



# Friends of the San Pedro River Roundup

Spring 2017

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## President's Report

*By Robert Weissler*

Now that spring has arrived, bird migration is well underway; the cottonwoods along the river are cloaked in fresh, bright green leaves; and FSPR is gearing up for its many outdoor interpretive events with the advent of warmer weather.

The BLM is completing plans to upgrade the solar power system at San Pedro House. This project is in the engineering stage with BLM Phoenix staff. Construction will commence as soon as May and will include roof replacement on the storage shed that will house the new batteries. In the meantime, FSPR has received approval from BLM to install a new storage shed nearby (see photo below). The solar upgrade will provide sufficient power for both a site host and FSPR operations in San Pedro House—essential since the site is not on the electrical grid. BLM plans to arrange for a site host to occupy the site once the upgrade is complete.

Meanwhile, Francisco Mendoza of BLM's Tucson Field Office (TFO) is designing a new site plan for Fairbank Townsite, including accessibility improvements to the parking lot and connecting path. Francisco previewed his ideas for the plan at a recent FSPR Board meeting and solicited input from our members. Francisco also indicated that a new draft MOU (memorandum of understanding between the BLM and FSPR) should be approved by TFO soon and ready for signature. The MOU will establish our continuation of FSPR bookstore and visitor contact operations and interpretive events in SPRNCA. With regard to the BLM Volunteer Program, the TFO lead for this program going forward will be Robert Walter, replacing Laura Olais in that role. As for the Resource Management Plan (RMP) for SPRNCA, the Tucson Field Manager Melissa Warren plans to engage the RECO (Renewable Energy Coordination Office) team to pick up the RMP process and push it forward. The process had stalled after the project lead for the RMP left BLM to pursue new career and business opportunities. The Friends are engaged with BLM in this process to ensure that the RMP promotes good stewardship and river protection. We hope to meet the BLM's Gila District Manager (GDM) Scott Feldhausen soon to



*Some participants in March 23 work day to prepare site for new shed. Photo by Charlie Corrado.*

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discuss this and many other issues facing the BLM TFO and the Friends with the new administration in Washington, DC.

The BLM held a public meeting in January to present alternatives for the iconic cottonwood trees at San Pedro House. Their preferred alternative will preserve the aging cottonwood and identified the pruning of specific limbs on each tree to ensure safety for visitors and FSPR volunteers and staff operating near them. After considering public comments in the wake of its presentation at the meeting, BLM published its final Environmental Assessment (EA) and Record of Decision (ROD) on March 23 (see article, p. 3).

BLM received a letter from the Union Pacific Railroad stating that the railroad grade that runs through SPRNCA is off limits to the public. BLM and cooperators will have administrative access only, to be established in agreement with Union Pacific. FSPR will review maps of the trail system to identify crossings of the railroad grade that need to be avoided and redirected for safety. It appears that the prospects for a recreational rail-trail for hikers, bicyclists, and equestrians along the River in that right-of-way are dead. Bottom line: Don't use the UP railroad grade!

FSPR submitted comments to the US Fish and Wildlife Service on its draft Jaguar Recovery Plan. FSPR believes the plan should identify the historical range of the jaguar in southern Arizona as part of the core range of this species and not merely a secondary extension of that range. The impact of a border wall on jaguar distribution and dispersal into Arizona should be mitigated in the plan too.

Next fall, an expedited resolution of water rights in the upper San Pedro River Valley will take place in the context of the Gila River Adjudication. Between now and then, FSPR plans to educate the public on the federal reserved water right for the San Pedro River in SPRNCA and the quantity of water BLM asserts is needed to protect the River (see article, p. 5). Cochise County and the City of Sierra Vista, perhaps through the Cochise Conservation and Recharge Network, may attempt to negotiate a settlement with BLM to get large-scale residential developments started. FSPR wants to ensure that any such settlement properly mitigates for likely impacts to the River from increased groundwater withdrawals projected for these developments.

Well, that's about it. Now that spring has arrived, this is a great time to come join us for upcoming events down on the River!

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## FSPR Hosts Eagle Scout Project

*By Charlie Corrado*

On Saturday, January 7, FSPR helped a young man, Adam Bastian, attain his Eagle Scout badge, the highest honor in scouting. Adam was responsible for planning, organizing, and executing the project. The Friends supplied the materials and Adam, along with a group of fellow scouts and adults, refinished the doors of the historic Fairbank schoolhouse, which over the years had been damaged by weather and sun. The schoolhouse was originally built in the 1880s, but unfortunately was burned down and rebuilt in the 1920s. We had good weather for the day and the project turned out great. With the help of BLM Historic Preservation Specialist Chris Schrager, the group was able to keep part of our Western heritage intact.

Fairbank was an important cog in the mining days in Arizona and is important in our history. With a railroad center, it also served as a major distribution point in the area. I would suggest a visit to Fairbank to see the work we did on the doors, to view the rest of the town site, and to visit the Schoolhouse Museum and gift shop, operated by FSPR. Located on Highway 82, just east of the San Pedro River, it is worth the trip.

*Proud Fairbank schoolhouse door refinishers.*

*Photo by Charlie Corrado.*



## BLM Signs Decision Record to Prune Ailing Cottonwood Trees at SPRNCA

*[Press release dated 3/23/17]*

TUCSON, Ariz.—Today the Bureau of Land Management (BLM) Tucson Field Office released its plan to prune two ailing cottonwood trees located in the San Pedro Riparian National Conservation Area. With the potential for catastrophic trunk failure, falling branches present hazards to public safety and facilities.

After conducting two public scoping periods and completing an environmental assessment, Field Manager Melissa Warren signed the Decision Record that implements the Proposed Action that provides for visitor and worker safety at the San Pedro House while avoiding or reducing negative impacts to recreational, visual, wildlife, and cultural and social values.

Specific actions include pruning the Eastern and Western Trees, fencing the Western Tree and historic water tower, excluding public use from the fenced area, constructing an interpretive panel, bracing the tree limb resting on the historic railroad tie cabin, abandoning 100 linear feet of garden pathway, and removing temporary fencing. The two trees will be pruned periodically to maintain the effectiveness of the safety closure and to protect the San Pedro House. Work will be completed between October 1st and February 14th to avoid impacts to the yellow-billed cuckoo and the western screech-owl.

The decision, located at <http://bit.ly/SanPedroTree>, takes effect immediately, though any person whose interest is adversely affected may appeal the decision to the Interior Board of Land Appeals. The appeal must be filed within 30 days after the date the proposed decision becomes final or 30 days after receipt of the final decision. Notices of Appeal must be in writing and must be hand delivered, mailed, or faxed to: Project Lead Dan Moore, BLM Tucson, 3201 E. Universal Way, Tucson, AZ 85756 (FAX: [520-258-7238](tel:520-258-7238)). Requests cannot be accepted via email, voicemail, or other electronic means.



*(From left) New FSPR docents Merle Kilpatrick, Richard Bansberg, and Connie Wolcott.*

## The Friends Add Three New Docents

*By Renell Stewart*

Docents are the heart of the Friends of the San Pedro River. These intrepid volunteers lead walks to the historical and natural sites in SPRNCA most weeks, sharing their knowledge and enthusiasm for the River and its treasures. Docents also work with school kids on educational programs about the River and its history. Our goal is to increase public awareness of the area and to build support for the preservation of the San Pedro.

We are always in need of docents. If any of you are interested in participating in our activities, please send us a note at [www.sanpedroriver.org](http://www.sanpedroriver.org).

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We have just added three new docents. We sincerely thank them for sharing their unique knowledge and skills with our visitors. Here is a bit about each, in their own words:

***Merle Kilpatrick is our new cultural docent, leading walks to the Grand Central Mill and Fairbank.***

I graduated from Memphis High School, Memphis, Texas in 1970. I attended West Texas State University on a football scholarship and graduated with a BS in Secondary Education (History and PE) in 1975. I was a teacher and coach at O'Donnell High School for 6 years, the last 3 as head football coach and athletic director. I attended US Navy Officer Candidate School and was commissioned in 1983. I served on four ships and two shore tours while on active duty. I remained in the Navy Reserves for 12 more years. I was a teacher and coach at Brunswick County, Virginia for a year. I moved back to Texas and was a teacher and coach at Brownwood Middle School for the next 16 years. I retired from the US Navy in 2006 and from teaching in 2011. The majority of my teaching time was in US history. I volunteer every Friday at the Coronado National Memorial Visitor Center. I also volunteer at the Fairbank School House several times a month. The best part of my volunteer work is meeting the many people that visit both places and talking to them. I really enjoy talking about history and this area is surrounded by history. I am constantly learning new tidbits of history that I wasn't aware of before.

***Richard Bansberg is a new natural docent who leads bird walks.***

I started to birdwatch about 25 years ago after taking a beginning birdwatching class led by Herb Fibel, then president of the Maricopa Audubon Society. The class was one evening a week for six weeks and included two half-day outings in the Phoenix area, where Herb said we would be able to see upwards of 30 bird species. At the time, I thought it was amazing that a person could see 30-plus bird species in a single morning. Herb also mentioned that southeastern Arizona was a great place to go birdwatching and pointed out areas like Madera Canyon, Ramsey Canyon, Cave Creek Canyon, and the San Pedro River. My wife Lois and I soon started visiting these areas on a regular basis. A couple of years later, after paging through a guide to the birds of Costa Rica in a local bookstore, we made our first birdwatching trip to the tropics. Since then, nearly every trip we make has been focused on birdwatching. After visiting southeastern Arizona on numerous occasions, we made the decision to retire to Hereford where we can enjoy nature, Birdwatching, and great weather on a daily basis. I started helping with the San Pedro River bird walks last summer and have enjoyed witnessing the seasonal change as birds move through the area and learning more about the local birds from the other leaders and from participants. Every bird walk results in a new experience and it is rewarding to share the experience with other birders.

***Connie Wolcott joins us as a docent leading River Walks and assisting with school groups.***

I have been birding for over 30 years. In that time, I have seen over 700 bird species in the US. And I just saw my 5000th world species, a Yellow-Eyed Penguin, in New Zealand. It is not so much about the number of bird species, however, as it is about a significant amount of time spent "in the field," where birding has opened me up to an interest in all things nature-related. I feel very fortunate to be a graduate of SABO's Master Naturalist classes. And that, in turn, has led me to the San Pedro, which is an amazing classroom for nature study. As a new docent, I really enjoy sharing what I am learning with our guests! Every walk is an adventure because there is always something new to discover!

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## **BLM Report**

*By Jody Barker, BLM Park Ranger*

We were fortunate to have an American Conservation Experience crew working in SPRNCA from February 22 to March 1. They accomplished a lot in a short period of time, including working on vegetation control on the single lane road going into Murray Springs and vegetation control at the Fairbank parking area and site. In addition, they installed new trailhead signs at Hereford, Charleston, and Boquillas. BLM Outdoor Recreation Planner Francisco Mendoza and I selected the locations for the

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signs, which were then culturally cleared by BLM Archaeologist Amy Sobiech. I would like to thank Laura Mackin for purchasing the materials needed for the sign installation on such short notice. And I want to thank FSPR for paying for the materials. You all have been a tremendous help and thank you for all that you do!

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## **Girl Scouts at the River**

*By Ginny Bealer*

March 11 was a perfect day for a walk along the River at San Pedro House and a contingent of Brownie Scouts and mothers from Ft. Huachuca Troop #250 were there to enjoy it. The visage of a Western Screech Owl in a cottonwood tree greeted us as we started our trek toward the “ribbon of green” just starting to appear as the trees presented their wind-pollinated flowers to the spring breezes. The girls peered into the entrance of a funnel spider’s web, sampled the texture of algae at the edge of the river, observed a “roly poly” (aka pill bug or isopod) perform its signature defense posture, checked out fresh beaver excavations on a downed willow tree, and counted frog faces in Green Kingfisher Pond. The accompanying adults were well prepared to reinforce the lessons of respecting the natural world, which coincided with Scout teachings such as observing without consuming, leaving only footprints, and considering that each species has a place in an ecosystem.

After the walk, our guests ate lunch in the shade of the ramada and got a chance to investigate our replica skulls of local mammals, feel the pelts donated by Arizona Game & Fish, and read about the animals on information cards. These Scouts have and will continue to live in different parts of the country and the world as their parents are assigned to different military bases and may pass good words about our special corner of the US to those they meet along the way.

Troop leader Jenna Taft expressed her appreciation of the morning this way: “...Thank you so much for doing this for us, we really appreciate it and our girls really enjoyed every moment of it.”



*Scouts in the SPH ramada. Photo by Ginny Bealer.*

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## **What Is the BLM’s Claim to Water All About?**

*By Tricia Gerrodette*

When the San Pedro Riparian National Conservation Area (SPRNCA) was established by an act of Congress in 1988, that same act directed the BLM to establish the riparian area’s need for water. This act is frequently referred to as the enabling legislation. The enabling legislation directed the Secretary of the Interior to “file a claim for the quantification of such rights in an appropriate stream adjudication.” BLM has done so and has modified that claim three times, as the science surrounding the groundwater and surface water connection has become better and more detailed over the years.

The most recent claim, filed in April 2011, sets standards for amounts of water at different locations on the river. The first is instream flow that is measured as base flow (what comes from the regional aquifer) and as storm runoff. Both the base flow and the storm runoff are measured as flow (cubic feet per second) at a stream gauge at Palominas, a second stream gauge at Charleston, and a third stream gauge near Tombstone.

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The largest claimed amount of base flow is the claim at the Charleston gauge and is listed as 11,150 acre-feet (AF) for a whole year. The last scientific estimate of how much water we humans pump from the aquifer (USGS report 2016-5114) figured that we withdraw more than 12,000 AF per year.

The storm runoff amounts are averaged, since of course we never know how much rain will fall in any given month. But our monsoon storms generally provide a lot of runoff from intense rainfall. The amounts of runoff claimed by BLM increases going downriver, as the river swells from runoff. The largest amount of runoff being claimed is the measurement near Tombstone at 20,800 AF.

There is an additional small claim for both base flow and storm runoff measured at the Babocomari River. The sum of those claims is 2015 AF.

The BLM is also claiming that certain groundwater levels are needed for the maintenance of the riparian vegetation community, sometimes referred to as "habitat." The agency proposes different groundwater levels at various locations within SPRNCA.

The BLM also claims that springs, seeps, cienegas, and ponds are important for management of the area "in a manner that conserves, protects, and enhances the riparian area," as required by the enabling act. These amounts are fairly small in total, coming in at about 1550 AF.

The last large component has to do with large production wells, formerly used in agricultural operations. When SPRNCA was established in 1988, the production wells were retired because they were part of the land purchase agreement. The BLM claims the right to re-start those wells if needed to maintain the health of the riparian area. Those production wells used 11,150 AF and so BLM is claiming the right to use that amount. That might very well be viewed as robbing Peter to pay Paul, but that amount is part of the BLM claim.

All of this is working its way through the court system, via the Gila River Adjudication. Ultimately, the Maricopa County Superior Court judge who is designated as the Special Master for the adjudication will decide the validity of the amounts claimed by all the various parties.

So, to sum up the largest claimed amounts:

- » 11,150 AF per year from the regional aquifer, measured at Charleston as surface flow;
- » 1,550 AF per year for other surface water (seeps, springs, cienegas);
- » Another 11,150 AF from retired agricultural wells, only if needed to support riparian habitat; and
- » 20,800 AF for unimpounded storm runoff.

These figures add up to the more than 44,000 AF, a number that has been repeatedly mentioned in local media. But I hope you now understand that the largest component of that number by far is storm runoff, and therefore represents no claim on any local wells.

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## **Archaeology Month, Mill Tour & Lewis Springs Walk**

*By Ron Stewart*

### **Arizona Archaeology and Heritage Awareness Month in SPRNCA**

March was Arizona's Archaeology and Heritage Awareness Month. The Friends of the San Pedro River always supports this event with tours, lectures, and events. This year, we had four history walks during the month: Terrenate, Grand Central Mill, Clanton Ranch, and Fairbank.

This year, we also co-hosted, with Coronado National Memorial, a talk by archaeologist Dr. Deni Seymour. Deni is well known to the Friends. Many of you have volunteered with her to help with surveys and excavations in SPRNCA. Deni's talk centered on the historic names that local landmarks have had and

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how they have changed over time. Of note was recent research she has done about the name of the San Pedro River. Our beloved river has had several names: Nexpa, Sobaipuri, and finally San Pedro. The name San Pedro comes from an Indian village that is just across the border in Mexico.

By the time this article reaches you, these events will be over. Look for more interesting activities next year and, of course, our weekly history walks continue into April this year.

### ***Grand Central Mill Tour***

FSPR has a new docent and a new history walk destination. Merle Kilpatrick completed training and became a docent in February (see article, p. 3). On March 11, he led his first tour for us, taking a group to the Grand Central Mill site one mile north of Fairbank.

Grand Central joins Fairbank, Millville, Murray Springs, Terrenate, and the Clanton Ranch as destinations. Grand Central was a Tombstone-silver boom era mill site. Today, the stone foundations that make up the site stand as mute testimony to the wealth generated by the silver mines and the energy expended to accrue that wealth.

[Note: When visiting Grand Central, Millville, and other mill sites along the River, exercise caution. The BLM reminds us of the heavy metals in the soils in these areas. Visitors would do well to avoid exposure by staying on existing trails.]

Come join Merle for his next tour to Grand Central on April 22. Meet at the Fairbank School by 9 am for this 2-mile, easy walk. Dress for the weather and bring water.

### ***Hike to Lewis Springs***

One of the lesser-known historic sites in SPRNCA is Lewis Springs. I recently walked there on a cool afternoon. I would like to share the experience with all of you and suggest it as a nice destination hike.

Lewis Springs was once a bustling spot on the San Pedro. It sits at the junction of the River and Curry Draw on the west and Government Draw on the east. There was once a train station here, where the rail spur that went to Fort Huachuca met the main line of the El Paso and Southwestern Railroad that ran between Fairbank and Bisbee.

At this spot was a large cienega and ponds. This was a well-known picnic area. From Myrick, *Railroads of Arizona*, volume 1:

The picnic grounds at Lewis Springs was the destination of a Sunday excursion from Douglas on May 22, 1904. Attracted by a fare of one dollar for the 98-mile round trip (half fare for children), 600 people boarded the train at Douglas. A connecting train from Bisbee was attached at Osborn and more people climbed on at Naco to bring the count to 1000. The Fort Huachuca 5th Cavalry twenty-piece brass band entertained the group...

Visitors today will still find a cienega and small pond. Cottonwoods and other plants thrive in the wet area. Birds are abundant. There is one building left from the train station. A foundation and pile of bricks give evidence that there was once a school here.

You can reach Lewis Springs in several ways. One is to start at the Murray Springs lot, hike the trail following the rail bed east to the River, and cross to the other bank. You can also take the trails north from San Pedro House or south from the Escapule Wash parking area and then cross the river to Lewis Springs. A third route, which does not require crossing the river, is to travel overland from the High Desert Knolls area just west of the River. You will need to consult Google Earth and maps to plan your route. All of these routes involve navigation, rough terrain, and bushwhacking. If you go, dress for the weather, let someone know where you are, and take lots of water. The effort will be rewarded by a visit to a beautiful part of the River and a trip back in time to what was once regarded as a garden spot in our area.



*Western Screech-Owl in SPH cottonwood.  
Photo by RJ (Bob) Luce.*

## Hoot Owl

*By RJ (Bob) Luce*

[Reprinted from the *Sierra Vista Herald*.]

It's February in southern Arizona. You are out walking near a forest or along a desert river under a bright moon. It's very quiet, then suddenly you hear an accelerating series of short whistles coming from the nearby woodland. Should you run? And, if so, which way?

An owl watcher will want to move quickly and quietly toward the sound to get a chance to see the source. Binoculars will help. This distinctive call, often referred to as a "bouncing ball song," belongs to a small bird called Western Screech-Owl. However, regardless of their name, these little owls do not screech.

This petite owl weighs in at around five ounces and when perched stands about eight inches tall. A Screech-Owl is not a threat to anything larger than a bat, mouse, insect, worm, or crayfish, its main food sources.

The Western Screech-Owl, as its name implies, occurs in the West, from Alaska to central Mexico, where it is one of the most-common owl species. Most Western Screech-Owls are light gray in color, but a small percentage of the Pacific race are brown, and the Mexican race, while gray, has dark vertical streaks in its plumage.

Western Screech-Owls inhabit all types of woodlands, but in desert-riparian habitats such as the zone bordering the San Pedro River, mature cottonwoods are commonly used for perching and nesting. Mature mesquite trees, few of which survived the extensive woodcutting over the last century, are used when present. In the Sonoran Desert, Western Screech-Owls use woodpecker cavities in saguaro cactus.

Usually the cavity chosen was created or perhaps even previously used for nesting by one of our many woodpeckers: Gila, Arizona, Acorn, Ladder-backed, or Northern Flicker. Without the assistance of woodpeckers, Western Screech-Owls would have a much harder time finding nest sites. Western Screech-Owls will try to find a cavity entrance just their size. That prevents predators from an easy snatch of the little owls when they sit in the mouth of their nest cavity to view the world. Western Screech-Owl predators include other, larger owls, especially Great Horneds, while raccoons, skunks, snakes, and ravens may prey upon nestlings and eggs. Nest success depends on an abundance of suitable cavities, so the adults can pick a cavity just the right size and with the right aspect. Selection of a well-protected, defensible nest site by the adult birds is critical.

When is the best time to hear owls hooting? Hooting begins in January, egg laying starts in late February-early March, and fledglings are usually first observed in late April. Throughout that time, adult birds will hoot to keep in touch with each other.

Okay, so you are not a night person. Can you see a Western Screech-Owl? Yes, but you have to be a careful observer. The little owls often sit at the entrance to their nest cavity to catch the morning sun from January-May, but especially obvious when owlets begin to show their faces sometime in April. Searching trees with binoculars, looking for cavities up to about 30 feet from the ground, is slow work, but can

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be effective. Search along the vertical trunk of mature trees, looking for a place where a limb has fallen, leaving a soft spot where an opportunistic woodpecker found easy excavating.

A few final thoughts about owls: If you see a small owl in southern Arizona, in the vicinity of Sierra Vista, for instance, chances are it is a Western Screech-Owl. But another even-smaller species, the Whiskered Screech-Owl, also occurs here and looks very similar. Its call sounds to me like a series of "Poots." Poot, poot, poot, poot, poot. The ranges of the two species overlap where lower elevation riparian habitats meet the Madrean oak woodlands in the canyons of the Huachuca Mountains.

Habitat loss is the biggest threat to conservation of most wildlife species, including owls. Maintaining the current distribution and population numbers of Western Screech-Owls requires conservation of suitable habitat. Around Sierra Vista, the canyons of the Huachuca Mountains and the cottonwood riparian zone along the San Pedro River provide some of the best continuous, undisturbed habitat for owls and hundreds of other wildlife species. To be sure that we have Western Screech-Owls in the future, we must maintain that habitat.

*RJ (Bob) Luce is a wildlife biologist, writer, and outdoor photographer who has lived near and photographed the San Pedro River in southern Arizona for 14 years. Previously, he worked on the family farm in Nebraska and for 30 years as a wildlife biologist in Wyoming.*

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## **The Grand Central Mill**

*By Merle Kilpatrick*

[Reprinted from the *Sierra Vista Herald*]

Prospector Ed Schieffelin found silver ore near Goose Flats in 1877. Other prospectors soon followed, filing claims nearby. As other miners and companies flooded into the area, a camp was established and named Tombstone. Mining of the ore began so fast that the owners had to just sack the ore until it could be processed. The problem was there wasn't enough water at Tombstone for a mill. Between 1879 and 1882, six mills to process the ore were built along the San Pedro River 8 to 10 miles west of Tombstone. One of these was the Grand Central Mill, located north of where Fairbank was established in 1881.

The Grand Central Mill was completed in December 1880 and started processing ore from the Grand Central Mine in Tombstone at Christmas time. The size of the building was 200 ft. by 130 ft. Built on a hillside to utilize gravity to feed ore, the building was 90 ft. from the upper level to the bottom level. The mill had 30 stamps and was the largest and most efficient mill to be built along the San Pedro River.

A stamp was a rod of steel about 14 ft. long and about 3 inches in diameter with an iron shoe (8.5 inches in diameter by 7 inches tall and weighing 800 lbs.) attached to the lower end. The total weight of each stamp was between 2500 and 3000 lbs. At the top of the stamp there was a collar that was engaged by a pawl connected to a drive shaft. The drive shaft was turned by a belt driven by a steam engine. This drive shaft lifted and dropped each stamp approximately 50 times per minute. This crushed the ore to a powder. To see this in person, visit the Tucson museum of the Arizona Historical Society, where stamp mill equipment is on display. Some mining equipment is also on view at the Bisbee Mining Museum.

The resulting powder was mixed with water and quicksilver (mercury) to form a paste. The silver and other metals in the powder would adhere to the mercury. After settling and straining, the amalgam of mercury and metals was heated to boil off the water and mercury, leaving silver and traces of other metals (gold, copper, zinc, and lead). Sometimes these mills were called reduction mills because the ore volume was reduced to a product that could be transported more easily, usually 180 lb. bars. These bars were then taken to a smelter to separate the various metal elements.

Grand Central Mill was in operation from 1880 to 1889. All the San Pedro River mills were closed when water became available in Tombstone. The Grand Central Mill was demolished in 1889. Some of the

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*View from upper level of Grand Central Mill Ruins. Photo from FSPR Archives.*

equipment (five railcar loads) was sold to the Oso Negro Mine in Sonora, Mexico. In the summer of 1905, 20 of the remaining stamps were moved to the Girard Mill in Tombstone during a renovation to that mill. This made the Girard Mill a 40 stamp mill. Today all that remains of the Grand Central Mill are the massive foundations stacked up the hillside.

The ruins can be visited by hiking north from the Fairbank townsite. The distance is about 2 miles round trip along a marked, maintained trail. Wear walking shoes and be sure to bring water. The Fairbank town cemetery is also on this trail, making for an interesting outing.

*[Merle Kilpatrick is a recent addition to our area, but is rapidly learning about its colorful past. He is a docent with the Friends of the San Pedro River and is also a volunteer at Coronado National Memorial.]*

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## **Rolling to Tombstone**

*By Ron Stewart*

Have you ever taken a stagecoach tour of Tombstone? These wonderful rides bear little resemblance to trips across the desert in historic times. Missing are the slap of reins against a horse's flank, obscene language from the driver, the dust, the smell of your fellow passengers (among whom you are wedged, bouncing up, down, side to side), the fear of robbery. A large stagecoach would sometimes carry as many as 30 passengers; a normal load was 12 inside and nine riding on top. Passengers were sometimes asked to walk up hills or help push the coach out of mud holes.

These rolling, bouncing wooden boxes, suspended on leather straps, supported by iron axles and wooden wheels, were the primary means of transportation when the Tombstone silver strike of 1877 triggered an influx of people into the area.

John Kinnear was the first to provide stagecoach service to Tombstone. He drove a coach west from Silver City to Tucson and started carrying passengers in November 1878. His line traveled east from Tucson to Tres Alamos on the San Pedro River, just north of modern Benson, where passengers spent the night and went the rest of the way to Tombstone the next day. Coaches moved five miles per hour on the 95-mile, 17-hour trip. A ticket cost \$10.

Rival stage lines were soon started, the first by A.J. Caldwell and then another by Howard Walker and William Ohnesorgen. On June 21, 1880, "Sandy Bob" Robert Crouch's new company started stagecoach runs between Benson and Tombstone. Crouch was a veteran stagecoach driver from California. Seeing opportunity in Tombstone, he left his family behind and came east, where he became the most prominent purveyor of horse-drawn transportation around Tombstone.

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Competition for passengers and freight was fierce. Rival coaches would race each other to arrive first. Incidents of sabotage between rival companies occurred. The public benefited when fares for passengers and freight were cut and new, shorter routes were found. Horses, though changed out at 30-mile intervals, were pushed to the limit to beat the travel time of rivals. An overnight trip became a one-day trip, reduced from 17 hours to nine. Fares were as low as \$1 at times. Advertisements in Tombstone and Tucson newspapers extolled competing coaches, horses, drivers, and stage stations.

The Southern Pacific Railroad started regular service from California to Tucson on March 20, 1880. Railroad passengers provided more customers for the stagecoaches. The railroad kept building to the east, reaching the San Pedro River in June 1880. There, a train depot became the center of the new town of Benson. The stage lines shortened their routes as the railroad moved closer.

Starting in July 1881, a new railroad, the New Mexico and Arizona, was built south from Benson along the San Pedro River, reaching Contention in January 1882 and shortly after to a site a few miles south that became Fairbank. As the network of rails grew, stage operations were reduced to transportation between Tombstone, Fairbank, Bisbee, Charleston, and Fort Huachuca.

Fairbank grew up around a depot built at the point where the New Mexico and Arizona Railroad came closest to Tombstone. Businesses were started there to cater to passengers arriving here on their way to and from Tombstone: a hotel, freight offices, stables, saloons... everything a traveler or businessman might need. Fairbank continued in this role until 1903 when the El Paso and Southwestern Railroad, during a brief revival of silver mining, finally built a spur from Fairbank to Tombstone, ending the need for stagecoaches.

Stagecoach robberies were common. An example is the robbery on March 15, 1881, near Drew's Station, just north of Contention. Bandits attacked a stage and killed the driver and a passenger. This incident is infamous in Tombstone lore. Was Doc Holliday the gunman? Debate still rages.

Two of the Concord stagecoaches that plied the roads in our area still exist. One is at the Arizona Historical Society Museum in Tucson. The other, Sandy Bob's Modoc coach, which he brought east from California, can be seen at the Sharlot Hall Museum in Prescott. Both are pictured in the streets of Fairbank or Tombstone in historic photographs.

Where can you learn more? In 1973, Tom Peterson wrote an excellent article for the *Journal of Arizona History* entitled "Cash Up or No Go: The Stagecoach Era in Arizona." Another source is John Rose's book *On the Road to Tombstone: Drew's Station, Contention City and Fairbank*.

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*Concord stagecoach at the Arizona Historical Society Museum in Tucson used between Fairbank and Tombstone.  
Photo by Ron Stewart.*

## The Arrival of the Railroads, Part 2

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### ***The Copper Queen and its associated railroads***

Transportation needs of the Copper Queen Mine resulted in Phelps Dodge building a short railroad that over time grew into an important regional transportation resource in the Southwest. The American exploitation of minerals in the Bisbee area dated back to a scout for Apaches (Bailey, 2002, p. 11-64; McClintock, 1916, p. 424-427, 182-189 abs.). On May 9, 1877, Lieutenant John A. Rucker led a 15-man detachment of mostly Apache and civilian scouts of Company C, 5th Cavalry from Fort Bowie. Jack Dunn, an accomplished scout, suggested the detachment look for Indians at springs in the Mule Pass of the Mule Mountains. Water at the first spring visited was brackish and Rucker decided to make camp and have Dunn search for better water the next morning. Not only did Dunn find good water but he also noticed a mineral that often occurred with silver. He took samples and informed Rucker and another government employee, T.D. Byrne, of his find. The three men had all dreamt of striking it rich and paced off a rectangle 900' x 300' in size. Nearly two months passed before they registered their claim, but on August 29, 1877, Byrne filed a claim with the Pima County Recorder for the "Rucker Mine." The claim gave the date of discovery not as in May but rather as August 2, possibly a date when the three men were not on duty. Over time, prospectors became aware of the mineral riches in the area, filed claims, and began mining ore. It soon became apparent that the mineral riches consisted not of silver but rather of copper.

By 1881, the largest copper mine was the Copper Queen Mining Company owned by the eastern-based Phelps, Dodge & Company. That firm had retained the services of Dr. James S. Douglas, an expert geologist and metallurgist who investigated possible mining opportunities for the company. He persuaded the company in 1881 to purchase for \$40,000 the Atlanta Mine that was situated near the Copper Queen, and for his work and counsel received a 10% interest in the Atlanta claim. Further mining work revealed that both the Atlanta and Copper Queen mines had competing claims on a nearby large body of ore. The owners of the two companies wisely realized that it would take years of lawsuits to settle ownership and that the only winners would probably be the lawyers. Phelps, Dodge & Company agreed to buy an interest in its rival, and in August 1885, the two companies merged into a new entity operated under the name of Copper Queen Consolidated Mining Company (Cox, 1838, p. 43; Douglas, 1913, p. 535-536, 618-619 abs.; Graeme, 1999, p. 40). Soon after the merger, copper prices fell, and Phelps Dodge bought most of the remaining stock to bring its ownership to 90%. The company appointed Douglas as manager of the new Copper Queen company, which soon began producing large amounts of copper ore.

Douglas soon realized that transportation difficulties and costs significantly limited expansion of ore production and a corresponding increase in profits (Bailey, 1883, p. 36-38; Cox, 1938, p. 103-105; Douglas, 1899; Douglas, 1913, p. 542, 625 abs.; Graeme, 1992, p. 47-48; Graeme, 1999, p. 42-43; Hofsommer, 1992, p. 86; Myrick, 1981, p. 177-254).

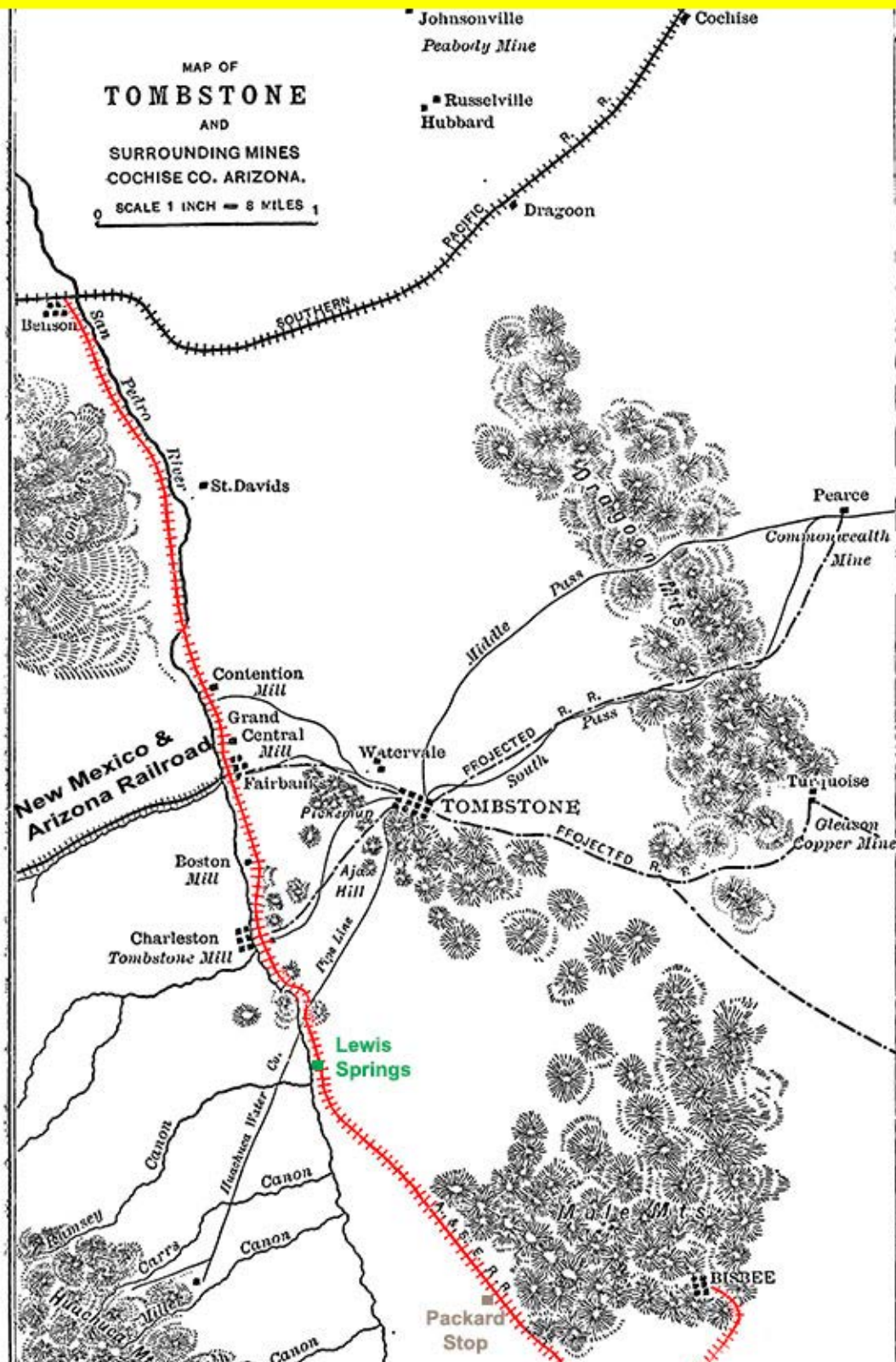
When he first arrived in the area, mining companies transported tons of supplies and black semi-refined copper daily by mule team wagons over 30 miles of roads via Mule Pass to Fairbank, where the New Mexico and Arizona Railroad Company had a station. The freight transportation along the route to Fairbank was initially done by Carr at a rate of \$7 per ton and later by Durkee for \$6 a ton (Douglas, 1906, p. 26). The mule-pulled ore wagons were typically eight feet high, had rear wheels six feet in diameter and with a 10-inch tread and held about five tons each (Cleland, 1952, p. 139). Teamsters often joined three such wagons together and used teams of 18 or 20 mules to haul them tandem fashion. A teamster controlled a set of wagons with a single "jerk-line" that attached to the leading mules (Robinson, 1919, p. 249, 267 abs.). A long steady pull caused the leaders to turn to the right, while a series of jerks resulted in them moving to the left.

The expanding operations of the Copper Queen required the movement of additional tons of copper ore, thousands of board feet of lumber for use in the mines, tons of coke and coal, and many other materials needed by the company or its workers. Transportation needs for the Bisbee copper mines reached 20,000 tons per year, an amount expensive and difficult to move by mules.

*(continued on p. 13)*



Phelps Dodge Railroads (shown in red, adapted from Church, 1903).  
 (Track positions changed over time as Phelps Dodge RR found & constructed better grades.)



(continued on p. 14)

The company experimented with a steam traction engine built by John Fowler & Co, popularly dubbed "Geronimo" because of the problems it caused. The engine cylinders were 6.5" x 11.25" in diameter, the piston stroke was 12 inches, the engine ran under a pressure of 140 pounds, and had a 220-gallon water tank. The traction engine could haul 20 tons of freight, provided it was on ground that provided sufficient traction. The company put the machine to work on the road between Fairbank and Bisbee, an approximately 30-mile route with long grades of 10 percent. The device proved "utterly unsuitable for long-distance haulage in an arid region." It could move with difficulty through dry sand, but after rains, its wheels slipped and could not obtain traction on a muddy road. A rainstorm could therefore bring the engine to an immediate standstill. The Copper Queen would have had to build a hard road-bed to secure regular operation during all types of weather. Moreover, while the engine was very well built, it needed more frequent repairs than would an engine running smoothly upon railroads. Douglas (1906, p. 26) remarked that "it was dangerous to operate it at a distance from the machine shop." It was also difficult to establish water supplies for such an engine in an arid region.

However, when the engine ran under favorable conditions, it could haul materials much more economically than did teams of mules. For several months, the Copper Queen used the machine to pick up the coke-loads of two 18-mule teams, whose gross weight of loads and wagons was approximately 20 tons. The traction engine hauled the coke over a 9-mile stretch of the Mule Mountain toll-road that had 10 percent grades and then returned daily over the same road stretch with a load of copper. This type of operation, however, required transferring copper ore or coke between the traction engine and mule teams. The company gave up using the device in the Bisbee area and repurposed it for hauling 30 tons of ore daily in two trips from a mine located three miles away from Globe over a hard mountain-road.

Management of the Copper Queen began investigating the possibility of constructing a railroad between Bisbee and Fairbank. The straight-line distance between the two localities was approximately 30 miles. The company investigated two possible routes. The shorter one substantially followed the route of the toll-road but involved heavy grades and had room for only a narrow-gauge railroad. The longer line was approximately 37 miles in length because it went around the southern end of the Mule Mountains, but it had room for standard-gauge rails and had maximum grades of only 2.5 percent. A major reason for selecting the longer route and a standard-gauge railroad was to avoid the transfer of fuel between narrow-gauge and standard-gauge railroads. Such transfer would involve significant loss of coke that was very friable. There would also be the time and labor involved in transferring copper ore and other materials between railroads with different gauges.

People in Tombstone hoped that the anticipated railroad would go through their town. The *Tombstone Epitaph* on April 14, 1888 published an article (TE, 1888a) declaring that for more than a year, it had been "an open secret" that the Copper Queen Mining Company was determined to reduce the costs of transporting coke and crude bullion by building a railroad line between Bisbee and Fairbank. The newspaper correctly noted that the company had considered constructing a narrow-gauge road from Fairbank through Mule Pass to Bisbee but abandoned that idea because of the steep gradients through the canyon. The paper then asserted that the Atchison, Topeka, and Santa Fe Railroad Company wanted "to take a hand in the building of the road. That company already has a line surveyed from Fairbank to Deming through Tombstone and has expended thousands of dollars on the grade." The newspaper concluded that the railroad company would benefit because the route through Tombstone to Deming would give it a direct connection between its Sonora railroad and the main Santa Fe system to the east. The newspaper correctly reported that Superintendent Ben Williams of the Copper Queen Mining Company had stated that there would be a railroad built between Fairbank and Bisbee. The paper noted that J.E. Durkee & Co., who had the contract for holding bullion and coke, had been officially notified of the fact and had discharged 15 men who were working on the existing road and on improvements to it near Fairbank.

The Arizona and South Eastern Rail Road Company was incorporated on May 24, 1888 with Lewis Williams as president, Ben Williams as agent, and George Noteman as Secretary. The capital stock was \$400,000 and the Directors were Thomas Mitchell of Los Angeles and Ben Williams, Lewis Williams, J.W. Howell, J.H. Hoadley, S.W. Clawson, W.H. Brophy, and M.J. Brophy of Bisbee (SJH, 1888).

(continued on p. 15)

The Copper Queen Consolidated Mining Company controlled the new firm and decided to build a standard gauge railroad with light rails (40-pound) if such could be done for \$200,000. On the advice of the Santa Fe, the company retained Mr. Wambaugh for 15 days to make a preliminary survey and cost estimate (Douglas, 1906, p. 26). His estimate was within the prescribed limits, so the company proceeded with the building, but found that actual costs far exceeded the estimate. The company paid most of the costs for establishing the new railroad by purchasing all its capital stock for \$400,000 (Myrick, 1981, p. 185). The railroad company issued \$85,000 worth of 6% mortgage bonds that were due in 1893. Construction of the line cost \$457,419, including \$132,199 spent for grading, \$116,232 for rail, and \$85,849 for crossties. The completed line was 36.2 miles in length, had no tunnels, but had 31 pile bridges. Newspapers commonly referred to the new railroad and to future extensions eastward into New Mexico and Texas as the "Bisbee Road."

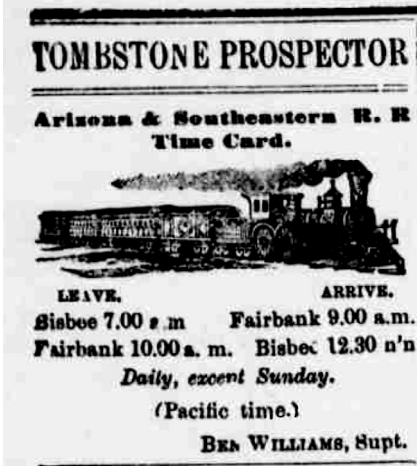
Construction of the new railroad was not without problems. On December 20, 1888, there was a serious accident between Camp 19 and the end of the track (TE, 1888b). A locomotive was pushing ahead of it two flat cars loaded with iron and building material on which approximately 30 workers were riding when the foremost car ran over a bull lying on the track. The collision threw both cars and the engine off the track. One of the cars crushed John McAatee to death against the bank. Two other men suffered serious injuries that were not fatal and most or all the remaining workers suffered various injuries. In another accident, H. Scott Knight, a bookkeeper who had taken a job in railroad construction, was seriously injured on December 29, 1889 (AWE, 1889) when he touched a candle to the tip of a fuse and the powder in a hole exploded prematurely. The blast hit him in the face and produced great damage, including the probable loss of one eye.


Equipment expenditures were frugal, including only \$12,273 for two locomotives. The first was a secondhand engine that had been built in 1857 by Breese, Kneeland, and Company as a wood-burning locomotive (Guenzler, 2009; Wikipedia, 2016). It became locomotive 1 of the new railroad company and is on display at the Railroad and Transportation Museum of El Paso. During its ownership by the new railroad company, it probably was converted to burn coal, as indicated by its straight stack and extended smokebox. The locomotive was configured as a 4-4-0 (4 leading wheels on 2 axles, 4 coupled driving wheels on 2 different axles, and no trailing wheels), weighed 457,500 pounds, had a boiler pressure of 110 psi, and had 2 cylinders, 15" x 22" each. The second locomotive was a new 2-6-0 (2 leading wheels on 1 axle, 6 powered and coupled driving wheels on 3 axles, and without trailing wheels) from Baldwin. The company completed its initial purchase of rolling stock by obtaining two passenger cars from the Pullman Palace Car Company, one boxcar, and eight flat cars. The total cost of rolling stock was \$19,001.

On February 1, 1889, the citizens of Bisbee celebrated the arrival of the first official train from Fairbank (ASB, 1889; Myrick, 1981, p 181-187). People lining the tracks in Bisbee heard the whistle of the first train around noon as it came up the canyon, pulled by locomotive 1, and began a celebration.

The new railroad established a schedule (TDP, 1889) whereby every day but Sunday, a mixed train of passenger and freight cars left Bisbee at 7 AM and arrived at Fairbank two-and-a-half hours later. The return trip left Fairbank at noon and arrived at Bisbee at 2:30 PM. The railroad adjusted departure times as needed, and on September 20, 1891, had a schedule of leaving Bisbee at 7 AM and arriving in Fairbank at 9 AM, leaving Fairbank at 10 AM and arriving at Bisbee at 12:30 PM on all days but Sunday (TP, 1891).

While the new railroad was considerably more expensive to build than anticipated, it successfully reduced freight costs from \$6 to approximately \$1 per ton (Douglas, 1906, p. 26) and was a financial success, paying off its entire mortgage debt within only 17



TOMBSTONE PROSPECTOR	
Arizona & Southeastern R. R.	
Time Card.	
	
LEAVE.	ARRIVE.
Bisbee 7.00 a.m.	Fairbank 9.00 a.m.
Fairbank 10.00 a.m.	Bisbee 12.30 p.m.
Daily, except Sunday.	
(Pacific time.)	
BEN WILLIAMS, Supt.	

Timetable from TP, 1891.

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months (Myrick, 1981, p. 181-187). James Douglas then became president of the railroad for the life of the company well into the history of its successor. The Arizona and South Eastern Railroad also helped the economy of Bisbee and, through interchange at Fairbank, the New Mexico and Arizona Railway.

Tonnage hauled by the railroad for the fiscal year ending June 30, 1891 was 31,399. Two years later, it was 32,470 tons, despite a slight decline in copper bullion shipments. Copper Queen required two tons of coke and one or two tons of bituminous coal for every ton of copper ore produced. Coal, coke, and copper were more than 80 percent of the annual tonnage until 1894, when M.M. Sherman of Tombstone imported a large shipment of cattle from Mexico that required a special 16-car train. That train left Bisbee on October 27, 1894 and was part of a shipment of 845 head of cattle that Sherman was sending to Kansas City. The next week, he sent 12 cars of cattle to Los Angeles. Cattle transportation rose to 5340 tons in 1895, 6700 in 1896, and 10,286 in 1897, after which cattle traffic declined to about 3000 tons per year for the next few years.

Ben W. Williams, manager of the Copper Queen Company's business, was manager of the railroad and was assisted by W.A. Harvey, superintendent, and V.R. Stiles, agent at Bisbee (Oasis, 18949). The railroad ran one train each way daily. Jerry Briggs was the conductor and John McTear served as engineer, while Frank Armstrong fed the boiler with coal. The Copper Queen Mining Company was an extensive and profitable business with several mines in the Bisbee area and approximately 600 employees.

Miffed feelings by a Santa Fe official over a lost lumber contract resulted in the executives of the Copper Queen deciding to build a railroad from Fairbank to Benson (Douglas, 1906, p. 26-27; Myrick, 1981, p. 187-194). In 1893, the freight contract between the Copper Queen and the Santa Fe expired and the latter company put off negotiations on a new contract while awaiting the results of a different set of negotiations with the Southern Pacific Railroad. The Santa Fe verbally agreed to keep the old rates in force until there was a new arrangement. (The Santa Fe transported materials for the Copper Queen between Fairbank and the Southern Pacific Railroad at Benson along its New Mexico and Arizona Railroad.) Meanwhile, the Copper Queen was dealing with the problem of obtaining large amounts of lumber at prices as low as possible. For approximately 10 years, it had purchased lumber from Mr. Ross, whose sawmills were in Rock Canyon in the Chiricahua Mountains. The federal government decided that the land on which Ross was cutting was agricultural rather than mineral and instituted criminal action against Ross and a civil action against the Copper Queen. The mine owners decided that it would be better to obtain lumber from Oregon than face expensive legal fees.

The two competitors for transporting Oregon timber were the Southern Pacific, which imported it through San Pedro, California, and the Santa Fe, which brought it in through Guaymas. The Copper Queen awarded a contract for one million feet of lumber at a time to the lowest bidder which was the Southern Pacific, which gave a bid only \$0.25 lower than that from the Santa Fe. Mr. Hanly, the Santa Fe traffic manager, expressed his irritation at the results by raising the freight charges for the Copper Queen. Executives at the Copper Queen decided that it was time to extend the Arizona and South Eastern Railroad from Fairbank to Benson, thereby eliminating the need to pay fees to the Santa Fe.

Ranchers along the San Pedro river between Fairbank and Benson found in the week of March 18, 1894 that Ben Williams, supervisor of the Arizona and South Eastern Railroad, surveyor Beckwith, and a contractor were in their area and estimating the probable costs of extending the railroad to Benson (TE, 1894a). The railroad people and the contractor made it clear that the railroad would be extended and the contractor negotiated with the ranchers for hay and grain. The public also learned of a rumor that the Copper Queen was stockpiling bullion at Bisbee with a possible intention of waiting until the new road was constructed or the New Mexico and Arizona Railroad provided lower freight rates. People learned on March 25, 1894 that the railroad had a powerful new engine under construction (TE, 1894b). By early June, the new locomotive had showed that it could pull nearly double the number of cars into Bisbee that had been hauled by previous smaller engines (TE, 1894d). The more-powerful engine enabled the Bisbee Road on November 30, 1894 to move across its tracks the heaviest train to then for the railroad, consisting of 17 freight and one passenger car (TP, 1894). The new, more-powerful locomotive, however, required that bridges be strengthened and work on them began in June 1894 (TE, 1894e).

*(continued on p. 17)*



The *Arizona Republican* reported on March 29, 1894 that the New Mexico and Arizona Railroad faced losing freight from Bisbee that would include about 40,000 tons annually for the Copper Queen Mining Company (AR, 1894). The paper concluded that it was doubtful if the former railroad could operate profitably if the new line was built but concluded that such a new line would be “a blessing” to the traveling public because it would do away with the existing layover at Fairbank for connections.

People in the valley were surprised on May 12, 1894 when the Copper Queen Mining Company began having eight 14-mule teams haul cargo between Fairbank and Benson (AWC, 1894a; CS, 1894; TE, 1894c). The teams carried copper bullion from Fairbank to Benson and returned the next day with mining timbers and lumber. Teamsters loaded the wagons at night, and the mule teams pulled them along the road during the day. It was a highly unusual sight to view mules pulling cargo along a roadway that paralleled a railroad. The intention was to temporarily transport 15,000 tons of freight each way between Benson and Fairbank by mule teams until the extension of the Arizona and South Eastern Railroad reached Benson. Later in May, the Copper Queen greatly increased the number of mule teams to meet a goal of moving 1,250,000 feet of timber from Benson to Bisbee before the rainy season began (Oasis, 1894a; TE, 1894d). The importance of meeting this goal was shown in the first quarter of June, when workers began to unload a cargo of one million feet of lumber at the San Pedro wharf with the expectation that the Southern Pacific railroad would soon transport it to Benson (Oasis, 1894d). The work of loading and unloading wagons and caring for and feeding the mules produced a temporary increase in prosperity in Benson. The big teams hauling freight required large amounts of hay and grain that were purchased from ranchers between Benson and Fairbank, resulting in hay selling for \$12 a ton along the river (AWC, 1894a). On July 1, the contract for moving a million feet of lumber and a million pounds of copper between Benson and Fairbank was completed, and the teams involved in that work departed (TE, 1894g).

The movement of cargo by the mule teams resulted in many heavy loads passing over the wagon road (Oasis, 1894cc). For example, on June 2, 1894, Jack Scherer’s two teams hauled to Benson, on four wagons, more than 32,000 pounds of copper bullion. Each team included 14 animals and hauled two wagons. The *Oasis* opined that the loads were “the heaviest in the annals of freighting.” By early June 1894, people began noticing that the heavy freight teams were severely cutting the road between Benson and Fairbank.

In late May 1894, the Copper Queen began working to secure right of way for the extension to Benson and Ben Williams stated that construction work would begin by the middle of June (Oasis, 1894b). By early June 1894, all rights-of-way had been secured; the route survey completed; bids received for grading; and a contract awarded to Ward and Courtenay for grading the route, laying track, and constructing culverts and bridges (Oasis, 1894cc; TE, 1894f). Most of the right of way was across public land and a plat of the survey had been filed with the US land office at Tucson. Rights-of-way across one or two private properties were secured by purchasing the ranches outright. At Fairbank, the railroad purchased the right of way from Leon Larrieu to cut its grade around a rock cliff along which he had established a ditch.

Ward had publicly estimated in early June that the extension would be completed and ready to run cars within 60 days (TE, 1894f). However, Ward & Courtney encountered an unexpected delay in beginning their work on the railroad extension to Benson (Oasis, 1894f; Oasis, 1894e). Their entire work outfit was at Eddy, New Mexico (Carlsbad). Ward sent for the outfit as soon as the contract was signed with the railroad, but before it could be loaded onto cars, there was a series of washouts on the railroad between Eddy and Pecos, the junction with the Texas & Pacific. The contractor had the livestock and later equipment items taken overland to El Paso for railroad shipment from that place, but heavier items had to remain at Eddy until repair of the Pecos road. An advance contingent of graders and 100 teams arrived in Benson on June 20, 1894, but there still were not enough harnesses to use all the teams and some animals had to be turned out to pasture on alfalfa at St. David.

By the end of June, the contractor had about 100 men and 40 teams at work and, in expectation of the arrival of the missing equipment, was advertising for 300 laborers who upon arrival of the equipment

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would begin working for a daily wage of \$1.25 (AWC, 1894b; AS, 1894; Myrick, 1981, p. 190; Oasis, 1894f). The missing equipment appeared on July 13 and the next day, workers began laying rails in the Benson area at the switch connection with the Southern Pacific (Oasis, 1894g; TE, 1894h).

By July 21, the contractor had completed eight miles of grading and by July 26 had moved its headquarters camp to the rock cut camp two miles north of Fairbank. But it was unable to lay much in the way of tracks because the national Pullman strike had blocked or delayed the receipt of necessary materials (Oasis, 1894ff). The contractor had received enough tracks and ties for approximately a mile of rails but could not lay tracks because of a lack of trap bolts, anglebars, and spikes. A large shipment of piling and bridge timbers arrived in Benson on August 4 and the company began building what was estimated to be a total of 62 bridges for the railroad extension (Oasis, 1894h; Oasis, 1894j). The missing trap bolts, spikes, and trimmings finally arrived on August 8, enabling the contractor to soon begin laying track. A construction engine came down from Benson on August 9 to help with the track laying (Myrick, 1981, p. 191). By August 23, the tracks were approximately seven or eight miles south from Benson and by September 6, the tracks reached the northern edge of California Wash, located just south of current day St. David (Oasis, 1894k; Oasis, 1894m). Workers suspended track laying until completion of a 150-foot bridge across the wash on September 10 (Oasis, 1894n). The *Oasis* noted on September 20 that for construction of the extension, the railroad had received 55,000 ties and 7321 steel rails. The project by then was close to completion. At about noon on September 26, 1894, workers completed the bridge across the San Pedro River approximately two miles north of Fairbank (Oasis, 1894o). By that evening, only a few hundred feet of track remained to be laid.

Work on the new railroad line was not without hazards. Teamster Gus Butler suffered a serious accident near one of the grading camps while moving a load of barley on August 6, 1894 (Oasis, 1894h). While he was crossing a gulch, a rough place in the road resulted in him being shaken from his seat and falling under the wagon wheels, which ran over him, breaking three ribs and his jaw in two places. Fellow workers brought him to Benson, where Dr. Wright attended to him. A blast in the rock work on the railroad on August 11, 1894 wrecked three boxcars on a sidetrack of the New Mexico and Arizona Railroad at Contention, threw the track out of line, and broke three rails. On August 12, teamsters of Ward & Courtney who were loading barley from their warehouses onto their wagons accidentally dropped nearly two tons of barley onto James Willie (TE, 1894i). The accident created a three-inch gash on his head that Dr. Wright successfully stitched and the teamster rapidly recuperated. In an accident on August 13, 1894, a falling rail cut off the toes of a track layer (Oasis, 1894i). In an accident whose nature was not recorded, a man named Witherspoon broke several fingers of his left hand on August 29, 1894 while working on a pile driver (Oasis, 1894l). On the evening of September 25, 1894, John Evarts, a brakeman, got his left hand caught while making a coupling and lost his thumb at the first joint and his middle finger at the second joint (Oasis, 1894o). Dr. Wright amputated the injured members.

A fight on August 6, 1894 between Dick Grines and a Mexican laborer, whose name was not recorded, came close to starting a major fight between American and Mexican workers at a rock camp approximately two miles north of Fairbank (Oasis, 1894h). The Mexican reportedly attacked Grines with a knife and the latter shot him dead and then delivered himself to authorities in Tombstone. The companions of the man who was shot were very angry and, for a time, it was feared that there would be conflict between the two different ethnic groups, which each had approximately equal numbers of men among the 200 laborers at the place.

Workers made a connection on September 29, 1894 between the new extension of the Arizona and South Eastern Railroad at Fairbank and cars ran over the tracks from Benson to Bisbee for the first time (TE, 1894j). As of October 11, 1894, the railroad was running occasional freight trains over the new extension but expected to wait a few more weeks before running passenger trains until final work was done on some of the bridges (Oasis, 1894p). The railroad began running regularly scheduled freight trains across the extension on October 15, 1894 and anticipated soon starting passenger service (Oasis, 1894q). The company also was looking forward to carrying its first shipment of Sonora cattle that would come in at Bisbee on September 28, consisting of 40 carloads of beef belonging to M.M. Sherman of Tombstone, en route to Kansas City.

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Passenger train service over the new extension began between October 25 and November 1, 1894 (Oasis, 1894r; Oasis, 1894s). The weekly advertisement for the Arizona and South Eastern Railroad on October 25 listed only trains between Bisbee and Fairbank, while that published on November 1, 1894 included Benson. Train service between Bisbee, Fairbank, and Benson was daily, except on Sunday. When freight traffic or other needs warranted, the railroad ran additional trains (TE, 1895a). This policy of adding trains as needed remained in force as the Phelps Dodge-controlled railroad expanded and eventually assumed different names.

## Arizona & Southeastern R R

lv-6:20 a. m.	Bisbee	ar-2:30 p. m.
" 6:32 "	*Don Luis	" 2:15 "
" 6:57 "	*Packard	" 1:50 "
" 7:35 "	*Water Tank	" 1:10 "
" 7:50 "	*Charleston	" 12:50 "
ar-8:05 "	Fairbank	lv-12:30 "
lv-8:15 "	"	ar-11:45 a. m.
" 8:25 "	*Contention	" 11:35 "
" 8:45 "	*Land	" 11:15 "
ar-9:15 a. m.	Benson	lv-10:45 "

\*Flag Stations. Stop on signal.

Daily, except Sunday.

BEN WILLIAMS, Supt.

Timetable from Oasis, 1894t.

Working on the new railroad could be hazardous. A carpenter on a railroad bridge had a severe fall on November 24, 1895 that the *Tombstone Epitaph* expected would kill him (TE, 1895b). He was working on a bridge and, when a train approached, stepped onto a plank to get out of its path. Unfortunately, the plank gave way, causing him to fall. On February 18, 1896, Jerry Briggs, a conductor of train No. 1, was killed at the Packard station while attempting to perform a "flying switch" (AR, 1896; GG, 1896). Such a switch was a potentially dangerous maneuver in which a person disconnected one or more railroad cars from a locomotive while the train was moving and, as the locomotive pulled away, switched the cars to another track so that they rolled to a desired position under their own momentum. His foot became caught in the switch and he felt lengthwise on the track in such a way that a wheel passed over him and cut his body almost longitudinally. People gathered his remains and sent them on the same train to Bisbee where he had lived.

A careless railroad engineer caused an accident at approximately 8:30 PM on January 29, 1896 on the tracks of the Arizona and South Eastern Railroad at Fairbank (Oasis, 1896). Train No. 3 of the New Mexico and Arizona Railroad had reached Fairbank that night and was unloading freight. Engine No. 16 under the charge of engineer Andy Linder and brakeman S.S. Johns were sent to put a freight car south of the train that was being unloaded. To reach the place where the car was to be left, Engine 16 had to pass over a three-way switch that belonged to the Arizona and South Eastern Railroad and that could switch traffic to any one of three different directions. All engines were supposed to come to a full stop before reaching the switch so that the crew on board could check to be sure the switch was in the proper position. The engineer failed to stop and went into the switch at a rate of speed estimated at 6 to 8 miles per hour. The result was that both the engine and its tender ended up in a ditch, with the engine buried to the axles in sand. Railroad workers labored until 2 AM to get the engine and tender back on the track.

People not associated with the railroad could also suffer severe injuries if they did not exercise proper caution near the tracks. During the night of September 23-24, 1895, a man apparently lied down on the tracks near Bisbee and a train ran over him, cutting off both his legs and killing him (TE, 1895b).

The Arizona and South Eastern Railroad, after the extension between Fairbank and Benson, was still a small enterprise (Poor and Poor, 1897, p. 259, 461 abs. & p. 1310, 1522 abs.). As of 1895, it had 57 miles of 40-pound steel track, three locomotives, and only 11 cars, comprising two combination cars (apparently carrying passengers and light freight such as luggage), one box car, and eight flat cars. For the fiscal year ending in June 30, 1896, the railroad earned \$237,420, consisting of \$19,072 from passenger service, \$217,044 from freight service, and \$1304 from other services. The railroad had net earnings of \$142,210 and paid \$40,000 in dividends. Its officers were James Douglas of New York, president, Joseph Van Vleck of New York, vice-president and treasurer, and Benjamin Williams of Bisbee, general superintendent.

The railroad had been built for relatively light traffic and its expansion and increased freight traffic resulted in the need for the installation of heavier rails and extensive realignments of the road (ADO,

(continued on p. 20)

1899a; ADO, 1899b; Douglas, 1899; Myrick, 1981, p. 266; WO, 1889). Executives had originally estimated that a 40-ton locomotive would haul the anticipated amount of 30,000 tons of freight by a series of single daily trips between Benson and Bisbee. They believed that a 40-pound rail would be heavy enough for locomotive of that size when it was pulling cars loaded to even the maximum capacity of 60,000 pounds. The light rails were made at the Joliet works of the Illinois Steel Company and used both in the first section of the road from Fairbank to Bisbee and then in the extension to Benson.

The road between Benson and Bisbee ran over easy grades for 30 miles along the valley of the San Pedro River and then began to climb 2.5 percent grades. The 55.3 miles of road included 45.1 miles of straight track and 10.2 miles of curves, with a maximum curve of 12°. There were 38.1 miles of ascending grade, 10 miles of descending grade, and only 7.2 miles of level railroad.

The topography of the railroad placed strong stresses on both the track and locomotives. The railroad company had, however, laid the light tracks on a well-made gravel and clay road-bed and had given more than normal care to the maintenance of the bed. Three section-gangs worked on maintaining the 55-mile stretch. The rails had been laid on split redwood ties 6 by 6 by 8 feet, 2640 to the mile. While the ties showed no signs of decay, the rails had cut into them, but except for the ties on the heavy curves, it was possible to simply turn over the ties and reuse them on various light-duty extensions. Only five of the 40-pound rails had broken during 10 years of use and most of the other rails were in perfect condition, except that the outside rails laid on heavy curves were somewhat worn. The railroad had, however, found that the heavy rolling-stock that it ended up using produced unduly rapid cutting of the tires of the driving-wheels because of the light-duty nature of the 40-pound rails.

With the 40-pound rails a locomotive of safe weight on a 2.5 percent grade could haul only five cars, pulling an average load and a passenger coach. By 1898, the railroad was moving not the originally estimated 30,000 tons of freight annually but rather more than 84,000 tons. The railroad had been forced to use three engines and three train-gangs over the 40-pound rails. By switching to 60-pound rails, the company could save money by using heavier locomotives and a train that would do all the hauling with a single crew. Additionally, by 1899, the cost difference between 40 and 60 pound rails had significantly decreased.

[NOTE: Part 3 of this series on San Pedro railroads will explore the continued growth of Phelps Dodge railroads and the development of Lewis Springs into a popular destination for special excursion trains.]

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*FSPR docent Ginny Bealer points out a four-winged saltbush (Atriplex canescens). Photo by Jan F.*

## Kudos for Our Docents

Last November, FSPR received a handwritten letter from a woman thanking docent Ginny Bealer for leading a great walk. Here is her story: "A new friend and I made a trip last Saturday to the San Pedro House intending to do a bit of birding. (I'm just learning.) We had the good fortune to arrive just as two docents were starting a hike. We experienced a learning opportunity greater than birding. It was a beautiful day and I thought you might enjoy copies of some of the pictures I took. After we left the SPH we tried another short hike suggested by Ginny, one of the docents, to Millville and the Petroglyph Discovery Trail. Thank you so much."

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## Tips for Participating in FSPR Walks & Hikes

- » Wear appropriate attire for hiking and walking and current weather conditions. Wear good hiking shoes.
- » Bring at least one quart of water per person.
- » Wear a hat and sunscreen, even in the winter.
- » Bring a snack for longer walks and hikes.
- » Dogs should be left at home unless well behaved and not disruptive to the tour. Dogs are not allowed on Bird Walks.

» There is no charge of the walks; however, donations are accepted to support our docent programs.

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## SABO Hummingbird Banding at SPH

This spring, the Southeastern Arizona Bird Observatory will be banding hummingbirds at San Pedro House and invites you to come observe its work. The banding will take place between 4 and 6 pm on the following dates: April 1, 8, 15, 25, and 29; and May 6, 13, 19, and 24. This schedule is subject to change; for a complete listing, visit [www.sabo.org](http://www.sabo.org), call 520-432-1388, or email [sabo@sabo.org](mailto:sabo@sabo.org).

## