recall, for instance, that it was a bright day in October, with bands playing the National Anthem, and thousands of people standing at attention during the raising of the flag as the historical conservation event began.

Here, in one day, hundreds of local farmers and townspeople accomplished what it would take the

average farmer years to get done. Diversions, ponds, and waterways were built. Fences on the farms were removed and replaced to fit the contour strips that had been laid out. One unusual event was re-locating a property line fence to follow the contour of the land. It required a change in the deeds of two farms!

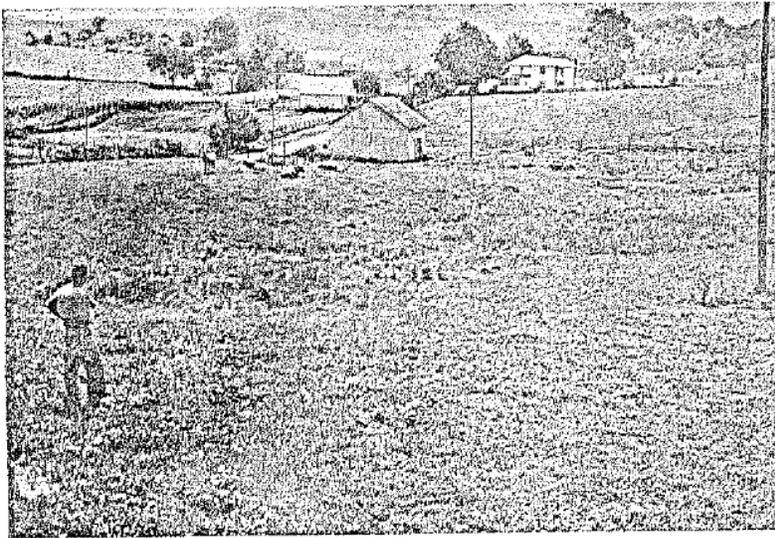
John Rodman still is owner of the farm divided by the Old National Trail.

"Contour farming really pays off in the hilly farm sections," is the way he describes the results. "It's much easier to farm with the contour of the land than to fight soil erosion."

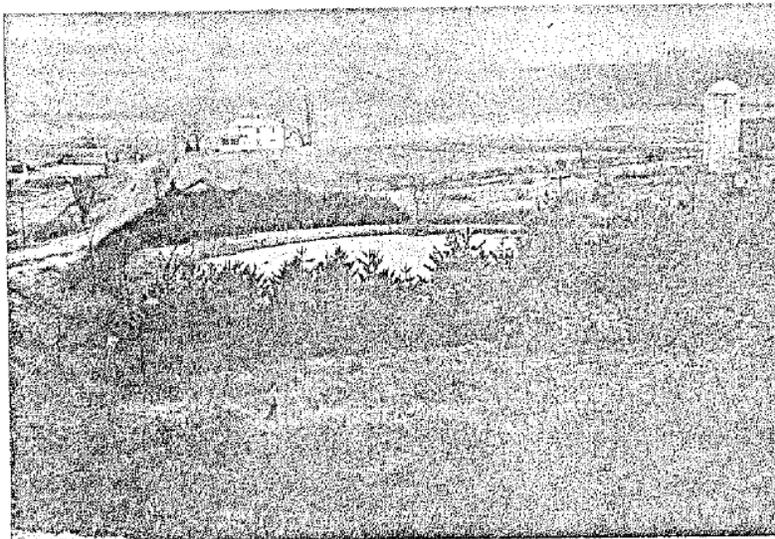


Conservation VIP's at "Second Frontier": Late author Louis Bromfield, general chairman of event and former Friends of the Land president, flanked by former SCS Ohio State Conservationist Tom Kennard (left) and late SCS Chief Hugh R. Bennett.

Note:—The author is soil conservation aid, Soil Conservation Service, Newark, Ohio.



Before.—Almost useless swampy area on Rodman farm at time of "Second Frontier."



After.—The area today with farm pond and pine trees and multiflora rose wildlife planting.

"In 1946, our corn yield was 50 to 60 bushels an acre, and our wheat yield was 15 to 20 bushels an acre. Now, after the 'Second Frontier,' our corn yield has increased to 80 to 100 bushels an acre—even better some years. The wheat yield has jumped to 25 to 30 bushels to the acre. Our grass and legume yields have been much better than ever before. The water from our springs has increased.

These springs alone are worth their weight in gold."

Hundreds of people have visited the Rodman farm since the "Second Frontier," and many farmers since have changed their methods of farming.

Bob Latham, son of the owner of the other farm at the time of the "Second Frontier," now is its owner and operator. It was on this farm that the most severe erosion

had taken place.

