



# Friends of the San Pedro River Roundup

Fall 2025

*In This Issue: President's Report... Volunteers Sought... Bird Study Merit Badge... Christmas Get-Together... Xeriscape Garden News... Track, Scat Project... Nature Store... Motus Tracking Station... Supervolunteers... Debunking River Myths... New/Renewing Members... Contacts... Life Members*

## President's Report

*By Ron Stewart, FSPR President*

Organizationally, we are in great shape. We have over 300 members, nine of whom are on our Board of Directors. Two Board members have informed us they will not run for reelection: Bob Luce and Linda Stitt. Joanne Roberts is running for re-election. The two vacancies happened too soon to find candidates for election, so we are going with a seven-member Board for now. Officers will be elected at the first Board meeting of the next fiscal year.

I want to thank Linda and Bob for serving on the Board. Bob's expertise as a former government wildlife biologist has been of great use during his time on the Board. Linda has been a willing hand in getting things done for the organization.

I also want to single out Joanne Roberts, vice-president and also our lead for the garden and nature docents, and Renell Stewart, treasurer and also operations chief, for their tireless work on behalf of the organization.

If you have any interest in becoming a member of the Board, please let us know. Send an e-mail to [fspr@sanpedroriver.org](mailto:fspr@sanpedroriver.org). Include how long you have been a member, your experience as a Friends volunteer, and a brief bio. Thanks!

Financially, we are in good shape. One of my goals as president has been to ensure ongoing solvency for the organization. Our funds are kept in revenue-producing investments. We develop and stick to an annual budget. Any project costs are offset by donations, to the extent possible. We always will need donations from our members and the public to keep FSPR going.

We have continued our program of docent-led walks and public events. Most of these are open to the public but some of our walks to sensitive areas are open only to members. The talk we sponsored by Dr. Deni Seymour on the San Pedro River and the Coronado Expedition was attended by over 150 people! We also had great turnout for a talk on ocelots presented by Jim Rorabaugh, retired US Fish & Wildlife Service biologist.

Other activities have included a members' Christmas party (which we will do again this year), several holiday open houses at San Pedro House, hikes, and special nature walks. All of these events are announced early to you, our members, and you are cordially invited to attend.

*(continued on page 2)*

We always are seeking new volunteers. Our training program prepares them for their duties. We will be doing another volunteer training this spring. Our volunteer get-togethers have been well attended. We are an organization of volunteers, so I want to take this opportunity to thank all of you who volunteer — it is much appreciated. Would you like to get involved as a volunteer? We would love to have you! Send us a note at [fspr@sanpedroriver.org](mailto:fspr@sanpedroriver.org).

We have expanded our outreach to partner organizations like Coronado National Memorial, Friends of the Huachuca Mountains, and the Nature Conservancy. This has included cosponsoring talks and collaborating on events. We continue as a member of the Upper San Pedro Partnership.

FSPR is an organization that advocates for the protection of the San Pedro Riparian National Conservation Area. We do this by encouraging recreational use of the area, working cooperatively with the Bureau of Land Management to encourage environmental values in its management of the area and educating the public with our walks, talks, and activities. We have no lobbyists. We can't afford to hire litigators. Our focus is on the operation of SPRNCA.

Having said that, we do get involved in issues when they are within our capabilities and scope. Recently, you may have seen our efforts to muster opposition to the creation of an RV park within SPRNCA in the Hereford Road area. You, our members, helped us generate 80 pages of comments against the project to the Cochise County Planning and Zoning Commission. Largely because of that, the plan was disapproved (so far). I will be circulating materials asking you to comment on changes to rules about how BLM lands are evaluated for changes. We hope you will help us oppose that, too.

---

## We WANT You! And Maybe You Need Us??

*By Renell Stewart, FSPR Board Member and Treasurer*

Good news! We are well situated with plenty of volunteers for San Pedro House and Fairbank Schoolhouse. We even have a few folks serving as substitutes for the volunteers with regular shifts. We also have sufficient docents for our popular bird walks and history walks.

Less-than-good news. We have openings in almost all our other volunteer activities. In fact, we REALLY need you to help us out. And by helping us out, we think it just might help you out as well. Need something to get you up and out of the house? Do you have skills that you would like to put to work for FSPR? Volunteering can be a win-win situation for you and the Friends! Becoming involved, hands on, is one of the best ways for people to gain appreciation for our natural and cultural heritage.

Here are areas where we need help:

- **San Pedro House Xeriscape Garden** — Volunteer will perform various landscaping and vegetation maintenance chores.
- **Nature Walk Docent** — Volunteer will be specially trained to lead walks in SPRNCA, including near SPH.
- **San Pedro House Bird Feeders** — Volunteer will manage the SPH feeders/baths program to include scheduling volunteers and maintaining seed supply.
- **Education Program** — Volunteer will assist with or lead activities for school groups and help with initiating new programs for kids.
- **Assistant in Repair of Education Program Bone Box Skulls** — Volunteer will provide temporary help under guidance of a trained volunteer.
- **Natural Resource Surveys/Data Collection** — Volunteer will assist in efforts such as a MAPS (Monitoring Avian Productivity & Survivorship) station and kestrel and owl nest box monitoring.

Come join us! Business and professional people, retirees, and students are all part of our core volunteer team. We hope that one of these opportunities will be of interest to you! If so, please contact us so that we can provide more information and get you started! Call 520-459-2555 or e-mail [fspr@sanpedroriver.org](mailto:fspr@sanpedroriver.org).



*Some of the scout participants and instructors in the bird merit badge workshop. Photo by Louise Wilkinson.*

## BSA Bird Study Merit Badge Workshop

*By Louise Wilkinson, FSPR Scout Liaison*

On the morning of September 27, 15 local scouts, aged 11 to 16, gathered to complete requirements for the Bird Study Merit Badge. (Some work had been completed in troop meetings prior to this date.) This event was spearheaded by Laura Ruhl, scoutmaster of Troop 4445 out of Hereford. Other local troops were invited and a troop from Fort Huachuca attended.

Ted Mouras, long-time FSPR member and part-time bird guide, gave the introductory talk about the importance of learning about and observing birds; the prehistoric ancestors of birds; and the importance of the San Pedro River's riparian habitat and SPRNCA to migrating, breeding, and resident birds. The endangered status of the Southwestern willow flycatcher and Western yellow-billed cuckoo and their dependence on riparian habitats were also discussed, as was the importance of this habitat in the designation of SPRNCA as an Important Bird Area (IBA).

Ted, Connie Wolcott, and Janet Holzworth led the scouts on birding walks around San Pedro House and nearby trails in a quest to locate 20 bird species and hear five bird songs or calls. Prior to setting out, the scouts learned how to use binoculars and report observations from Mike Doyen. Other merit badge requirements completed were creating nature journals, learning bird anatomy and bird adaptations to their environment, how to use a field guide, and building bird houses.

The scouts were interested, engaged, and asked several questions of the docents. Many thanks to Laura, Ted, Connie, Janet, and Mike for their assistance with this workshop.



Ho! Ho! Ho!

Christmas will be here before we know it.

We had a great time at the **members' Christmas gathering at San Pedro House** last year, so we're planning to do it again. Details to follow!



*(Left) Fence preparation in the Xeriscape Garden. (Right) 309th Company, down in the weeds. Bermuda grass removal was brutal! Photos by Joanne Roberts.*

## Explore and Discover: San Pedro House Xeriscape™ Community Demonstration Garden News

*By Joanne M Roberts, FSPR Vice-President & Landscape Volunteer Coordinator*

Let's take a walk and chat about all the wonderful things happening with the San Pedro House (SPH) Xeriscape™ Community Demonstration Garden, our garden volunteers and partners that make a stroll in the garden a peaceful, relaxing, and informative experience.

Tuesday mornings are generally the busiest day for our volunteers. That is the day of the week that most of our nine (soon to be five) team members come to spend two to four hours maintaining the garden flora and pathways. We also see our volunteers making time later in the week for additional care, especially during the driest season(s). Even mature plants need help between rainy seasons. In addition, we have volunteers that come out on the weekends to care for their "adopted" pod(s) and the reflection pond. (More about the pond later in this article.)

What is an "adopted" pod? You need to be somewhat familiar with the history of the community garden. I wrote about many of our projects in the summer 2024 River Roundup (<http://sanpedroriver.org/wpfspr/wp-content/uploads/2025/03/River-Round-Up-Summer-2024.pdf>), plus some history in the winter 2024/25 newsletter (<http://sanpedroriver.org/wpfspr/wp-content/uploads/2025/03/River-Roundup-Winter-24-25.pdf>). Basically, the garden is divided into pods delineated by river rocks and landscaped to demonstrate different ways that you can transform your lawns inexpensively to a more suitable and sustainable landscape for our region known as xeriscape. Most garden volunteers adopt one or more of the bounded areas and focus their attention on their chosen pod(s). The garden has grown since its inception in 2007 from three to 19 pods! Gravel pathways provide an easy walk throughout the garden, with benches and birdfeeders for "wildlife" viewing.

New collaborations have occurred since my last report. We have been working closely with 111th MI BDE-HAVOC Company under the commands of CPT Jack Lee and CPT Mercedes Jackimowicz for the past few years, with their last workday being held in March. As is the way of the military, HAVOC Company had changes in command. But never short of soldier support, FSPR hosted 14 soldiers from the 4TH BDE (MI), 102ND TRNG DIV (MS) on August 3 for a 4-hour work morning. Activities planned for and completed in this effort included laying and leveling landscape gravel in vegetation pods and garden pathways; removing chipped paint, cleaning, and painting the front guardrail at San Pedro House; removing chipped

*(continued on page 5)*

paint, cleaning, and painting donation and permit tubes and trash receptacle lids; weeding and pruning overgrown vegetation; and installing donation bricks within the memorial walkway.

The second collaboration is ongoing with SSG Kris Vawter of the 309th MI BN, B Company to conserve and protect Bailey, the cottonwood tree planted in 1950. Company B has committed to “adopt” the conservation pods 13A and 13B. They have committed to dedicating community service hours for this effort on the second Saturday of each month, beginning on August 9. They will provide routine maintenance and care, with garden volunteers assisting in between their scheduled Saturday hours.

Reflection pond maintenance occurs on weekends. An important component of the garden is education through interpretive signs that add to our organization’s voice, with messages about SPRNCA ecology, xeriscape and rainwater harvesting, and introduces our visitors to common native plant species. FSPR has proposed to create an informational point of interest at the reflection pond. We met with the BLM’s Tucson Field Office biologists to discuss how/if we can maintain a wetland-aquatic system with the existing pond, adding native plants (and fish) and installing an interpretive sign. Initial discussions have gone well. Once approved, we will begin and finish expansion of the pond, place two listed plant species in floating pots, and install an interpretive sign.

Speaking of signs, have you noticed a few new plant signs in the garden and on the trail? Many of the original signs dating back to 2007 have faded and cracked from exposure to harsh outdoor weather conditions such as extreme heat and sun. FSPR applied for and was awarded a \$500 grant to replace and add new signage, such as the short-crowned milkweed sign located on the upper San Pedro trail south of SPH. The grant came from the Fort Huachuca Community Thrift Shop. We are grateful for these monies. The Grant Committee has awarded FSPR previously for workshops, bird checklists, and other educational materials.

We installed a new water gauge in the garden in April. We recorded our first rainfall on June 1, with 0.7”. We take readings once a week and record the amount in a spreadsheet. We are sharing these data with Peter Christensen, hydrologist in the BLM’s Tucson Field Office. While I have some concerns about limitations of the data, Peter reassured me that everyone that operates a rain gauge has similar concerns. To mitigate these concerns, he is trying to locate as many rain gauge sites as possible throughout SPRNCA. He hopes that tallying all available gauges will yield an average for the area. As of September 26, we have recorded 5.7” of rain in the garden gauge. Our rain barrels are full and in one case, has overflowed!

Earlier this year we said good-bye to two senior landscape volunteers, Ted Mouras and Lori Kovash. Their dedication to maintaining the garden and training new volunteers for 20 years cannot be underestimated. Two other volunteers who joined us a few years ago — Bill Walker and Louise Wilkinson — also are leaving. Their dedication and willingness to help in all areas will be greatly missed.

We are a volunteer organization. Without our volunteers none of our programs would exist. If you are interested in signing up for some very rewarding but hard work, please reach out to FSPR at [fspr@sanpedroriver.org](mailto:fspr@sanpedroriver.org) for garden or other volunteer opportunities.



*(Left) Reflection pond. (Center) Milkweed plant and interpretive sign. (Right) Rain gauge. Photos by Joanne Roberts.*



(Above) Current display for jackrabbit scat.  
(Right) Jackrabbit illustration by Shawn Bastian.  
Photos by Joanne Roberts.



## Education Bone Box Material Display Getting New Look:

***Tracks, Scats, Oh My! Teaming with Cochise College Art Department, Sierra Vista Campus***

*By Joanne M Roberts, FSPR Vice-President*

Is everyone familiar with educational bone box materials? Over the years, the FSPR education program has acquired an exceptional collection of natural and replica biofacts consisting of animal skulls, scat (poop), tracks, feathers, bird eggs, and hides. These items are displayed at special events and during school group programs. Over time, items need to be replaced, refurbished, or given a new life through how they are displayed.

After unsuccessfully searching for a ready-on-the-market display card, I reached out to JenMarie Zeleznak, an art instructor at Cochise College. I introduced her to my idea and provided her with a sample card. After a few conversations and with approval of her Dean for an independent student study program, we are bringing the idea to a finished product. I met with JenMarie, her student Shawn Bastian, and FSPR education docent Ginny Bealer to go over the project, after which Shawn began her work that she plans to complete over two semesters.

Getting to know the artists has been a real pleasure. JenMarie is an artist and educator living and working in Sierra Vista. She currently teaches drawing and painting courses at Cochise College, Sierra Vista Campus. JenMarie is an associate member of the Society of Animal Artists. Her work is included in the permanent collection of the National Museum of Wildlife Art in Jackson Hole, WY. Her artwork has been exhibited nationally, most recently in a solo exhibition at the Arizona-Sonora Desert Museum in Tucson.

JenMarie's creative practice investigates the subtle forces that shape interconnection: between organisms, systems, and environments. Rooted in empathy, adaptation, and attunement, her work invites viewers into a shared space of presence and perception. She brings this same spirit into the classroom, where she loves guiding students to see more deeply, grow their confidence, and discover the ways that art can connect them to themselves, to each other, and to the world around them. This interest and exploration of connection also informs her teaching and community projects, including the collaborative wildlife tracking cards initiative, which interweaves education, art, and conservation to deepen awareness of the natural world.

Shawn was born at Fort Hood, TX, the fourth of five children in a military family. In 1972, her father was stationed at Fort Huachuca and later retired after 20 years of service. A native of Arizona, her father loved the desert and often spoke of its beauty. As a child, Shawn did not share that passion and missed the trees and greenery of the East Coast. Over the years, however, she has come to appreciate and love the desert landscape of Cochise County. Shawn attended various elementary schools in the area and graduated from Tombstone High School.

*(continued on page 7)*

In 1990, she married Terrance “Terry” Bastian, a member of the US Air Force. Together, they had the opportunity to live and travel across the United States. When Terry retired in 2007, they chose to return to Cochise County, to be closer to family. Shawn and Terry are the parents of seven children and the proud grandparents of nine.

Shawn is currently a Fine Arts student at Cochise College. Although she had always been interested in art, she once believed she lacked talent and did not pursue it. About six years ago, she took a drawing class with JenMarie, which became a turning point. She discovered that with dedication and practice, artistic skills can grow, and that talent is a gift that must be nurtured. She is excited and grateful for the opportunity to continue developing as an artist, while contributing to the community she calls home.

What exactly is the project? Shawn will bring her talents through representational artwork of almost 30 species of animals, their scat, tracks, and walking patterns. She will illustrate the species scat and tracks onto the card and the replica scat and tracks will be displayed on the card with their corresponding species illustration. A species profile will be printed on the reverse side that will include information such as, but not limited to, the common and scientific names, preferred habitat, diet, and status (e.g., rare, common, endangered).

Through this collaboration and additional discussions, we believe that this partnership can only grow into ways to explore blending studio art, community engagement, research, and exhibition of ecology through art.

---



*San Pedro House. Photo by Ron Stewart.*

## What's New at the Nature Store

*By Sierra Delgado, FSPR Nature Store Manager*

There's always something new to discover at the San Pedro House! Our shelves are freshly

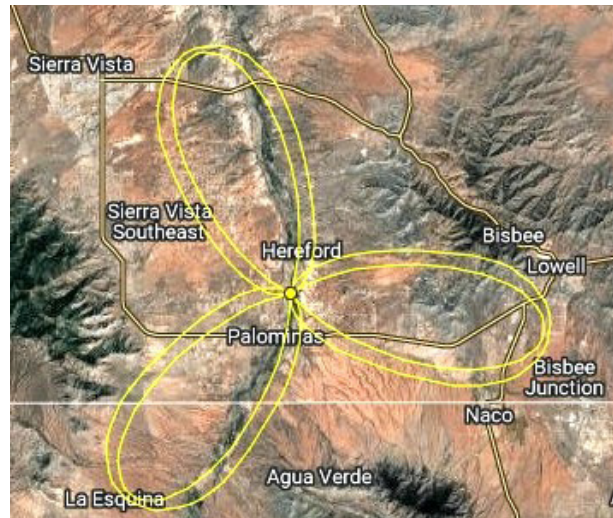
stocked with unique gifts, books, local art, and fun finds for all ages. Fall has brought in cozy new apparel, beautiful calendars, and handcrafted jewelry that make perfect gifts. Members always enjoy their special discount - our way of saying thank you for supporting the Friends of the San Pedro River!

Summer is our slow season: even though we stayed open daily, there were some days with no sales—or even visitors. We understand — it *was* hot out there! But now that the weather is perfect, we're excited to welcome visitors back. We're re-stocked with lots of favorites and a few soon-to-be favorites. We're already looking forward to our upcoming **Holiday Shopping Fridays** — running from November 28 through December 19 — complete with hot cider, cheerful company, and special deals. Stop by soon, say hello, and see what treasures await at your local nature store. We can't wait to share a smile, a story, and maybe help you discover something special.

And if you can't make it to the store in person you can still enjoy your member's discount and shop from home! FSPR logoed items, a selection of books, and our popular baseball hats are all available online. Use the code **FRIEND** at checkout to receive your member's discount. Visit <https://SanPedroHouse.myShopify.com> to see the full collection and be sure to share this link with friends and family who live out of town, so they can browse too!



*Antennas installed on a mast at the Casa de San Pedro by SABO. Copyright 2025 Southeastern Arizona Bird Observatory.*



*Map of the coverage of the antennas as lobes emanating from the Casa de San Pedro Motus station. Copyright 2025 Southeastern Arizona Bird Observatory.*

## **Tracking the Flyway: FSPR Help Fund New Motus Station with BLM**

*By Robert Weissler, Former FSPR Board Member and President*

This summer the Friends of the San Pedro River (FSPR) helped fund the purchase of equipment for a Motus automated wildlife tracking station in the San Pedro Riparian National Conservation Area (SPRNCA). The FSPR Board approved up to \$2000 to purchase antennas, radios, and other items in order to leverage and supplement funds the Bureau of Land Management (BLM) had available for this purpose (albeit only until the end of the fiscal year). Donations to support this project were solicited and received to offset the cost, reducing the need for FSPR general funds. By September, all the required equipment was purchased, delivered and stored by BLM, awaiting installation. Site planning is still ongoing.

The Motus Wildlife Tracking System is a powerful international collaborative research network that uses automated radio telemetry to monitor the movements of birds, bats, and even large insects. It employs a network of sensors that can detect miniaturized radio transmitters that researchers have attached to wildlife. To date, 2226 Motus stations worldwide have detected 55,457 animals across 464 tagged species. Data are used to track movement and study changing distribution. This is especially useful for migration patterns, one reason that installing a Motus station in a bird migration hotspot like SPRNCA is important.

Bird banding has been an established method of tracking wildlife for over a century. Traditionally, biologists have captured birds in mist nets, then attached bands or rings to their legs to track their movements. Migration studies are possible only because of such tracking techniques. However, hoping that a banded bird will be re-captured and recorded in various locations during its lifetime is a fraught, time-consuming enterprise. MOTUS automates tracking and recording to take "banding" into new territory, making it more efficient, affordable, and cost-effective.

The Motus network is an innovation that uses lightweight tags that can be detected from distances of 10 miles or more by receivers as tagged wildlife passes nearby. How light are the tags? Some are light enough to place on hummingbirds! These tags transmit information that is received by antennas on stations placed across the landscape. This powerful conservation tool transforms how we understand and protect biodiversity by deploying an improved, standardized technology whose data are automatically recorded and made available to researchers.

*(continued on page 9)*

This new station effectively will expand the electronic net of the Motus network, ensuring that the globally important migratory corridor of the San Pedro River is better monitored than ever before. This will provide crucial data for the conservation of species traversing the entire hemisphere. The SPRNCA Motus station will fill a vital gap in coverage along the river, directly complementing the efforts of other conservation organizations that already have established stations.

For example, the Appleton-Whittell Research Ranch of the National Audubon Society recently installed a Motus station. This station has been instrumental for studying priority grassland species, including Botteri's, Grasshopper, and Cassin's sparrows, better understanding their local movements and seasonal connectivity across increasingly rare grassland habitats.

In addition, the Southeastern Arizona Bird Observatory (SABO) has installed a new Motus station along the San Pedro River at the Casa de San Pedro Bed and Breakfast. SABO also has plans to install another station at the Ash Canyon Bird Sanctuary at the southern end of the Huachuca Mountains south of Sierra Vista. These stations provide critical coverage across the transition zone from the riparian area to the Huachuca Mountains, capturing data on everything from migratory sparrows to bats and Yellow-billed cuckoos.

Motus works by using miniaturized tags with unique signals that automated receivers distributed throughout the landscape pick up. Researchers attach tiny, lightweight radio transmitters, often called "nanotags" (some weighing as little as 0.2 grams), to study subjects like birds. These tags are small enough for many of the region's smallest songbirds and even hummingbirds, providing a safe, effective tracking solution. Each tag emits a unique, digitally encoded radio signal several times a minute. A Motus station consists of a receiver connected to an array of antennas mounted on a mast or structure. When a tagged animal flies within range (typically 10 to 15 kilometers, depending on terrain), the station automatically detects and logs the signal's unique ID, along with the date, time, and direction of travel. These data are then uploaded to a central international database, where researchers worldwide can track the full, continent-spanning journeys of their tagged animals in near real-time.

The name "Motus" originates from the Latin word for "movement" or "motion." It was chosen by Birds Canada, the organization that spearheaded the creation of the international collaborative network in 2014, because it captures the system's core purpose: tracking the intricate movement and behavior of migratory animals — birds, bats, and insects — across vast distances.

Once the BLM's new station is installed, it will ensure that these federal lands — recognized as one of the most important riparian areas in the United States — are equipped with the technology necessary to contribute to this collaborative, hemisphere-wide effort to protect migratory wildlife. The data collected will be essential for identifying critical habitats and stopover sites, guiding future conservation and land management decisions in SPRNCA and beyond.

---

## Volunteers with 2000 Hours of Service

*By Renell Stewart, FSPR Board Member and Treasurer*

The Friends of the San Pedro River places a brick in the Dedication Walkway at San Pedro House (SPH) whenever a volunteer reaches 2000 hours of time donated. It is one small way for us to say "Thanks!" When you stroll down the walkway you are presented with an honor roll of the people that have been the mainstays of our organization: Dutch Nagle, Chris Long, Ron Serviss, Joe Patz, and many more. We are proud to recognize these people and their work for the San Pedro Riparian National Conservation Area.

We are happy to announce four more people who have been honored in this way.

- **Norm Richey**, SPH, Fairbank Schoolhouse, and SPH bird feeder volunteer
- **Jim Herrewig**, FSPR Board of Directors, AZ Site Steward for SPRNCA sites
- **Joanne Roberts**, FSPR Board of Directors Vice-President, FSPR nature walk docent, Xeriscape Garden volunteer lead
- **Ginny Bealer**, nature walk and education docent

## Debunking Common Myths about the San Pedro River

By Ron Stewart, FSPR President

It doesn't take long to hear tall tales about the San Pedro River. We have tried for years to debunk these stories, but they continue to crop up. I want to enlist your help. My hope is that you will squash these myths whenever you hear them!

### ***Myth #1: The San Pedro River is dry mostly because of the 1887 earthquake. This is False.***

Old-timers love to tell valley tenderfoots (tenderfeet?) that the San Pedro was once a major river (think the Missouri). It moved underground after an earthquake in 1887 created cracks in the bedrock that swallowed most of the water. That is why there isn't much water in the river now.

There was indeed a 7.2 magnitude earthquake on May 3, 1887. Its epicenter was 45 miles south of Douglas. Contemporary newspaper articles described it. The river and adjacent springs went dry briefly and then resumed flowing. For a time, there was increased flow when the shaking of the ground caused water to separate and enhance the river's surface flow. There was no long-term effect.

Figure 1 is an historic photo from 1880 (pre-earthquake) taken in Charleston, looking across the river valley eastward toward Millville. The river, which runs between the two towns, is not visible – its location can be inferred from a couple of treetops sticking up. That is my point: if the Missouri River was there, couldn't you see it? Wouldn't there be a big riverbed with vegetation along it? Also, where is the riverboat landing to pick up the refined silver? Where are the crowds thronging the quay waiting for the paddleboat steamer to blow its whistle to announce its arrival? By the way, there was also a coffer dam a mile upstream. How did the boats get past that?

A companion tale that you may hear is that this earthquake caused the mines in Tombstone to flood. ***This is False.*** Flooding in the mines began as early as 1881 when miners reached the water table, six years before the earthquake.

What seems to be going on here is that there is the desire to create a narrative that the depletion of the aquifer in the San Pedro River Valley is a natural event and not caused by the actions of its human residents. Depletion of the aquifer by massive groundwater pumping for residential use, agriculture, and industry is the reason the river is now reduced from what was seen even as recently as the 1980s – not the earthquake!

### ***Myth #2: There used to be riverboats on the river. This is extremely False.***

If the river was once the size of the Missouri, then there must have been riverboats on it, right? Maybe Mark Twain worked there as a riverboat captain? There is so much wrong with this — where should I start?



Fig. 1. Charleston and Millville in 1880.



Fig. 2. No riverboats on the San Pedro!

What can we learn from history? The Spanish army of invasion led by Frank Vasquez from Coronado entered the San Pedro River Valley in 1539. Members of the expedition wrote extensive journals. In these they described the Rio Nexpa, as their native guides called the river. They said it was an arroyo, a small, intermittent stream. Historic photos of the San Pedro from the late 1800s, what few there are, depict a small waterway at best (Figure 1).

Cochise County was opened to American settlement in 1876 when the Apache were exiled to Florida and elsewhere. Tombstone and Bisbee mining both started in 1877. Railroads reached the area in 1881, opening the door to the explosion of cattle ranching. Had there been steamboats on the San Pedro, their period of operation would have been brief, between 1877 and the arrival of the railroads. There are huge pens around the area that were used to load cows onto trains. There are no such structures by the river and absolutely no mention of boats, riverboat quays, or landings in any historical text.

The river is sustained by a relatively small watershed in an arid region, so even though it can be impressive during floods, it has never been a large river. Though the river itself was small, it was an obstacle to travel because of the flanking marshlands and hard to cross except at a few fords. Perhaps this is the source of the myth that it was once much wider.

So, riverboats? Except perhaps during a flood, there has never been enough water for a boat of any sort to travel more than a few feet on the river (Figure 2). My guess is that people have seen photos of riverboats on the Colorado River during this timeframe and confused them with the San Pedro.

***Myth #3: The cottonwoods and willows along the river are not native. This is False.***

Cottonwoods and willows along the San Pedro River are native to the area, as shown by their mention in the Spanish journals and place names from colonial times. Their numbers have increased along the river since the 1890s. These trees — and all vegetation — have further increased along the river in the San Pedro Riparian National Conservation Area since grazing was stopped.

Historical accounts (pre-1890) described the river as a slow-moving, meandering, marshy waterway with few trees. Cottonwoods, willows, and other trees occurred only in scattered places. The Mexican land grant in the Benson area, Tres Alamos, illustrates this point: the presence of three large cottonwood trees was notable enough to name the land grant after them. Another is the public picnic area at Lewis Springs in the 1890s. The shade created by the grove of cottonwoods there attracted crowds during the summer.

Cottonwoods and willows grew in scattered locations, but not like the current gallery forest. To speculate, it is likely that beavers living on the river until the late 1800s kept the number of trees down. Another cause for the lack of trees along the river in these photos was their use as a source of fuel for domestic fires. The grazing along the river that began with Mexican ranches in the 1820s also probably played a role in reducing vegetation in the riparian corridor.

Floods in the 1880 and 1890s scoured the riverbed, causing downcutting and loss of marshlands, creating more favorable conditions for cottonwoods and other trees to sprout and grow. That growth has continued since until today, when a riparian gallery forest of cottonwoods, Gooding willows, walnuts, and other trees and shrubs flanks the river (Figure 3).

***Myth #4: The cottonwoods are using all the water. This is partly True, but...***

You may hear and see this statement “You could solve the river’s water problem by cutting down the cottonwoods.” While there is some basis for this assertion, ultimately, it is nonsense.

Let’s start with the factual part. All plants draw water from the soil and lose it through the leaves, a process called transpiration. The upward pull of moisture and nutrients from the roots is fueled by evaporation. Cottonwoods, the largest plants along the river, use the most water. The water level in the river actually temporarily goes down when the cottonwoods are “drinking.”

*(continued on page 12)*



*(Left) Fig. 3. Cottonwoods in the San Pedro Riparian National Conservation Area..*

*(Above) Fig 4. Ed Leviness works on water pumps along the San Pedro River in the 1950s.*

Water use for transpiration is significant, but this usage is offset to a degree by other factors. The trees shade the river and give off humidity as water evaporates from the leaves, which lowers the water's temperature and reduces evaporation. Also, plants and debris in the river channel slow runoff, allowing water to soak into the soil, enhancing bank storage and aquifer recharge. Cottonwoods in particular are adept at slowing the flow of water and enhancing recharge of the aquifer. Walk the river after a flooding event and you will see piles of branches and cottonwood trunks plugging the river, forming dams and retaining water.

The real point here, though, is a little more basic. The reason that SPRNCA was set aside was to preserve and foster the riparian forest and the incredible diversity of plants and animals it supports. The cottonwoods and willows are the key plants in this ecosystem. Cut down the cottonwoods? Yes, you might save some water by cutting down the trees, but the trees and the forest they create are the whole point — you would destroy the rare desert riparian ecosystem by doing so.

***Myth #5: We have a deep aquifer here, so there is no need to worry about our water supply or the San Pedro River. This is False.***

For millions of years water from the mountains has run down into the valley, soaking in along the way and saturating the deep alluvium of rock, sand, and soil. This subsurface water is called the aquifer. In places, the top of the aquifer is so close to the surface that the river flows above ground. Where the aquifer is below the surface, the river is dry. Rainwater runoff augments surface flow seasonally.

When we use more water than is being replenished in the aquifer, the aquifer sinks and the river goes dry. When it drops well below the surface, beyond the reach of tree roots, vegetation dies. The Santa Cruz River in Tucson once looked very similar to the San Pedro, with substantial surface flow, before lowering of the water table caused the river to dry up and the trees to die (Figure 4).

As we drill deeper wells to reach the lowered water table, the cost to dig them and pump water increases. Dissolved solids increase the deeper you go, making water pulled from deep in the aquifer unsuitable for use without expensive treatment. It is the level of the usable water at the top of the aquifer that we should be concerned with, not its depth.

## New & Renewing Members, February through September 2025

Molly Molloy & Joe Altimus, Jerry & Mary Ann Ambrose, Gary & Pat Andrews, Mike & Lidja Baker, Peggy Baker\*, Sharon Baron, Terence Berger, Ann Blatte, Donna Brandsey\*, Carolyn Britten \*, Christie Brown, Katherine Brown\*, June Campbell, Shirley Campbell, Wendy Campbell, Jered Cargman, Richard Carlsen, Patricia Carlson, Thomas & Laura Carroll\*, Sue Carter, Margaret Case, Erik Chait\*, Christi & Ken Charters, Steve & Sally Chew, Mary Cole\*, Cinda Combs, Heleen Bloethe & Kevin Cox, Douglas & Natalie Danforth, Lynn Daugherty, Barbara Davidson, Georgia Decker, Tom Deecken, Kathy & John DeKeizer, Ken Russell & Laurel Delany, Thaddeus Paprocki & Catherine Dunn, Tina Eden, Jeanne Emerson\*, Michael Farmer, Kim Fisk, Craig & Stacey Fletcher, Rich & Sharon Gambino\*, Linda Gantly, Paula Gordon, Julia Haldorson, Patsy Hansel, Robyn Heffelfinger, Lee & Charla Henney, Peter Herstein, Ken & Sandy Heusman, Thomas Hildebrandt\*, Patty Hoke\*, Anna & John Howard, Jeffrey Hustad, Dawn Inman\*, Thomas & Dale Ireson, Steve Johnson, Peter Kadrach, Laurie Kagann, Georgia & Douglas Kellough\*, Ellen Kelly\*, Christine Kisthardt, Dave Klak\*, Daniel & Ingrid Koch, Theresa & John Lawson, Neil Leeman, DeForest Lewis, Robert Luce, James Godshalk & Marjorie Lundy, Rick Marsi, Susan Mathews, Theresa Mathis, Bob Mayor, Alice Moffitt, Michael Montague\*, Ted & Melanie Mouras, Deborah Moyer, Charles Mullany, Pat Nance\*, Jay Nenninger, Fritz Neuhauser, John Newton\*, Stephen Ogle, Mavis & James Owens\*, George & Jill Paul, Judy Phillips, Mark Precup, Karen Ratte, Matt Reed, Judy Reis, Norman Richey, Jean Robertson-Tomlin, Scott Robinson, James Rorabaugh, Carolyn Santucci, Tom & Judy Shepherd, Doug Snow, Anke & Herbert Staffenski, Robin Steinberg, Scott & Sarah Sticha, Barbara Terkanian, Nancy Thut\*, Mary & Scott Tillman, Cindy Tuell, Judy Visser\*, Judith Visty, Dianne & Thomas Wartman, Russell & Julitta Watson, Robert & Liza Weissler, Robert White, Erika Wilson, Arthur Wohlers, Connie Wolcott, Jeanette & Christian Wood\*, Brenda Zaun, James Zuelow

\*New member

## Contact List

- President—Ron Stewart
- Vice-President—Joanne Roberts
- Treasurer—Renell Stewart
- Secretary— Sally Rosén
- Directors—Jim Herrewig, Louise Wilkinson
- Newsletter Editor—Sue Leskiw
- Administrative Officer—Carolyn Santucci
- Bookstore Manager—Sierra Delgado

To contact any of the above individuals, please call the office at 520-459-2555 or e-mail us at [fspr@sanpedroriver.org](mailto:fspr@sanpedroriver.org) or

[sanpedrohouse@sanpedroriver.org](mailto:sanpedrohouse@sanpedroriver.org).

Mailing address: 9800 East Highway 90, Sierra Vista, AZ 85635;

Website: [www.sanpedroriver.org](http://www.sanpedroriver.org)

***Friends of the San Pedro River (FSPR) is a nonprofit, volunteer organization dedicated to the conservation of the River and the health of its ecosystems through advocacy, educational programs, and interpretive events.***

## FSPR Life Members

Chris & Gretchen Bachman, Christopher Ballog & Anne Isbister, Ron Beck, Verna Berry, Dean Bibles, Laura Cardinal, David Carlstrom, Jane Chambers, Debbie Collazo, Jan & Christy Davids, Stephen Deatruck, Nancy Docherty, David Dross, Bette Ford, Tricia Gerrodette, Ken Gray & Barbara Grabowski, Myrna Harris, Ann Hartfiel, Joan Hauflin, C. Vance Haynes, Steve Hazen, Jim Herrewig, Tug Kellough, John Largay, Brandon Lloyd, Chris & Dwight Long, Judah MacCabee, Ronald Mauk, Gary & Gretchen Michaels, Arthur Norcross, Mary Olinger, Nancy Mocroft & David Paulson, Ann Prezyna, Dot Rhodes, Carol Roche, Sally Rosén, Jamie Sayen & Rachel O'Meara, Mary Roger, Fred Sladen III, Renell Stewart, Ron Stewart, Natalie Sudman, Doris Turner, Susie Walker, John Wallin, Jann Weiss, Bert Whitehead, Louise Wilkinson & Mike Doyen

[FSPR Life Members have made a one-time donation of at least \$500.]