



Friends of the San Pedro River Roundup

Spring 2014

In This Issue: Goodbye, Robert... President's Report... Chris Long Award... Cochise College Volunteers... Art Festival... Executive Director's Report... In Memoriam... Scouts at River... Clovis People... Patz Bequest... Film Festival... Mud Party... River Cleanups... Archaeology Month... BLM Induction... Unitarians... St David Walk... President's Report (Feb)... BLM Visit... Water Cycle Event... Arroyos... SW Wings... Calendar ... Adopt-a-Camera... Members ... Contacts

Goodbye, Robert



During the May 23 meeting of the FSPR Executive Committee, Robert Weissler gave notice of his intent to step down from the position of executive director on June 14. After focusing for a couple of years on the FSPR mission, he wants more time for other pursuits. Nevertheless, Robert plans to continue volunteering for FSPR. "Volunteers are at the heart of what makes the Friends a lasting fixture of education and interpretation of the natural and cultural resources along the San Pedro River and a steadfast advocate for its protection," said Robert. "It has been my privilege to serve you and all friends of the San Pedro River these past two years. I know that FSPR is positioned well to continue its mission with an energetic Board and its many other dedicated volunteers."

President's Report

By Ron Serviss

Several months ago, our executive director and I were having a conversation with one of our County Supervisors. During that conversation, I asked him what he thought of the importance of FSPR in shaping policy to save the River. His response was that we were "insignificant." At first, his words felt like a slap in the face, but as I thought about it over several months, I began to understand his point of view. FSPR is not a big organization, as we have only about 300 members. We aren't large landowners like some developers and cattle ranchers. We don't file lawsuits and we don't picket Supervisor and City Council meetings. All we do is quietly lead walks, organize events, publish articles, maintain two visitor centers, and perform a host of other activities that help educate the public on what an incredibly special place the San Pedro Riparian National Conservation Area is.

We don't consider the River for its political connection to the County's largest employer. We don't see it for its potential as a grazing area to serve a few ranchers. We don't determine its value by how it impacts some wealthy out-of-state developer. We simply value it for what it is: one of the few remaining riparian habitats in the Southwest that contains an incredible wealth of natural and historic wonders.

A few days ago, I was on a tour that included Murray Springs. We were surprised and honored to have Dr. Vance Haynes, who led its discovery and excavation, join us. During the tour, he expressed his opinion that if the United States was a member of UNESCO, Murray Springs would be classified as a World Heritage Site, because it is that important. Can you imagine that, a World Heritage Site right here

in Cochise County? Can you imagine visitors coming from all over the world to see one of the most-significant cultural sites in North America? (Of course you can, because they already come to see our incredible diversity of wildlife!) But because the US isn't a UNESCO member, the point is moot ... maybe.

I am saying all this because last Saturday at our Festival of the Arts, I finally had that Supervisor's "insignificant" comment exorcized from my soul. As I walked around viewing the children's art on display and saw their simple, honest creations that showed their love for nature, I understood that while we may be perceived as insignificant in the halls of power, what we do is incredibly important where it matters most, in the lives of our children. And I'm OK with that.

On behalf of the children, I thank each of you for what you do for our River.



Vi Hillman, Chris Long, and Robert Weissler. Photo by Dwight Long.

Chris Long Wins Prestigious Award

By Robert Weissler

Chris Long received the President's Call to Service Award in a May 14 ceremony held at San Pedro House. The ceremony at the ramada was attended by 15 fellow volunteers. Laura Mackin served snacks and light refreshments. Vi Hillman, field manager of BLM's Tucson Field Office, and Robert Weissler presented the award certificate and letter signed by President Obama to Chris. This award recognizes the lasting contribution of over 4,000 volunteer hours to the federal government. In fact, Chris has well over 5,000 hours lifetime!

Among her many volunteer accomplishments, Chris served as FSPR president in 2009 and 2010, drafted its first Strategic Plan and the Assistance Agreement with BLM, planned special events, prepared presentations, wrote grant proposals, and guided walks. An FSPR docent since 2005, Chris served as a Board member from 2005 through mid-2012. She established the FSPR Cultural Docent Program, managed the FSPR Natural History Docent Program, and edited and revised the FSPR Docent Manual. Chris continues to volunteer at San Pedro House and Fairbank Schoolhouse.

Prior to her retirement from Civil Service, Chris managed large-scale communications test and evaluation projects for the Department of Defense. A frequent traveler, Chris lives near Canelo with her husband Dwight (also an FSPR docent).

Cochise College Volunteer Day

Cochise College held a Faculty/Staff Development Day on February 21. The college provided time in the afternoon for college employees to volunteer with local groups. FSPR coordinated with Sharon Gilman at Cochise College and local residents to organize a clean-up event at the Lehner site within SPRNCA. Thirteen volunteers participated, along with BLM Ranger Bob Steele. More than 10 large bags of trash were hauled out of Lehner Wash.





(From left) Art teacher Liz Lopez, FSPR president Ron Serviss, and event chair Éva Nagy,



Bruce and Bill Stoller creating magic under the big tent.

Art Came to the River

By Éva Nagy

Our first-ever San Pedro River Festival of the Arts was held May 17 at San Pedro House. Despite the weather (95°F with gusty winds), it was a success, with room for changes and improvements. What was going to be “An Evening for the Senses,” the festival offered an art exhibition and contest, kids’ art auction, live music, raffle, and refreshments.

The Huachuca Art Association (HAA) handled jurying the art and invited plein air painters for the event. They provided grids for the front porch, where the art was displayed. Our distinguished judges—artist and FSPR member Linda Feltner and photographer and author Bob Luce—took slightly more than an hour to come up with the winners. The theme was the San Pedro Riparian National Conservation Area.

First prize (\$200, provided by Ron and Renell Stewart) went to Sam Woolcott of Bisbee’s Sam • Poe Gallery; second prize (\$50 SPH gift certificate) was awarded to Robin Lara of Sierra Vista; and Ken Sikora, a member of Bisbee’s Central School Project, took third prize (\$25 SHP gift certificate). We thank all artists who participated.

The kids’ art auction benefited Coronado Elementary School and FSPR. Elizabeth Lopez, the school’s art specialist, was invaluable in making this portion of the festival a success. She, along with her husband Jeff and FSPR members Al and Dee Puff, set up the display in the two kiosks and handled sales. We presented Liz with a Certificate of Appreciation for her dedication.

Former Bisbee resident and renowned pianist and composer Bruce Stoller provided music for the festival. He was joined by nephew Bill Stoller on bass for a wonderful performance. Jonathan Wick, a friend and student of Bruce’s, also made an appearance at the beginning. Bruce played the yucca flute, his own invention. The wind and dust didn’t deter these fine musicians, who played almost three hours.

Many thanks to everyone who helped put on the Festival of the Arts:

- Organizers: Laura Mackin, Renell Stewart
- Setup/takedown crew: Charlie & Pam Corrado, De & Ceci Lewis, Ron Serviss, Pete Sockness, Robert Weissler
- Event volunteers: Jane Chambers, Tom Clancy, Liz Lopez, Dutch Nagle, Al & Dee Puff, Sally Rosen, Ron Serviss, Ron Stewart, Jimi Walker, Robert Weissler, Tom Wood
- Judges: Linda Feltner, Bob Luce
- HAA President Liz Horning and calligrapher and FSPR member Gabrielle LaFargue
- Special thanks to artist Peter Young of Bisbee for recommending the musician and Bruce Stoller for coming down from Tucson to support the San Pedro River.

Volunteer at the Fairbank Schoolhouse

By Sally Rosén

It's so isolated! It's too far! It's too boring! These are some of the reasons I hear from volunteers about not working at the Schoolhouse. I find them pretty amazing because I have found the volunteering there to be fascinating, peaceful, and a great learning experience. I have met people from all over the world there and they all love to talk. It is fun to watch the kids that come in and decide to play school. They are so excited! And the adults are really impressed with our museum displays and our new brochure.

It is true that there are fewer visitors and fewer sales than at San Pedro House. That gives you time to do some reading, either your personal reading or the many materials available about the history of the area. Once you learn a little, you will want to know more, and since most of the visitors are there for the history, they are really appreciative of the information you can impart.

When the weather is nice, you can sit outside on the bench under the tree and read (or knit, write, whatever). Are you a nature lover? The wildlife at Fairbank seems more abundant because there are fewer visitors. We see deer and javelina at the overflow of the water tank where they come to drink—or just stroll down Railroad Avenue. The trees are always full of birdsong—bring your binoculars!

Isolated? Fairbank is as close to civilization as San Pedro House, and there are site hosts if you need anything. Yes, it is a bit further to drive, but I find that worth it for the enjoyable hours spent there. Please consider volunteering a shift or two at the Fairbank Schoolhouse. I can almost guarantee that you will get hooked.

Executive Director's Report

By Robert Weissler

Beaver Video

Mike Foster and the FSPR Education Committee completed a video, "Return of Beaver to the San Pedro River," just prior to the Wild & Scenic Film Festival held in Bisbee in March. The film traces the history of this creature along the San Pedro, its extirpation in the early 20th century, its reestablishment 15 years ago by BLM and Arizona Game & Fish, and its habits and life history. The video is available on Vimeo at <https://vimeo.com/84733621>.

RMP Field Trips

The Tucson Field Office of BLM organized a series of field trips to support alternatives development for the SPRNCA Resource Management Plan (RMP). These excursions covered such diverse resources and topics as range management, water resources, travel and transportation management, cultural resources, and wildlife. Participants were introduced to these resources and strategies that BLM staff will analyze and consider when drafting a set of management alternatives.

BLM Training Workshops

Staff from BLM and FSPR attended two valuable courses this spring. In late March, BLM and Southwest Decision Resources presented a new two-day workshop, "Adaptive Management and NEPA." NEPA (the National Environmental Policy Act) provides a regulatory framework for managing natural and cultural resources on public lands. The course emphasized how adaptive management can add flexibility to NEPA analysis, Environmental Impact Statements, and RMPs, while NEPA ensures accountability. Meanwhile, BLM Volunteer Administration was held in April at the National Training Center in Phoenix. The course covered liability concerns associated with engaging volunteers and provided guidance on working with site hosts, managing volunteer events, and partnerships between the BLM and nonprofit organizations.

(continued on page 5)

SPRNCA Trail Map

Dwight Long volunteered hundreds of hours to draft a SPRNCA trail map covering the entire Conservation Area that includes inset maps of each trailhead. The map will be printed soon using funds from a Cochise Community Foundation grant and be offered for sale at SPH and elsewhere for a nominal cost. Once the BLM completes its Travel and Transportation Management Plan and RMP for SPRNCA, the trails and roads on the map will be updated to reflect those designated by BLM.

5000 Acres of Open Space to Benefit the River

Over the last few years, The Nature Conservancy has collaborated with Cochise County to acquire several properties just west of SPRNCA. These properties are known as Palominas, Riverstone, and Bella Vista, named after the ranches or communities to which they belonged. The county itself acquired an additional property at Three Canyons Road and Palominas Road. A total of 5,000 acres now are covered by conservation easements that prevent large-scale groundwater withdrawals, lot splitting, and residential development in perpetuity. Several FSPR Board members toured these properties with Dave Gann and Brooke Bushman of The Nature Conservancy earlier this year to discuss how these lands might serve recreation, education, and conservation goals beyond aquifer protection and enhancement.

On March 10, Cochise County and The Nature Conservancy held an open house at the Brite Spot Restaurant about the Palominas recharge facility currently under construction adjacent to the Palominas School. The event was hosted by Karen Riggs, director of the Cochise County Highway and Floodplain Department, and Dave Gann and Brooke Bushman of The Nature Conservancy. They shared design concepts and expected outcomes, then answered questions about the project. About 50 people attended this event. Riggs described county efforts to lay the groundwork for this project that will provide much-needed flood control for the school and neighboring properties. It will consist of a large detention basin that feeds a series of smaller basins equipped with infiltration trenches, dry wells, and other features to facilitate stormwater recharge into the alluvial aquifer below the San Pedro River. Construction should be completed by the monsoon.

Fundraising: CLF \$15K Match & AZ Gives Day

By raising in excess of \$10,000 of new donations and well over \$5,000 of renewing contributions, FSPR met the goal set by the Conservation Lands Foundation to qualify to receive \$15,000 in matching funds, which were received in early May. FSPR also received \$1,295 in contributions for Arizona Gives Day that occurred on April 9. This was the first time that FSPR participated in this statewide fundraising event.

Sierra Vista General Plan Update

FSPR was represented at recent public hearings held by the City of Sierra Vista Planning Commission to offer suggestions to improve the Sierra Vista General Plan Update, VISTA 2030. In particular, suggestions focused on Element 8 (Water Resources) and included recasting water conservation strategies as explicit goals to protect the River and the aquifer (water for people AND the environment).

WRRC Conference Recap

The University of Arizona Water Resources Research Center (WRRC) annual conference, "Closing the Gap Between Water Supply and Demand," was held April 8 in Tucson. This conference was organized in collaboration with the Arizona Department of Water Resources and attended by 350 participants from throughout Arizona. It featured presentations and commentary on water supply sustainability, groundwater storage, recycled water, revised watershed management practices, climate scenarios, weather modification, rainwater harvesting, stormwater capture, and ocean water desalination. These topics were presented by speakers and panelists from government, academia, and industry, followed by audience questions. Many water-themed posters were presented at a poster session, culminating in a competition for the best student poster and a celebration of WRRC's 50th anniversary.

(continued on page 6)

Western Rivers Day

In news regarding our partners, Audubon's Western Rivers Action Network held Western Rivers Day at the Arizona State Legislature in Phoenix on March 11. This advocacy event promoting protection of rivers, including the San Pedro, was a great success, with 45 participants, including Audubon Chapter leaders from across the state and Arizona Wildlife Federation, Trout Unlimited, and Sportsmen for Wildlife partner participants. Appointments were arranged with 25 legislators, including House/Senate leaders, chairs/co-chairs of key Natural Resource Committees, the governor's Natural Resources Policy Advisor Kevin Kinsall, and Michael Lacey, new director of the Arizona Department of Water Resources.

Wet-Dry Mapping

The Nature Conservancy, BLM, and FSPR are making plans to hold the next wet-dry mapping of the San Pedro on Saturday, June 21. Volunteers have been assigned and will be contacted by their team leaders. Training will be held the week prior to the event.

FSPR Lectures on Hiatus

Doug Hocking, noted local scholar, writer, and photographer, presented railroad, ranching, and mining history and archeology along the River from Tres Alamos to Hereford and the border at the April lecture. He covered such diverse topics and questions as the location where the Jackass Mail and the Butterfield crossed the San Pedro, what Tres Alamos was like, and where Drew's Station was located and why that mattered.

In May, FSPR hosted Jessica Moreno, a wildlife biologist with Sky Island Alliance, who presented "Sky Island Carnivores: Where Black Bears and Jaguars Meet." This well-attended lecture covered often-misunderstood predators such as black bears, bobcats, jaguars, mountain lions, ocelots, coyotes, and wolves. Her presentation looked at the natural history and behavior of these animals, including how they interact together and with their environment. Jessica shared recent news and suggested actions individuals can take and some of the myths and fears surrounding these creatures. The presentation included motion-activated photography and images of the typical landscapes these wildcats and other predators occupy.

The lecture series is on hiatus until fall. November's program will present research on "Springs in the Sky Island Region."

U-Rock! Awards

The City of Sierra Vista Tourism Commission's U-Rock! Awards Ceremony was held May 20. The Commission gave this year's U-Rock! Tourism Hall of Fame Award to San Pedro House. The plaque was presented to FSPR on behalf of Laura Mackin, the bookstore manager, who oversees operations and does an excellent job handling inventory and the volunteers who deal with sales and visitor contact. The plaque will be on display at SPH soon.

In addition, the Commission gave its Chairman's Award to Dutch Nagle for his years of dedication to tourism in the community. The award was presented by Sierra Vista councilperson Henrietta Huisking and signed by her and Terry Kimbley, Tourism Commission Chair. Dutch, a former FSPR president, continues to volunteer as a docent and at the SPH bookstore. Dutch worked on implementing the point-of-sale system at SPH, performed water quality testing and well monitoring with the Water Sentinels, and leads interpretive river walks and bird walks at the Sierra Vista Environmental Operations Park and along the River itself. Dutch will be stepping down from his role on the Tourism Commission, so FSPR is looking for a replacement.

School Field Trips

In April, the education program hosted 24 fourth graders from Naco and 20 children from Carmichael Head Start. In May, 70 preschool children from Carmichael Elementary and 23 third graders from General Meyer participated in River field trips. John Rose, Virginia Bealer, Gabrielle LaFargue, and Catherine Newell were the docents leading the kids at these events.



Bonnie Bosworth.

In Memoriam: Bonnie, Lester, Michael & Steve

Long-time FSPR volunteer Bonnie Bosworth died comfortably at home on April 5 after a brief hospital stay. She loved the River and was especially happy to be an FSPR volunteer. Bonnie managed our membership records for many years until a few months ago. A part of her will always be at San Pedro House.

Lester Mauk passed away at age 86 on June 5. He was a founding member of the Friends of the San Pedro River back in 1987. Lester was committed to the conservation of the river, especially the portion that eventually became SPRNCA. With over 4000 hours of volunteer time for FSPR, Lester could be found at San Pedro House most days with tools in hand clearing the trails, chatting with visitors, or staffing the bookstore.

Michael White died March 29 from a brain tumor. A regular volunteer at Fairbank, Michael was a real asset. One volunteer there wrote: "...I'll really miss him. I really enjoyed talking with him and will always remember his great wit. Very glad I had a chance to know him, if only for a brief time." All the volunteers who knew Michael have expressed extreme regret. Returning visitors would ask about him when he was away on a trip. He touched us all and will be truly missed.

FSPR members, particularly those who participated in clean-up events or volunteered with the San Pedro Water Sentinels, are saddened by the sudden death of the Sierra Club's Steve Pawlowski. On June 2, he collapsed at the Arizona State Legislature while waiting to testify about water conservation and riparian habitat preservation. As Water Sentinels program coordinator for the Club's Grand Canyon Chapter, Steve had traveled to Hereford in March to present the FSPR monthly program, "Saving the San Pedro River." He described how citizen science, hands-on conservation, and advocacy can be used to help shape a more-sustainable future for one of the most ecologically significant rivers of the Southwest. Steve regularly drove down to Cochise County to attend San Pedro cleanups and Water Sentinels events.

Scouts Visit the River

By Robert Weissler

Three families with Scouts came out to SPH on April 16 to learn about the River. The group included eight children, among them Scouts aged 8-11 years old with three parents in tow. Given the high winds, it was good to have a small group, as we all fit on the porch as I talked about the Friends, the River, and its wildlife. It soon became apparent that the kids were more interested in getting outside. They climbed up the Big Tree and when we walked to the River, they crossed it on logs. The bottom line: the kids had fun at the River and learned about it in the process.



Photos by Robert Weissler.



(Left) Dwight Long holding a mammoth tooth. (Right) Throwing an atlatl. Photos by Merrie Wolfie.

Clovis People

By Dwight Long

Where did they come from? What did they do in the San Pedro Valley? Where did they go? What happened to the large mammals (megafauna) that these people hunted? These are some questions that I in my role as docent tried to answer during a guided walk at the Murray Springs Clovis Site.

On May 17, I led a group of 14 along the quarter-mile interpretive loop. I spoke and answered questions about the Clovis culture and the Clovis people who traveled through the San Pedro Valley about 13,000 years ago. Archeological evidence shows that roaming bands of Clovis people were in the valley several times. How these people came to America continues to be a serious debate among archaeologists. The most-common idea is they crossed the Bering Strait during the last Ice Age, but other theories suggest they came along the West Coast by boat or even crossed the Atlantic.

They hunted both large and small animals, including the giant Columbian mammoth. The remains of one such behemoth was found at Murray Springs with spear points embedded in its bones. Several camps and campfires attest to repeated visits by these hunters to our valley. Then, at about the same time, all traces of both the megafauna and the Clovis people disappeared. Did the people “overkill” their food sources? Did disease strike them down? Perhaps the climate changed? Each of these alternatives has proponents.

Another Murray Springs walk will be offered on Saturday, October 4 at 9 am. Besides receiving information about the Clovis people and the site itself, attendees will be able to look at Clovis points, a unique “shaft straightener,” and a mammoth tooth, as well as have the chance to try their throwing skills with an atlatl (throwing tool).

FSPR Receives Bequest for Historical Preservation

By Ron Stewart

In what was a poignant event for me, the Friends have received a bequest in the name of Joe Patz, a former Sierra Vista resident who passed away several years ago in Germany. Joe and I were close friends and worked as volunteers for John Herron, the BLM archeologist in this area in the 1980s. Together,

(continued on page 9)

we founded in 1986 the Southeast Arizona chapter of the Arizona Site Stewards program, patrolling sites in SPRNCA, the Dragoons, and other local areas. Joe was recognized for his efforts by being selected as BLM Volunteer of the Year for the Safford District in 1990. He moved from the area in the mid-90s for work that included DISA in Germany. Joe died too young following a debilitating illness. He is survived by his daughter Heather, granddaughter Lorissa, and son-in-law Mike Yost of Sierra Vista.

The \$10,000 bequest was donated to FSPR and earmarked for preservation and interpretation of Brunckow's Cabin, a special favorite of Joe's. I know Joe would be pleased with this. Watch for an announcement of the dedication of a brick in the SPH commemorative walkway, then come help us mark this event and thank his family.

Our Second Film Festival

FSPR hosted its second annual Wild & Scenic Film Festival on March 13-14 at the Central School Project in Bisbee. The festival showcased award-winning short films on the outdoors. FSPR presented a variety of relevant films about environmental issues that we are facing here in southeastern Arizona and the Southwest. Some took a humorous turn, while others were sobering, and still others were simply amazing. Ultimately, they motivate us to get involved.

This year, the film "Mining Patagonia" was screened. Representatives of the Patagonia Area Resource Alliance were on hand to discuss the making of this film and the opposition of residents there to proposed mines in the nearby mountains. In addition, the Friends featured its new video, "Return of the Beaver to the San Pedro River" to close the festival. The video can be found online at <https://vimeo.com/84733621>.

New this year was a program for children held on Friday afternoon. Kids from the Boys and Girls Club of Bisbee giggled through many of the short films selected for this younger crowd. They were clearly entertained and hopefully inspired too!



Volunteers stabilize the fort's adobe walls with fresh mud. Photos by Charles & Pam Corrado.

Spring Mud Party at Terrenate

The 2014 edition of the fabled Terrenate Mud Party was held Thursday, April 24. This annual event provides a terrific opportunity to learn the centuries-old secrets of adobe repair, to work together with other local volunteers, FSPR, the world-renowned Vanishing Treasures adobe crew from Tumacacori National Historical Park, Arizona Site Stewards, and archaeologists from the Coronado National Forest. It was a great chance to get outdoors and do some serious hands-on resource conservation while learning about one of SPRNCA's hidden treasures. FSPR provided lunch and beverages.



"May we offer you a seat?" Photo by Ron Serviss.

River Clean-ups

By Ron Serviss

In early 2011, FSPR renewed its effort to conduct regular clean-ups along the San Pedro River. Our first event was focused on the southern end of SPRNCA, from the Mexican border to Highway 92. On that day three years ago, we had a rather large group of volunteers to assist a significant number of BLM staff. We removed a huge volume of trash and old tires, enough to fill three pick-up trucks.

Now fast forward three years. We are still doing regular clean-ups, but several things have changed. One difference is that due to funding cuts, we no longer have a lot of BLM staff involved. Ranger Bob Steele must now shoulder the burden alone, so he needs the help of our volunteers more than ever.

A second difference is we can really see the impact we are having. Instead of three pick-up loads of trash on the southern stretch of the River, we collected about 15 percent of that volume. We are making a difference! Another change is that we see a lot less trash left by undocumented aliens. The vast majority of the plastic bottles we pick up now appear to have come from the washes in Sierra Vista, carried down to the River during the monsoons.

If you have hiked along the River recently and noticed how pristine it looks, you might consider thanking the clean-up crew for its efforts. Better yet, come join us! It is physical and dirty work, but also very rewarding. Recently, a group of Sierra Club volunteers "won" our raffle and went home with some almost-new lawn chairs. (OK, the chairs were really some trash they found; see photo.)

We can't thank everyone who has helped out over the past three years, but a big Thank You goes out to Steve Pawlowski and the Water Sentinels/Sierra Club, various groups from Fort Huachuca, and our regulars: Dee Lewis, Eva Nagy, Jayne Knoche, and the ever-present Pete Sockness. Thank you one and all.

FSPR & Archaeology Month

By Ron Stewart

March was Arizona's Archaeology and Heritage Awareness Month. We usually schedule events in SPRNCA to mark the occasion. This year, we held 5 history walks, one on each Saturday, to Terrenate, Murray Springs, Fairbank, South Fairbank, and the Clanton Ranch. Attendance was good. Working and

greeting visitors at Fairbank as I do, I have heard positive feedback about these events from our visitors, especially about Richard Bauer's ever-popular walk to Millville. FSPR used to schedule Fairbank Day during March—and may do so again in the future—but this year, we are trying October 25 as the target date. Put it on your calendar!

Added to this in 2014 was our participation in the Arizona Archaeology Expo at Catalina State Park on March 29. FSPR had over 300 visitors to its booth at the event, which featured information on SPRNCA and a contest to chronologically order a set of artifacts. Ironically, the winner of the contest was Dr. Matt Peeples, one of the organizers of the event. He offered to let someone else win the prize (a signed book by John Rose), but we insisted! Watch videos of the event at <https://www.azpm.org/s/18154-expo-teaches-about-past-through-archeology/>.



Tim Shannon (left) taking the oath of office administered by State BLM Director Ray Suazo.

Gila District Manager Induction

On December 11, 2013, Ron Stewart, Robert Weissler, and Ron Serviss drove to Tucson to attend the induction ceremony for Tim Shannon, the new BLM Gila District Manager. Tim was given the oath of office by State Director Ray Suazo. Tim comes to his new position with a wealth of experience, having been with BLM for 22 years. He was most recently with the National Operations Center in Denver. Tim was already well known to FSPR staff and volunteers from his frequent visits to SPRNCA and participation in the early stages of the RMP process. We look forward to working with Tim and to helping BLM where we can with the many challenges his office is dealing with.

Sierra Vista Unitarians Support FSPR

By Jerry Beale

Sky Island Unitarian Universalist Church supports the work of the Friends of the San Pedro River because of our belief in the Earth. Our congregation has planted trees at the Sierra Vista City Hall and at the Veterans Memorial Cemetery in honor of Earth Day and has collected more than \$400 from our congregation to support FSPR.

Unitarian Universalist congregations together affirm and promote seven Principles. We also share a “living tradition” of wisdom and spirituality, drawn from many sources. The seven Principles and six Sources of the Unitarian Universalist Association grew out of the grassroots of our communities, were affirmed democratically, and are part of who we are.

The seventh principle is: Respect for the interdependent web of all existence, of which we are a part. That leads to spiritual teachings of Earth-centered traditions that celebrate the sacred circle of life and instruct us to live in harmony with the rhythms of nature.

Unitarian Universalists hold the Principles as strong values and moral teachings. As Rev. Barbara Wells ten Hove explains, “The Principles are not dogma or doctrine, but rather a guide for those of us who choose to join and participate in Unitarian Universalist religious communities.”

We are a house without walls, a congregation without spiritual boundaries. Simply put, we are a guided path towards a better you and a better world.



Participants in St David Walk. Photo by Robert Weissler.

St David Walk

By Robert Weissler

A bird walk offered by FSPR took place May 3 at the Holy Trinity Monastery in St David. Eight participants enjoyed a warm morning along the San Pedro and on monastery grounds. Among the highlights: a Gray Hawk perched on a utility pole; numerous Phainopeplas, Vermilion Flycatchers, Black-headed Grosbeaks, kingbirds and Bullock's Orioles on the grounds; and singing Bell's Vireos throughout. Common Yellowthroat was at the tiny marsh habitat at the northernmost pond, but warblers were few, given the time of year. Yellow-breasted Chat and Summer Tanager were heard and seen. The walk took place a month earlier than usual, so some birds that often arrive later in June were missed, such as Mississippi Kite and Tropical Kingbird, not to mention Zone-tailed Hawk that had been seen on two prior walks there.



President's Report (held over from February 2014)

By Ron Serviss

FSPR was honored to assist the Tucson BLM staff in welcoming its Acting Director, Neil Kornze, on his February fact-finding trip to Southeastern Arizona. He was joined by State Director Ray Suazo and a host of other BLM officials. At the conclusion of his trip, Director Kornze asked the FSPR staff and volunteers present to assemble under the ramada, so that he could present us with an award acknowledging our 10,000+ hours of volunteer service for SPRNCA. In his remarks, Neil noted that this was the equivalent of approximately \$250,000 in volunteer labor and that BLM could not carry out its mission here without that support. The plaque is on display at San Pedro House.

To be honest, several of us cynics debated the reason for this award. Was this an attempt to atone for the lawsuit fiasco of a couple years ago? Or was it a stock award he was giving to all the Friends groups he was visiting? Ten days later, we were visited by the Acting Deputy Director and we unashamedly posed this question to him. He said he knew only a bit of information about the lawsuit and he was sure it was unconnected to the award. He also noted that he has accompanied Neil on visits to several locations and this was the first time he has seen him give this type of award.

There was nothing left for us to do but be delighted in the fact that this award was given to FSPR on its face value with no hidden agendas. This is really an honor and I hope each and every one of you who has contributed to our Friends group in any fashion takes pride in this. Indeed, our organization is comprised of lots of caring people doing lots of little things to achieve big results. Big enough for the head of BLM to journey to Sierra Vista and present us with an award.

Having said this, it has raised another issue. As you probably know, the Center for Biological Diversity has filed a lawsuit against Fort Huachuca for not meeting some of the Fort's legal obligations to protect the River. Some have argued (and one FSPR Board member resigned) because they feel our organization should take a similar adversarial position to protect the River. I and the rest of the Board disagreed. When we updated our Strategic Plan last year, we gave this issue a lot of consideration and concluded that the way we can best serve the River at this time is to continue to educate the public on what a special place SPRNCA is, to emphasize its value to the community, and to strengthen our advocacy efforts. We believe there is a role for each of us in trying to save our River and that education and advocacy is our role. If everything was decided by lawyers, we end up with only two warring parties and we have all seen how well that has worked in Washington in recent years.

Thank you again for all you do for the River.

BLM Deputy Director Visits SPRNCA

On February 14, the #2 leader for BLM, Acting Deputy Director Steve Ellis, came to SPRNCA for a tour. Steve is the BLM State Director for Idaho when not serving in Washington, DC. He was particularly interested in the geology and history of Murray Springs and also had a chance to tour San Pedro House and walk along the River.

WaterCycle Event

As part of Water Awareness Month, this fun event was held the morning of Saturday, April 5 on the bike path near The Mall at Sierra Vista. Information panels were installed in seven locations along the path on subjects including stormwater detention, rainwater collection, the hydrologic cycle, the Sierra Vista Subwatershed, replacements for turf, the water needs of wildlife, and the impact of pollution in the watershed. Members of the community were invited to learn about water resources by riding the bicycle path to visit each station along the route, answer a question to test their knowledge, and get a "passport" stamped for free goodies at the Mall afterward. This event was organized by Water Wise.

Arroyos: a Prerequisite for the Cottonwood & Gooding Willow Forests of the Upper San Pedro River

By Gerald R Noonan, PhD

[NOTE: Abbreviation "abs." refers to page number, counting all pages & plates, given by Adobe Reader.]

During the 20th century, beautiful cottonwood and Goodding's willows gallery forests rapidly developed along the Upper San Pedro River and greatly changed its appearance. As documented in the winter 2014 issue of this newsletter (Noonan, 2014), these native trees were much less frequent along the Upper San Pedro River in the 19th century. Many riparian areas had no trees or had species not currently common along the River.

To understand why forests developed in the 20th century, let's first consider what the seedlings of cottonwoods and Goodding's willows require to survive. We will then look at how natural changes in the structure of the River and similar changes along many other Southwestern waterways provided favorable habitats for the seedlings.

To become established, the seedlings need unshaded, unvegetated moist mineral or alluvial substrates (Scott et al., 1996, p. 328; Stromberg, 1993, p. 98-99; Stromberg, et al., 2009, p. 16). The creation of such habitats typically occurs during flooding that results in migration of the river channel, channel widening, scouring away of competing plants, and deposition of sediments along the outer boundaries of an arroyo. Freshly deposited sediments typically provide ideal substrate for germination and establishment. Cottonwood and willow seedlings cannot survive under an existing stand of trees because they are intolerant of shade and germinate poorly in plant litter.

Large winter or late fall floods can erode and redeposit sediments and create a patchwork of potential seedbeds. Winter floods also tend to be of longer duration than those of the summer and may produce more channel movement, vegetation scour, and sediment reworking. After such winter floods, there typically are high flows in the spring and early summer that provide moisture essential to sustain young seedlings. The habitats that scouring floods produce generally are within arroyos.

A seminal study by Waters and Haynes (2001) showed that there have been at least six prehistoric and one historic cycle of arroyo cutting along most Southwestern waterways. At the start of each cycle, Southwestern waterways in most places lacked arroyos and were scarcely cut into the surrounding countryside. The recent episode of arroyo downcutting shows that such cutting, channel widening, and joining of arroyos can occur within the span of only a few decades (Webb and Hereford, 2010). Episodes of arroyo maintenance and the subsequent filling of arroyos with sediment can each last for many centuries (Mann and Meltzer, 2007). An interesting point about the study by Waters and Haynes is that it used data primarily from stratigraphic studies of tributaries of the San Pedro River (mostly Curry Draw and the Lehner Ranch Arroyo) and the Santa Cruz River.

When Anglo-American settlers first arrived, many Southwestern waterways that now are sunk into arroyos lacked such arroyos in most places (Hastings, 1959, p. 63-64; Malde and Scott, 1977, p. 39-40). For example, the Santa Cruz River near Tucson was scarcely cut into the surrounding countryside before the late 1880s. During floods, water simply spread out over the adjacent countryside, usually without causing extensive damage. Before the late 1800s, the San Pedro River in most places was a shallow, low-gradient stream that flowed through many marshes (Fogg et al., 2012, p. 1).

The Upper San Pedro River did have places where the River was sunken between steep banks; the River in April 1854 was "about eight feet wide, and shallow; between steep banks 10 feet high and 25 to 50 feet apart." at about 1.7-2.6 km N of the route 90 bridge over the River (Gray, 1856, p. 50, 85 abs.). As of approximately 1880, the San Pedro River and washes that drained into it were deep enough between Lewis Springs and Charleston to hide anyone who rode down these waterways (Rose, 2012a, p. 172). In September 1851, the River had banks 8 to 10 feet high near Dragoon Wash in the St. David area (Bartlett,

1854, p. 379, 424 abs.). It is not certain whether these localized entrenched areas had become incised as a forerunner of the episode of historical arroyo formation or whether they represented places where the deposited sediments had not completely filled arroyos formed during earlier and unrelated episodes of arroyo formation.

Before the formation of arroyos, waterways in southeastern Arizona had a much wider distribution of cienegas and riparian marshes than found today (Hendrickson and Minckley, 1984). Southwestern valley bottoms provided inefficient and hydraulically rough channels that retarded and spread floods, promoted the sinking of water into the ground, and moderated peak discharges (Cooke and Reeves, 1976, p. 4). There were fewer opportunities for the scouring floods that cottonwoods and Goodding's willows require. The Upper San Pedro River had a lower energy flood regime than now because dense growths of riparian grasses and marshy plants in the wide floodplain attenuated floods and sediment inputs.

Cottonwoods and Goodding willow's occurred at scattered places along the Upper San Pedro River, such as near the current International Border (Noonan, MS) and along some tributaries such as the Babocomari River. However, in most places, conditions were not suitable for establishment of cottonwoods and Goodding willows. Alluvial water tables were relatively high, and the Upper San Pedro River and many other waterways in Arizona had frequent marshes and cienegas. The high water tables near the River and the lack of oxygen in the soil contributed to a lower abundance of trees (Stromberg et al., 2009, p. 16).

Floods that began in the 1880s started washing away former habitats and creating the arroyo now found along the San Pedro River. A heavy rain in August 1881 washed away a dam upstream of Charleston and destroyed a narrow footbridge that had spanned the river at Charleston (Rose, 2012a, p. 62). The floodwater widened the stream enough that a real bridge became necessary. On August 30, 1886, the *Arizona Daily Star* (Turner, et al., 2003, p. 31, p. 297) reported that "the water in the San Pedro River was... higher than it was ever known to be. Between Contention and Benson there was four feet of water on the side of the [railroad] tracks"

In September 1887, the *Arizona Weekly Enterprise* (Turner et al., 2003, p. 31, p. 297) reported that the San Pedro River had "higher water than... ever... known before." The floodwaters destroyed crops other than hay for nearly the entire length of the River, from Benson to the Gila River.

Floods in 1890 covered the town of Fairbank to a depth of several feet, made unsafe a recently constructed bridge at Charleston, and swept away a new bridge under construction at Lewis Springs (Rose, 2012a, p. 287-289; 2012b, p. 262-265). Ben James, who supervised the construction of the Lewis Springs Bridge, reported that the rush of water resembled a huge wave as it rolled down the valley.

The *Tombstone Epitaph* reported on August 7, 1890 (Martin, 1951, p. 135),

The storm Tuesday night proved to be the most severe ever known in this part of Arizona. Reports from outside districts show the rainfall to have been enormous, and in many places the hail was terrific, destroying fruits, melons, vines and plants wherever it fell. Nearly every gulch of any size shows a watermark of from eight to twenty-five feet, and in many places bedrock that has not been exposed since the year one is now uncovered. Adobe walls and buildings melted down like sand and left only a mass of mud and debris. . . .

The San Pedro has ceased to be a river and is a moving sea of raging and foaming waters, carrying everything within its reach – fences, corrals, trees, orchards, gardens, and in many cases stables and farming implements. No such flood was ever known before...

It is estimated that it will be three weeks before the trains are running from Benson to Fairbank.

In August 1894 (Dobyns, 1981, p. 141), a heavy rain in the Tombstone area produced a four-foot waterflow in Walnut Gulch. Floodwaters damaged Fairbank, washing out railroad tracks near Fairbank and approximately 11 miles downstream. In late August 1894, another flood washed a bridge from St. David to Benson.

Significant arroyo formation and subsequent deepening and widening occurred at various times and localities starting in late 1800s and continuing into the early 1900s (Hereford, 1993, p. 14; Hereford and Betancourt, 2009, p. 238-241). Arroyo formation was associated with periods of unusually heavy rain. Mary Wood, writing in the *Tombstone Epitaph* in 1929, provided the first mention of active arroyo cutting. She recalled an August 1881 flood that destroyed a small dam near Millville and resulted in the widening and deepening of the riverbanks. Heavy rains in 1881 caused an overflow of the active river channel and erosion of the terrace on which Charleston was built. Significant entrenchment occurred during September 1926 floods-- the greatest gauged to date for the River. The River channel at St. David was 59 feet wide in 1918, 151 feet wide in 1922, and widened to 351 feet during the 1926 floods. Webb et al. (2007) concluded that by the mid-1890s, an arroyo spanned the length of the San Pedro River.

Members of the International Boundary Commission found in the summer of 1893 that heavy rains hampered their work and that the San Pedro River at the International Border was within an arroyo (Barlow et al., 1898b, p. 188, 329 abs.),

... owing to the almost constant rains, the roads were at times nearly impassable. ... The bed of the stream has been sunk by the attrition of the current to 15 feet below the surface of the ground, and is from 30 to 60 feet in width. In ordinary seasons but little water is found in the stream, but during the operations of the monument party in this vicinity, heavy floods caused the river frequently to rise bank full, and as there are no bridges its depth at times seriously interrupted communication between opposite banks.

The very large floods associated with turn-of-the-20th-century arroyo cutting and channel incision removed most of the vegetation from the River channel, including cottonwood and willow trees (Stromberg, 1998, p. 144-145). The slowly widening floodplain during the early 20th century had few cottonwood and willow trees, with the 1926 flood-of-record undoubtedly contributing to this sparseness.

The downcutting of arroyos along Southwestern waterways resulted in narrow, deep, and relatively smooth drains that efficiently removed water from drainage systems and started the rapid draining of alluvial deposits (Cooke and Reeves, 1976, p. 4). Waterflow became relatively more "peaked" and of shorter duration. Increasingly xeric plant communities replaced formerly dense grass cover and lush strands of riparian vegetation that had been dependent either on overflow of water or unreliable supplies of near-surface water. The previously high water table levels near streams lowered to approximately the depth of the arroyos, as water drained away through the arroyos (Webb et al., 2007, p. 406). [NOTE: This natural reduction of water table levels differs from the current human-caused cone of depression created in the Sierra Vista region by pumping of water. The slight lowering of water table levels near streams to approximately the depth of arroyos did not threaten their existence. In contrast, the Sierra Vista cone of depression created by pumping of water is much greater and does threaten the existence of the San Pedro River.]

Cottonwoods and willows became more abundant along the River during the 1920s to early 1940s and subsequently (Hereford, 1993, p. 17-20; Stromberg, 1998, 140-143; Stromberg et al., 2009, p. 16-18) (Fig. 1). The deposition of sediments along the margins of the arroyo began to provide favorable habitats for the establishment of cottonwoods and Gooding willows beginning around the 1940s (Webb et al., 2007, p. 406). During the 1940s, these trees occurred along the River but apparently usually only on one side at a time because of shifts in River positions.

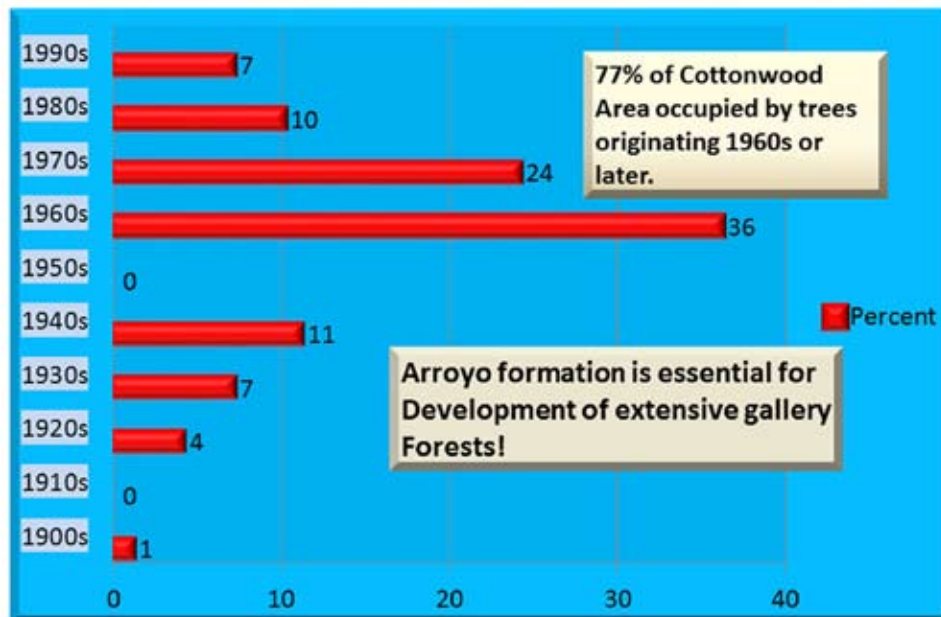
Most of the San Pedro River cottonwoods and saltcedars date (Fig. 2) to years with winter (October-March) floods in the post-1960 era (Stromberg, 1998, p. 16-18; Stromberg et al., 2010, p. 1183-1187). Climatic fluctuations associated with the El Niño Southern Oscillation in the Pacific Ocean resulted after 1960 in weather patterns that created flood flow regimes more favorable to riparian tree establishment. Increased fall and winter floods encouraged the germination and growth of tree seedlings, while decreased summer thunderstorms favored seedlings survivorship. The greatest establishment of current cottonwoods was during the 1960s.

Webb et al. (2007, p. 223-240) documented increases in woody riparian vegetation along the San Pedro River by studying 90 photographs taken along the length of the River between 1880 and 2003 and by



Fig. 1. San Pedro River N. of Charleston bridge. Cottonwood seedlings became established where floods deposited sediments within the arroyo. Establishment was immediately after the initial deposit of bare sediments or after a flood scoured away plants on previously deposited sediments.

Fig. 2. Percent of cottonwood area covered by trees that originated within a given decade.



Based on data provided by J. Stromberg.

Webb et al. (2007, p. 223-240) documented increases in woody riparian vegetation along the San Pedro River by studying 90 photographs taken along the length of the River between 1880 and 2003 and by examining data from other researchers. Figure 3 shows the increase in trees at a site in the Palominas area. The 1959 view of Fig. 3A depicted an entrenched River with groves of cottonwood trees in the background along the right side of the River. The 1981 view of Fig. 3B illustrated that cottonwood gallery forest had grown up along both sides of the River. Such forest was more prominent in Fig. 3C. [NOTE: For additional matching photographs showing the development of forest along the San Pedro River at individual sites, see the online photographs at the end of Noonan (2011 or 2013) and in the book Webb et al. (2007, p. 223-240; copy in docent library).]

Anglo-American settlers observed that much of the initial arroyo formation along Southwestern waterways seemed to coincide with severe overgrazing by cattle. Scientists first thought that overgrazing and other human activities had caused the arroyo formation that began in the latter half of the 19th century. However, research showed that there have been at least six prehistoric episodes of arroyo cutting. There presumably was no overgrazing during those cycles and doubtless there was minimal or no human modification of Southwestern landscapes. Scientists then began to consider other causes of arroyo formation such as climate cycles. There is no consensus among scientists as to the causes of prehistoric episodes of arroyo formation or of the historic arroyo formation that began in the 19th century.

Future papers here or on my [ScienceQuest](#) website will discuss mechanisms of arroyo formation and the scientific hypotheses regarding the causes of such formation.

The San Pedro River and other Southwestern waterways have a lifecycle somewhat analogous to the mythological Phoenix bird. However, these waterways are liquid rather than fire phoenixes. Each riparian habitat stage in time gives way to another habitat stage whereby the waterways continually replenish themselves. Water is the lifeblood that permits the existence of the current assortment of riparian plants. It also is the driving force behind the naturally occurring arroyo cycles and the natural succession of riparian habitats. If humans refrain from removing water from the San Pedro River Valley, the river habitat will continue to follow its repeated progression through such cycles. The river will remain a dynamic and ever-changing liquid Phoenix.

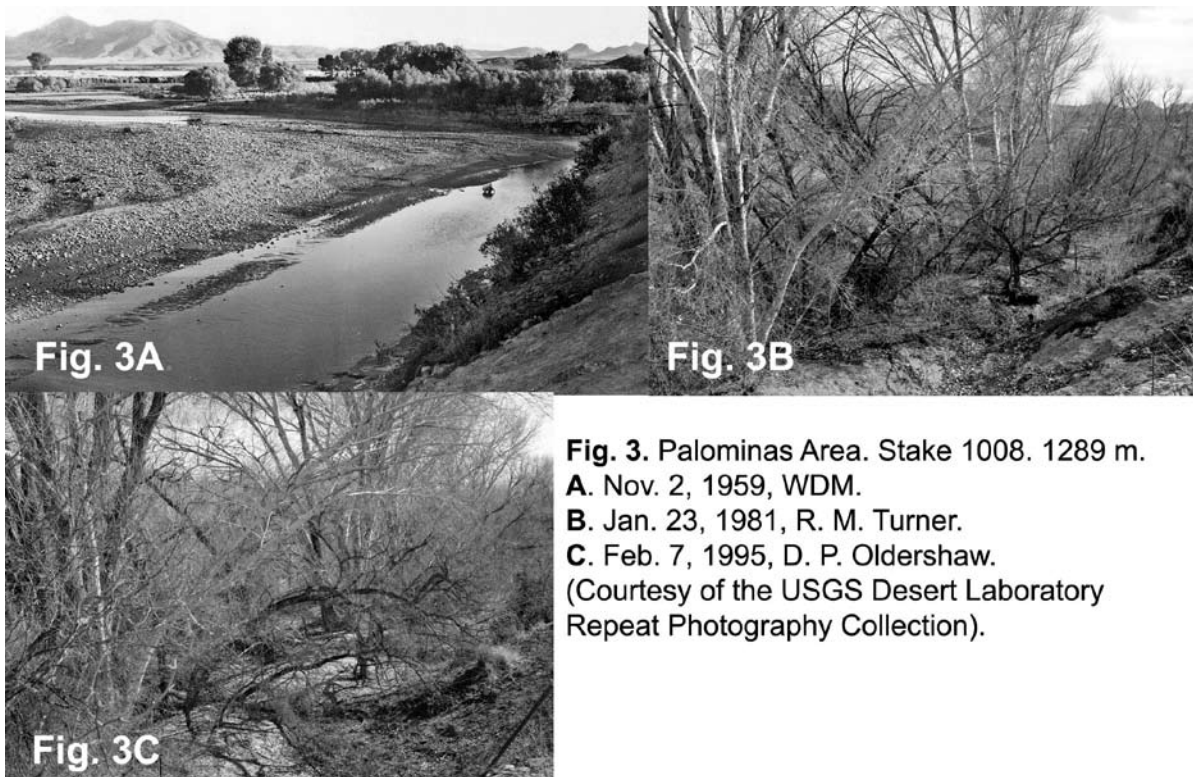


Fig. 3. Palominas Area. Stake 1008. 1289 m.
A. Nov. 2, 1959, WDM.
B. Jan. 23, 1981, R. M. Turner.
C. Feb. 7, 1995, D. P. Oldershaw.
(Courtesy of the USGS Desert Laboratory Repeat Photography Collection).

Acknowledgments

R. H. Webb provided information about several important references. He also suggested that I make use of repeat photographs from the United States Geological Survey Desert Laboratory Repeat Photography Collection and kindly facilitated my receipt of such photos. D. E. Boyer kindly sought out the requested photographs and forwarded them to me, along with information about them. J. C. Stromberg provided research data used in Fig. 2.

Literature Cited

- Barlow, J. W., Mosman, A. T. and Gaillard, D. D. 1898b. Part II. Report of the United States Section of the International Boundary Commission, United States and Mexico, p. 1-240, 84-403 abs. In, Barlow, J. W., Mosman, A. T. and Gaillard, D. D. 1898. Report of the Boundary Commission upon the Survey and Re-making of the Boundary Between the United States and Mexico West of the Rio Grande, 1891 to 1896. [Volume contains two separately paginated reports, Part I. Report of the International Commission. Part II. Report of the United States Section...] 55th Congress, 2d Session. Senate Document No. 247. Government Printing Office, Washington. (Google eBook; PDF downloaded June 19, 2013 from http://books.google.com/books?id=jMYLAAAAYAAJ&source=gbs_similarbooks).
- Bartlett, J. R. 1854. Personal Narrative of Explorations and Incidents in Texas, New Mexico, California, Sonora, and Chihuahua: Connected with the United States and Mexican Boundary Commission, During the Years 1850, '51, '52, and '53. Vol. I, xxii + 506 p. New York: D. Appleton & Company. (PDF of vol. 1 downloaded June 19, 2013 from <http://archive.org/details/personalnarrativ01bart>; PDFs & Kindle files at <http://sciencequest.webplus.net/Arizona%20Early%20Explorers.html>).
- Cooke, R. U. and Reeves, R. W. 1976. Arroyos and Environmental Change in the American South-West. Clarendon Press, Oxford. xii + 213.
- Dobyns, H. F. 1891. From Fire to Flood: Historic Human Destruction of Sonoran Desert Riverine Oases. Ballena Press Anthropological Papers No. 20. 222 p.
- Fogg, J., Elmore, W. and Gonzalez, M. 2012. Riparian Conditions along the San Pedro River: Potential Natural Communities and Factors Limiting Their Occurrence. Bureau of Land Management. National Riparian Service Team, Prineville, Oregon. 33 p. [update of an earlier document to list authors & provide information about why the document was generated]. (PDF available as of May 16, 2014 at <http://sciencequest.webplus.net/Revising%20BLM%20Resource%20Management%20Plan%20for%20SPRNCA.html>).
- Gray, A. B. 1856. Survey of a Route for the Southern Pacific R. R., on the 32nd Parallel, for the Texas Western R. R. Company. Southern Pacific Railroad. Wrightson & Co.'S ("Railroad Recrd,") Print, Cincinnati. O. 110 p. (Google Digitized Book; PDF downloaded June 19, 2013 from <http://books.google.com/books?hl=en&lr=&id=qFOAAAAYAAJ&oi=fnd&pg=PA1&dq=Gray+%22survey+of+a+route+for+the+southern+pacific%22+R.R.+on+the&ots=jhKelxLzsy&sig=SXYrMXVHGWHQdao02D4HikuT3aQ>).
- Hastings, J. R. 1959. Vegetation change and arroyo cutting in southeastern Arizona. Arizona Academy of Science, Journal, 1 (2): 60-67.
- Hendrickson, D. A. and Minckley, W. L. (1984). (published February, 1985). Ciénegas - vanishing aquatic climax communities of the American Southwest. Desert Plants 6 (2): 131-175. (PDF downloaded October 29, 2013 from <http://www.nativefishlab.net/library/textpdf/16637.pdf>).
- Hereford, R. 1993. Entrenchment and widening of the Upper San Pedro River, Arizona. Geological Society of America, Special Paper 282. 46 p. (PDF downloaded July 7, 2011 from: http://cwatershedalliance.com/TAC_PDF/Hereford1993.pdf).
- Hereford, R. and Betancourt, J. L. 2009. Historical geomorphology of the San Pedro River, p. 232-250. In, Stromberg, J. C. and Tellman, B. (eds.). 2009. Ecology and Conservation of the San Pedro River. The University of Arizona Press, Tucson. xiv + 529.
- Malde H. E. and Scott, A. G. 1977. Observations of contemporary arroyo cutting near Santa Fe, New Mexico, U.S.A. Earth Surface Processes, 2: 39-54.
- Mann, D. H. Meltzer, D. J. 2007. Millennial-scale dynamics of valley fills over the past 12,000 14C yr in northeastern New Mexico, USA. Geological Society of America Bulletin, 119 (11/12): 1433-1448. (PDF downloaded August 23, 2010 from: <http://www.smu.edu/Dedman/Academics/Departments/Anthropology/Research/QUEST/Publications>).
- Martin, D. D. 1951. Tombstone's Epitaph. The University of New Mexico Press. xii + 272 p.

- Noonan, G. R. 2011. Massive Habitat Changes along the Upper San Pedro River and Other Southwestern Waterways. Science Quest Science Note 1. 32 p. (Popular, short, simple version. PDFs at <http://sciencequest.webplus.net/noonan%20san%20pedro%20river%20papers.html>).
- Noonan, G. R. 2013. Major Changes in Riparian Habitat along the Upper San Pedro River and Other Southwestern Waterways as a Result of the Alluvial Cycle. 76 p. Science Quest Technical Paper 1. (PDFs at <http://sciencequest.webplus.net/noonan%20san%20pedro%20river%20papers.html>).
- Noonan, G. R. 2014. Trees by the Upper San Pedro River in the 19th Century, p. 11-18, In Friends of the San Pedro River Roundup. Winter 2014.
- Noonan, G. R. MS. Manuscript in preparation, The 19th Century San Pedro River and valley. Conditions before and after Anglo-American Settlement. Paper will be available at <http://sciencequest.webplus.net/noonan%20san%20pedro%20river%20papers.html>.
- Rose, J. D. 2012a. Charleston & Millville, A. T., Hell on the San Pedro. CreateSpace Independent Publishing Platform. xviii + 330 p.
- Rose, J. D. 2012b. On The Road to Tombstone: Drew's Station, Contention City and Fairbank. John Rose Historical Publications, Sierra Vista, Arizona. viii + 346 p.
- Scott, M. L., Friedman, J. M. and Auble, G. T. 1996. Fluvial process and the establishment of bottomland trees. *Geomorphology*, 14: 327-339. (PDF downloaded October 25, 2013 from: <http://ndwr.state.nv.us/hearings/past/dry/browseable/exhibits%5CUSFWS/Exhibit%20531%20Scott%20et%20al%201996.pdf>).
- Stromberg, J. C. 1993. Fremont cottonwood-Goodding willow riparian forests: a review of their ecology, threats, and recovery potential. *Journal of the Arizona-Nevada Academy of Science*, 27: 97-110. (PDF downloaded July 7, 2011 from: <https://portal.azoah.com/08A-AWS001-DWR/Omnia/1993%20Stromberg%20Fremont%20cottonwood-Goodding%20willow%20riparian%20forests.pdf>).
- Stromberg, J. C. 1998. Dynamics of Fremont cottonwood (*Populus fremontii*) and saltcedar (*Tamarix chinensis*) populations along the San Pedro River, Arizona. *Journal of Arid Environments*, 40: 133-155.
- Stromberg, J. C., Lite, S. J., Dixon, M. D. and Tiller, R. L. 2009. Riparian vegetation, p. 13-36. In, Stromberg, J. C. and Tellman, B. (eds.). 2009. *Ecology and Conservation of the San Pedro River*. The University of Arizona Press, Tucson. xiv + 529.
- Stromberg, J. C., Tluczek, M. G. F., Hazelton A. F. and Ajami, H. 2010. A century of riparian forest expansion following extreme disturbance: Spatio-temporal change in *Populus*/*Salix*/*Tamarix* forests along the Upper San Pedro River, Arizona, USA. *Forest Ecology and Management*, 259: 1181-1189.
- Turner, R. M., Webb, R. H., Bowers, J. E. and Hastings, J. R. 2003. *The Changing Mile Revisited. An Ecological Study of Vegetation Change with Time in the Lower Mile of an Arid and Semi-arid Region*. The University of Arizona Press, Tucson. xvi + 334 p.
- Waters, M. R. and Haynes, C. V. 2001. Late Quaternary arroyo formation and climate change in the American Southwest. *Geology*, 29 (5): 399-402.
- Webb, R. H. and Hereford, R., 2010, Historical arroyo formation: Documentation of magnitude and timing of historical changes using repeat photography, p. 89-104. In, Webb, R. H., Boyer, D. E. and Turner, R. M., (eds.). 2010. *Repeat Photography: Methods and Applications in the Natural Sciences*. Washington, D.C., Island Press.
- Webb, R. H., Leake, S. A. and Turner, R. M. 2007. *The Ribbon of Green. Changes in Riparian Vegetation in the Southwestern United States*. The University of Arizona Press, Tucson. xiv + 463 p.



Southwest Wings Festival This Summer

The 23rd Annual Southwest Wings Birding and Nature Festival will be held July 30 through August 2. It features nearly 40 field trips—half-day, full-day, and overnight—and over 30 free lectures, field trips, and films that go way beyond birds (butterflies, reptiles, amphibians, insects, geology, history, plants, and mammals, to name a few). San Pedro House will be among the vendors and exhibitors in the foyer of the Cochise College library. For more information, visit www.swwings.org.

Events Calendar, June-August

[SPH = San Pedro House; FSH = Fairbank School House;
HAS = Huachuca Audubon Society;
SABO = Southeastern Arizona Bird Observatory]

SPH Open as Visitor Center (Daily), 9:30 AM-4:30 pm

FSH Open as a Visitor Center (Friday-Sunday),
9:30 AM-4:30 pm

Understanding the River Interpretive Walks

Every Saturday at SPH

- ☛ 8 am—June 7, 14, 21, 28
- ☛ 8 am—July 5, 12, 19, 26
- ☛ 8 am—August 2, 9, 16, 23, 30

FSPR Bird Walks

Every 2nd Wednesday & Fourth Saturday at SPH

- ☛ 7 am—June 11, 28
- ☛ 8 am—July 9, 26
- ☛ 7 am—August 13, 23

FSPR/HAS/SABO Bird Walks

Every Sunday at Sierra Vista Environmental
Operations Park (EOP)

- ☛ 7 am—June 1, 8, 15, 22, 29
- ☛ 7 am—July 6, 13, 20, 27
- ☛ 7 am—August 3, 10, 17, 24, 31

Special Events

- ☛ June 7 (Sat), 7 am—Bird Walk at Hereford Road Bridge
- ☛ July 12 (Sat), 8 am—Murray Springs History Walk
- ☛ July 30-August 2 (Wed-Sat), all day—Southwest Wings Festival (see article, p. 20)

Adopt-a-Camera Site

Are you interested in monitoring motion-activated wildlife cameras in SPRNCA? FSPR is considering an “Adopt-a-Camera Site” program to ensure that wildlife cameras are monitored. If you’re interested in volunteering to get such a program off the ground, contact fspr@sanpedroriver.org.

Members, February-May 2014

Elsa Althen*, Bettina & Robert Arrigoni, Pat & Peter Arrigoni, Jini Bausch, Jerry & Jan Beale*, Alice Cave & Rick Fletcher*, Tom & Lin Clancy, Pamela & Charles Corrado, Nancy Docherty, Jack Doughty*, Lainie Epstein*, Marguerite Flanagan*, Jerry Fleming*, Carol & Roger Garnett*, Jeanne Gerber*, Tricia Gerrodette, Don & Kate Harner*, Mary Haynes, Laurie Kagann, Jayne Knoche, Gabrielle LaFargue & Samuel Schechter*, Don Leistikow, Nancy & Patrick McCarrell, Curtis Patch*, Judy & Tim Phillips, Al & Dee Puff, Judy Reis, Joyce Rioux & Jonathan Betz*, Deanna Sanner*, EllenMae Serviss*, Pamela Sheean*, Vicky & Benjamin Solomon*, Jimi, Daniel & Chloe Walker*, Bradlee Sulentic*, Michael Turisk*, Paul Twomey*, Judith & John Ulreich*, Wayne & Donna Viitanen, Ted White

* = New member

Contact List

- President—Ron Serviss
- Vice-President—Ron Stewart
- Treasurer—Renell Stewart
- Directors—Tom Clancy, Éva Nagy, Steve Ogle, Sally Rosén, Tom Wood
- Docent Activities—Tom Clancy, Ron Stewart
- Education—John Rose
- Communications Coordinator—Éva Nagy
- Newsletter Editor—Sue Leskiw
- Executive Director—Robert Weissler (until 6/14)
- Bookstore Manager—Laura Mackin
- Bookkeeper—Pam Collins

To contact any of the above individuals, please call the office at 520-459-2555 or send us e-mail at fspr@sanpedroriver.org or sanpedrohouse@sanpedroriver.org.
Mailing address: 4070 East Avenida Saracino, Hereford, AZ 85615; Fax: 520-459-7334
Website: 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.