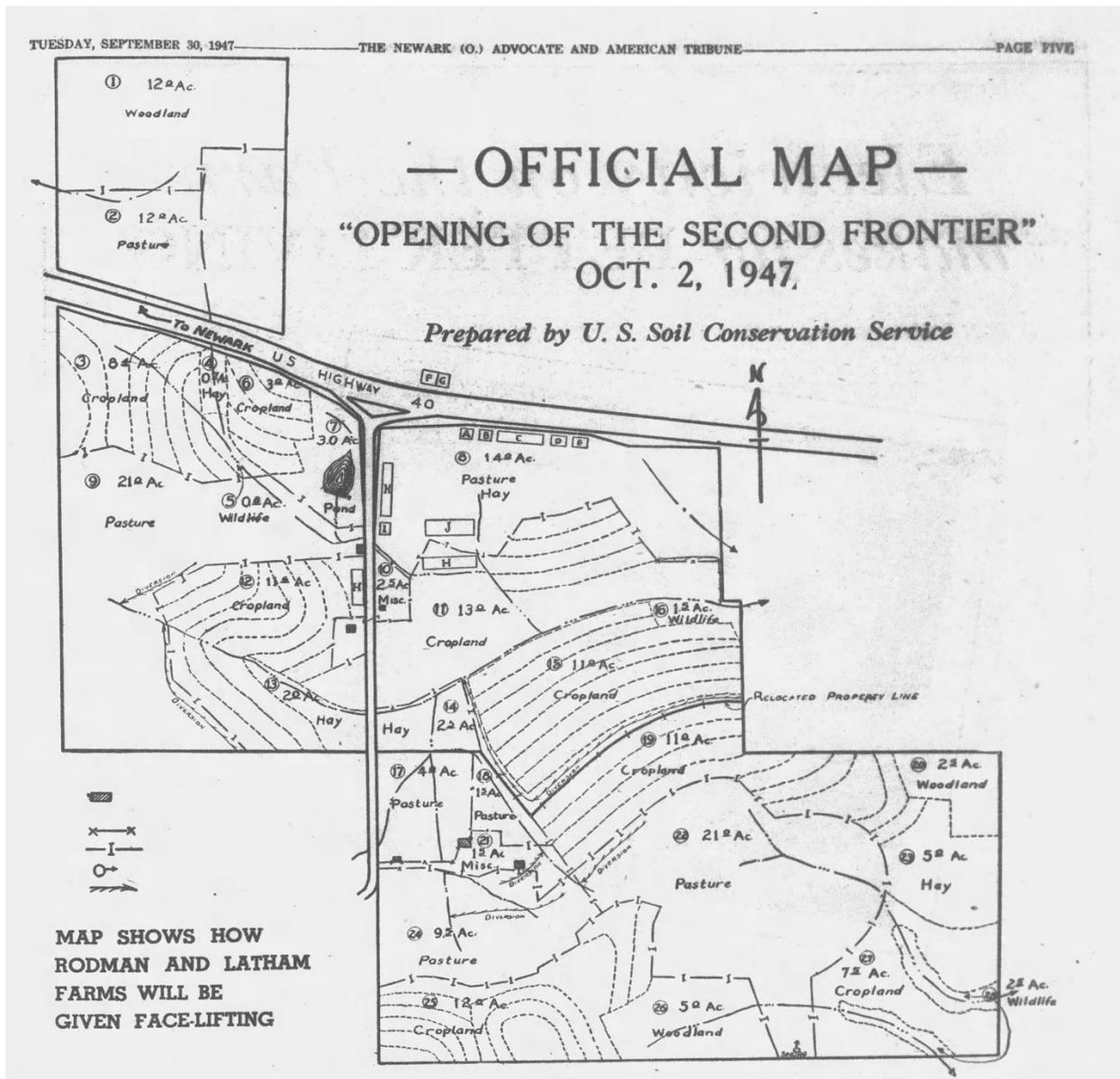
"The gullies on parts of our farm were so deep we could hardly get farm machinery around," he recalls. "Now these areas are level, and the raw areas are covered with heavy grass sod or planted to trees. The contour farming and diversions have helped us keep the soil in place on the cropland fields. Our soil fertility has increased to where we can get a good return from the farm. We have had many people visit our farm from Ohio and surrounding States, and many from much greater distances. Included are classes of high school and university students."

Photographs of the land as it was in 1947 tell the story of the change from the past to today. Where there once was a swampy area of no value, for example, there now is a conservation farm pond surrounded by about an acre of pine trees and multiflora rose. This planting has increased the wildlife population on these farms and the surrounding areas. Many people come to the Rodman and Latham ponds each year to fish. Mrs. Rodman told of seeing five deer on their lawn early one morning.

On the Latham farm, where there used to be gullies 4 feet deep, the land now is covered with pine trees. Their survival has been good, and are serving their primary purpose well in stabilizing the soil on this gullied hillside, in addition to growing into merchantable timber.

Multiflora rose fences, meanwhile, are growing vigorously on both farms. Latham remarked that these living fences have a two-fold purpose: They provide an economical fence; and they make a home and provide food for such wildlife as rabbits, quail, and songbirds.

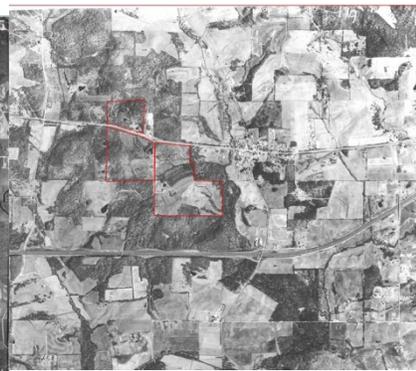
Thus the effects of the "Second Frontier" have spread throughout Ohio's Licking County, and those who started this action have remained true to their pledge to use wisely and well the land that their forefathers brought under the plow a century and a half ago.



1930

1951

1989





Second Frontier – October 2, 1947, late afternoon



Eagles Nest Rock in 2021

Journal Articles etc. of note

That's all I have been able to find that people sent to me to include in this newsletter. If you sent me something and I missed it, accept my apologies and send it again to AOPeditor2020@gmail.com so it does not get lost in my normal work email site. Thanks again for all the contributions.