Friends of the Florissant Fossil Beds eNewsletter

Every Fossil Needs a Friend #50—March 2022

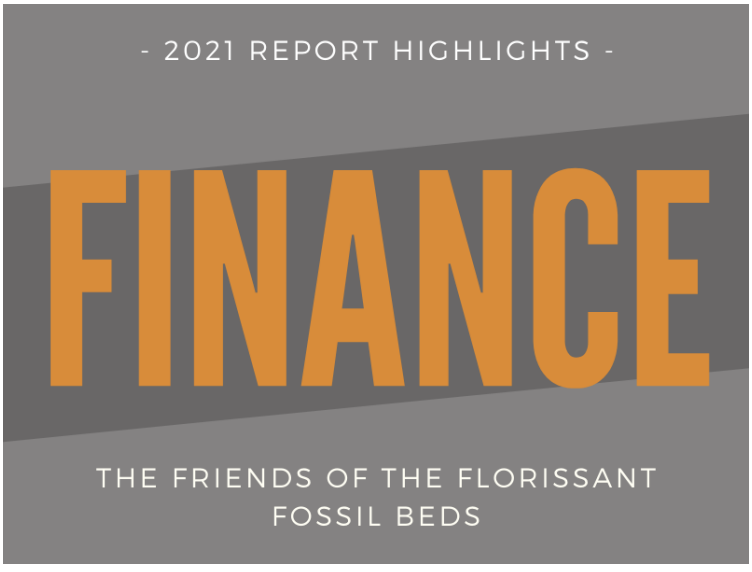
2021 Efforts of the Friends' Finance Committee

2021 was a productive year for the Friends' Finance Committee. Composed of Jeff Brandt, John Schwabe, and Jan Beals; this "behind-the-scenes" group of Board members monitors and reports on the Friends' Finances.

Jeff had served as the Friends' Treasurer for many years. Starting in late 2020, Jan, mentored by Jeff, took over these duties. A great believer in documentation, Jeff made the transition easy. The Friends' Quicken files, Excel summaries, and other supporting documents were transferred over. Jan also took over management of our accounts and reporting requirements (e.g., to the IRS and the Colorado Secretary of State.) Thank you for your years of work, Jeff!

Meanwhile, the Finance Committee met by Zoom to tackle organizational-level goals (John Schwabe added his vast experience in such matters.) These conversations led to a simplification of our monthly report to the Board. With the Board's typically full agenda, most attention is paid to bottom lines. At the same time, however, having the detail for those interested supplemented by critical documentation is also critical. Such itemization is also critical whenever the National Park Service requires an audit of our books. We now have a multi-layered monthly report providing both an overview and comprehensive detail. These monthly financials are sent out to all Board members early each month and later approved by the Board at our monthly meetings.

Another major accomplishment is the better integration of the Finance Committee's efforts with those of other Friends' committees. We now have processes where when donations and membership monies are deposited in the Friends' accounts, we inform those committees. The Donor Recognition Committee now has processes to ensure donors promptly receive letters thanking them for their contributions.



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Newsletter

Specific financial highlights for 2021

Thanks to the generosity of our donors, we were able to:

◊ **Provide essential salary support for Mariah Slovacek,** the Geologists -in-Parks intern. This was the last year of that specific funding source and the sponsor required $8,375 in matching funds.

• In December 2020, an email went out to the members about this financial challenge. Members donated $6,030 within the next month. ***THANK YOU!***

◊ **Pay for a new waterline to the "A-Frame" building**, which is slated to become temporary housing for interns and others, as well as general office and storage space. The final cost was $7,215.51.

• **Our 2021 income was almost $11,000.**

◊ Of special note was the $5,645.94 from the donation box and $3,945.00 in donations. Once again, ***THANK YOU!***

• **2021 Financial Summary,** as reported to the leadership of the Florissant Fossil Beds National Monument and the National Park Service:

Income: $10,942.33

Expenses: -$17,553.85

TOTAL: -$6,611.52

◊ The intern support and waterline expenses comprised $15,590.51, or 88%, of our 2021 expenses.

As we consider 2022, we expect returning to our annual $5,000 commitment for intern support. At this point, we know of no large pending expenses for the Monument. Finally, as the pandemic hopefully wanes, we plan to return our focus to Fundraising. We are hopeful, then, to return to having a surplus at the end of 2022.

We close with a huge thank you to our members and donors. Without you, we would not be able to provide the Monument with vital support. Indeed, in the coming newsletters we plan to recognize your contributions more explicitly.

Jan Beals

Thank You!

Meet Penny Wagner - Acting Superintendent

Greetings, Friends! My name is Penny Wagner and I am currently serving as acting Superintendent for your incredible park—Florissant Fossil Beds. I came from Olympic National Park as the Public Affairs Specialist and arrived at the Monument in early January. I was immediately struck by the beauty of the landscape and the warm welcome I received. I grew up in central Arizona and have a deep love for the Southwest. My husband Caleb also works for the National Park Service, and we have two young children—Raymond (10) and Ada (7). We have been fortunate to work at incredible national parks from Montezuma Castle & Tuzigoot national monuments in Arizona, to Glacier Bay National Park & Preserve in Alaska, and Redwood National & State Parks in California. We have worked at Olympic National Park in Washington State since late 2015.

My career with the National Park Service began with a summer internship while I was in graduate school at Northern Arizona University. I was pursuing my degree in Applied Anthropology and was given the opportunity to work at Montezuma Well National Monument, which is located in my hometown of Rimrock, Arizona. "The Well" as it was affectionately referred to when I was growing up, was always a special place for me and for my family. We had birthday parties, family reunions, and Easter cookouts at the picnic area underneath towering Arizona Sycamore trees. In elementary school, my class would load up on the bus for the three-minute ride down the dirt road to the Well. Our teacher explained to us that it was an Environmental Study Area (ESA) and we used it as an outdoor classroom. We would hike through the riparian habitat to sit along the bank of Beaver Creek, observe nature, and write in our journals. Looking back, I never knew it was a part of the National Park Service. I don't ever remember meeting a park ranger. I just knew it as a special place in my backyard.

During my summer internship, a whole new world opened up for me in a place I had lived most of my life. It was as though I was seeing the place with a new lens. I wanted to learn the name of every plant, lizard, and bird. I soaked up the history and the prehistory like a sponge. I was fascinated by the geology and the endemic species that lived in the Well. And I was captivated by the cultural significance of the Well to the Hopi, Zuni, Yavapai and Apache. During my first day of interpretive training the light bulb went off. This is what I wanted to do with my degree and my career. I wanted to connect people to these incredible places. I was passionate (and still am) about helping visitors create their own emotional and intellectual connections. It started through interpretive programs, guided walks, and casual conversations. I was hooked. Now I serve the public in different ways—but my heart is still in the same place.

Picture in your mind a desert landscape with juniper trees, prickly pear cactus, and yucca. Now imagine walking up a path along the side of a hill in that landscape and when you reach the top you realize you are on the rim of limestone sinkhole over 400 feet across, continuously fed with water from an underground spring. There are cliff dwellings built inside the rim under the overhang to your left and the outlines of two pueblos on the other side. This was a community 1,000 years ago and the reason is clear—water.

It takes more than 10,000 years for the water which fell as rain and snow on the Mogollon Rim to percolate slowly through hundreds of yards of rock and find its way beneath the Well. There, a vertical wall of volcanic basalt acts like a dam, forcing water back toward the surface. Every day, in the middle of the desert, the Well is replenished with 1.5 million gallons of new water. Like a bowl with a crack in its side, which is the translation of the Yavapai name for this place, the water overflows through a long, narrow cave and reappears on the other side at "the Outlet". From there, the water flows into a 1,000 year old irrigation canal that was used to move water to fields of corn, beans, and squash in what is now the picnic area of the Monument where we had family gatherings.

This is one of my favorite places in the world. If you've never been there before I would highly suggest a visit (check out their website here), it's a short drive off I-17 between Phoenix and Flagstaff. I invite you to go to the Well and walk down to the Outlet along the bank of Beaver Creek. Look for the fossilized sycamore leaf hidden in the limestone at about chest height on your left. My grandfather showed it to me and I made sure to show everyone I could. Sit beneath the giant Sycamore tree growing sideways out from the limestone cliff and reaching up to the sky. Take a deep breath and notice the sweet, earthy smell surrounding you. Listen to the water of the creek flowing over the rocks behind you, and watch as it silently flows from the Outlet in front of you. Take off your shoes and dip your feet into the cold water of the canal, and watch the maidenhair fern dance in the ripples. Take it all in…..

I am telling you this story because it is why I am here now. It is my story and it is why I work for the National Park Service. I whole-heartedly believe in the mission to preserve unimpaired the natural and cultural resources and values of the National Park Service System for the enjoyment, education, and inspiration of this and future generations. I believe in the power and importance of these places and the stories we tell. I know each of you have an important connection to Florissant and your own story. And I hope you will share it with me sometime.

Thank you for your commitment and support of the park and our incredible staff. Your time, energy, and dedication have a powerful impact!

The Great Backyard Bird Count – 2022

For the last seven years, The Friends of the Fossil Beds have hosted The Great Backyard Bird Count which is an international Citizen Science event. This year was the 25th year of this event which usually involves over 125 countries for a period of 4 days from a Friday through Monday in the middle of February.

We held our event on Saturday, February 19th from 9 AM to 1 PM at the Florissant Fossil Beds NM. To make your count legal for submission, you must count for at least 15 minutes. Many of our Board members helped with the event. We did 3 separate counts with the help of Jenyva Turner from the Aiken Chapter of the Audubon Society in Colorado Springs. All of the 3 counts involved short hikes which were enjoyed by all. The first hike at about 9:15 was done by one of Catamount Institute's YES (Young Environmental Stewards) Clubs. The second count at 10:15 was done by Board members with Jenyva helping. The 3rd count was done at about 12:30 with Jenyva leading visitors to the Monument.

In all, 6 species were counted, and that included 15 individual birds. The weather cooperated but the birds weren't around.

It was a fun time for everyone. Many children made bird feeders out of pine cones. There was also a variety of other bird activities for children to do such as bird charades and a bird scavenger hunt.

Participants gathering to search for birds

Mariah Slovacek's Contributions to Paleontology at FLFO

Mariah's first experience with the Monument was visiting as a young child with her parents. Her father has fond memories of the area, as he had grown up visiting with his family when there were still two privately owned petrified forests. He was very excited to share the same wonder with his fossil-loving daughter years later.

In the summer of 2014, as a first-year graduate student at South Dakota School of Mines and Technology, Mariah applied for an internship through the Geological Society of America as a GeoCorps intern. She was accepted and spent several months serving at the Monument as a paleontology intern, assessing the paleontology collections for damage, preparing fossils, and assisting other interns with their projects.

In the fall and winter of 2015, Mariah was invited back to Florissant to serve as a Guest Scientist to continue assisting with the Monument's fossil collections. During the year, she sorted, numbered, and properly stored the bulk collections that had been previously in storage. She also created the first two exhibit panels for the new Geologic Trail. During this time, she completed her thesis and graduated with a Master's degree in Paleontology.

In 2020, after three years working at the American Museum of Natural History as the Invertebrate Fossil Preparator, Mariah returned to Florissant. During the first turbulent COVID year, Mariah drew all the illustrations for the Florissant mobile application (coming soon). She also artistically reconstructed a landscape of the Monument's sister site in Sexi, Peru.

In preparation for continued offsite work due to Covid-19, 2021's projects were planned to be largely completable via telework. Thus, much of the year was dedicated to artist reconstructions of key fossil flora and fauna that were posted on the website. A virtual wayside tour was also created to allow visitors a way to visit the Monument from anywhere in the world. For the ten weeks onsite, various collections issues were addressed, including specimen cataloging, labeling, and storage reorganization.

Though not at the Monument for long in 2022, Mariah assisted with preparation for upcoming construction, updating the Monument's collection database, and collating records of fossil preparation.

Mariah has accepted a Lab Manager position at the Perot Museum in Dallas, TX. Although we will miss her, we are ecstatic she's able to continue her career. Thank you, Mariah, for your dedication and hard work! Thank you to the Friends for funding some of her time with us! Mariah's contributions at Florissant will last for many decades to come!

Written by Dr. Herb Meyer

A few samples of work Mariah contributed to

2022 Seminars Update

For over 25 years, the Friends have offered a variety of seminars at the Monument. Our very first seminar was held during the 25th Anniversary of the establishment of the Florissant Fossil Beds NM. Over the years, we offered them for teachers and the general public. These seminars were often full day field trips and one summer we actually had 12 different seminars that covered many topics, such as geology, ecology, paleontology and history. Many changes occurred during that time and about 3 years ago, we stopped being able to offer the seminars for graduate credit. We transitioned to offering shorter 2 hours programs. We didn't have long to try that out because along came COVID.

The Seminar Committee of the Friends' Board began looking for ways to continue offering seminars as we weren't able to offer in-person seminars at the Monument. About 1-1/2 years ago, we decided to try virtual seminars. We learned a lot in a very short amount of time. We eventually established the role of technology coordinator and thanks to the wonderful work done by Wendie Warner, a Board member, we have been able to offer 7 virtual seminars over the last year and a half. We thank all of those who so willingly gave of their time to make this happen.

Our most recent virtual seminar held on March 12th was presented by Dr. Bud Wobus, a retired college professor of 55 years at Williams College in Massachusetts. Over 40 people participated. Dr. Herb Meyer, paleontologist at the Fossil Beds, introduced Bud who first came to Colorado when he was 13 to attend camp which we all know today as Sanborn Western Camps. It was a wonderful program full of great visuals and information.

At a recent meeting of the Seminar committee, we committed to continue offering both virtual and hopefully very soon, in person seminars again. Our next virtual seminar will be held on May 7th. Dr. Vince Matthews, formerly the Colorado State Geologist and Director of Colorado's Geology Survey, will be presenting on materials and information taken from his new book. (See the "Save the Date" details on the following page).

We are contacting a variety of people to hopefully do in-person seminars sometime in the summer when we get the green light. We will be offering a seminar opportunity at Corral Bluffs in the fall. Watch for information on that program and others as we move towards enjoying these offerings together again.

We welcome suggestions from our members about possible programs. If you have a topic or speaker to recommend, please send the information to Sally McCracken at sammckind@aol.com We look forward to seeing you at the Monument for a program or joining us for a virtual program.

Save the Date for the Next Seminar on "*The Wonders of Colorado's Glacial Landscape*"

When: May 7, 2022 at 10:00 AM Mountain

Presenter: Dr. Vince Matthews, Retired, Colorado State Geologist and Director of Colorado Geologic Survey

Presenter's Bio

Dr. Vince Matthews

Dr. Matthews received his BS and MS in Geology and Earth Science from the University of Georgia. He did graduate work at Stanford University's School of Business and received a PhD at the University of California, Santa Cruz in Geology and Earth Science.

He held tenured positions at two universities and taught geology at the University of California, the University of Northern Colorado, Arizona State University, the Frank Lloyd Wright School of Architecture and the University of Texas.

Dr. Matthews served as an executive in the natural resource industry for Amoco, Lear, Union Pacific and Penn Virginia. He is the author of more than 60 technical articles and was the senior editor of the book, "*Messages in Stone: Colorado's Colorful Geology"*

In 2004, he became the State Geologist for Colorado. In that role, he did several day-long field trips as seminars for the Friends. We remember fondly climbing Castle Rock and looking west toward the Rampart Range of the Rookies and having Vince explain all of the geology that we were looking at.

At the present time, Dr. Matthews is the Principal Geologist for Leadville, CO; he is on the Advisory Board of the University of Wisconsin at Eau Claire's Geology and Responsible Mining Initiative; and is on the Advisory Board of the University of Georgia's Geology department.

Dr. Matthews has received many awards including Outstanding Alumnus by University of Georgia, Geology Department, the Pioneer Award from the American Association of Petroleum Geologists, and the Outstanding Field Trip Award given by Arizona State University.

He is a lifelong learner and educator who thrives on sharing the wonders of our earth with others. How fortunate we are to have him be willing to do a virtual seminar for us in May about Colorado's glacial landscape? His presentation will focus on the 5,000 mile odyssey through Colorado in 2018 while he was gathering information and photographs for his new book. Amazing new insights were gained about Colorado's glacial landscape. The revelations on this trip were exciting and informative. This presentation will sample some of those fascinating discoveries.

For those of you who are interested in attending this virtual seminar, **registration information will go out in April.**

New Projects in Paleontology

by Herb Meyer, Paleontologist

The monument's Paleontology Division has been busy over the past year with many projects dealing with new scientific research, developing innovative content for outreach media, and taking care of the fossils both in our collections and in the field. These activities help fulfill the primary mission of the monument defined by legislation in 1969 to protect and study the fossils, and to make new scientific knowledge accessible for public understanding.

Let's start with some of the things we're doing to care for the fossils. Our Museum Technician Conni O'Connor has been busy with our Guest Scientist intern Mariah Slovacek to reorganize and rehouse the fossil collection and create new labels to go with each and every specimen in our collection of 12,000 fossils. Conni also organized a project with our other part-time intern Tylor Birthisel to monitor and photograph fossil sites in the field to observe changing conditions, and to place new markers in the ground to show exactly where we need to put the camera in future years to continue taking photos from precisely the same point.

Our project with the University of Pennsylvania to find new solutions for stabilizing the crumbling petrified stumps is being led by Professor Frank Matero, and three of their interns worked for a month last summer to reassemble the loose pieces on a stump behind the visitor center. This project is continuing as other faculty members at UPENN are becoming involved to develop an innovative design for new stump shelters, because the ones we have currently are ineffective at providing the environmental control necessary to prevent ongoing deterioration of the stumps. A mockup model of one of these new designs will be placed at FLFO this summer to test their effectiveness at controlling environmental conditions. The delicate fossil shale has problems too, and we have two other projects underway to test new consolidants and the effects of humidity on drying the shale right after it is collected.

We have several recent research projects about Florissant that were published in high-profile international scientific journals. A couple of those are about Florissant's fossil plants and how they are used to reconstruct the Eocene forest and climate. Our former interns Sarah Allen and Anna Golub took the lead as the first authors on those two papers, showing their dedication in completing Florissant projects long after their internships had ended! Another paper includes a large selection of Florissant leaves in an open-access image dataset that will help in future identifications of fossil leaves, which you can see here. We're also finding that some of the fossil leaves in our FLFO collection are new species that have not been described before, so that's another thing we're beginning to examine.

The monument is also collaborating in an ongoing research project with Professor Bob Anderson of University of Colorado at Boulder to examine Pleistocene landforms in the monument, including some mysterious mounds south of the petrified forest area and a hillslope of boulders west of the Hornbeck house. And if you were in the monument last summer and saw a guy walking back and forth in straight lines with a device, that was researcher Jay Leaver carrying a high-precision magnetometer to search for buried stumps!

It's important that the knowledge from new scientific research is conveyed to the public to help people understand what the monument is all about. We're creating several forms of new media to help accomplish that goal. One of these has been the new mobile application developed with our partner Mike Kelly from Northern Arizona University, which will be released soon and will allow users along our trails to select from several levels of content to suit their background: junior ranger, explorer, or geologist. Our intern Mariah produced some fantastic new artwork that illustrates geologic processes and reconstructions of some of Florissant's fossil organisms, which you can see here.

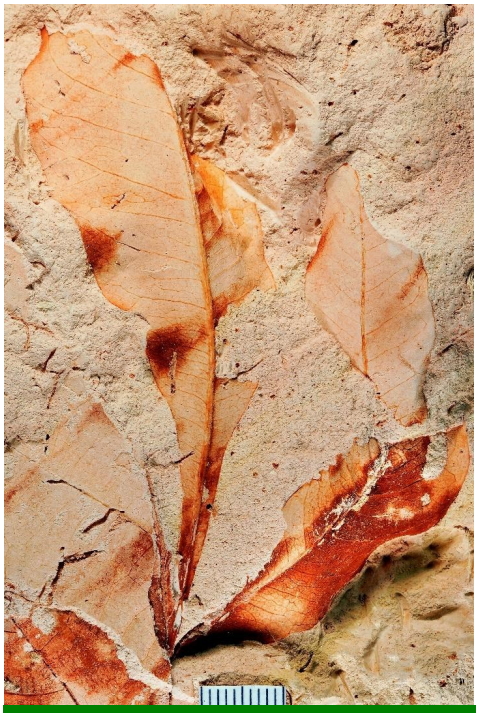
We are also beginning to develop a new video about our fossil collections to show how we take care of them, and that will be added to the website too in the coming months. If you haven't visited our website recently, ***please*** take a look at these links! There's a ***lot*** of information and artwork that took a huge amount of time to create, and we want you all to enjoy the wonderful results!

One of the missions of the National Park Service is to extend the benefits of conservation worldwide. Our Paleontology Division helps accomplish this in our ongoing interaction with other fossil sites, particularly in Peru and Thailand. The Friends of the Florissant Fossil Beds have been very supportive over the years with our project at Sexi, Peru, including serving web pages dedicated to the site, which we plan to update soon and you can see here. Much of our collaboration has been with Dr. Deborah Woodcock of Clark University and colleagues in Peru. Due to Covid we have not been able to travel to Peru since 2019, but during the past year we published two scientific articles about the paleontology of the site and are currently working on two others. One of these, published in a Peruvian journal, summarizes our scientific understanding of the petrified forest at Sexi and makes a plea for increased protection and conservation. We are advocating for better protection of the site, and some members of our team are in contact with the new presidential administration in Peru and members of the Peruvian congress.

One of our active projects about the fossils at Sexi is looking more closely at the fossil leaves that we collected. This project involves one of the monument's former postdoctoral interns, Dr. Sarah Allen, who is now on the faculty at Penn State Altoona. We are describing about 25 new types of fossil leaves that will help broaden our understanding of the dry tropical forest represented by these 39 million year old fossils. But what did this forest look like? Mariah used her creativity to help us answer that question, carefully making artistic reconstructions for each individual tree that we know from the fossil woods and assembling them into a reconstruction of the entire forest. As our project at Sexi was featured in a recent article for *The Conversation*, our research along with Mariah's art were shared with up to 70 million readers worldwide! You can find that article here.

A portion of Mariah's internship has been supported by the Friends, and we are thankful for that! Mariah will be leaving for a new position and we will miss her, but two new interns in paleontology will be coming soon. We are looking forward to a productive season ahead as our research projects at the park continue and visitors have the opportunity to try out the new mobile application along the trails!

This reconstruction of the redwood trio drawn by Mariah Slovacek is an animated feature on the monument's website, where you can watch the tree grow if you look here. The petrified trio of stumps is among the many petrified trees at Florissant that need better protection for the future.



Our ongoing study of the fossil leaves from Peru supports the interpretation that this was a dry tropical mangrove forest that once grew near the coastline. The fossil site is located high in the Andes Mountains near the village of Sexi.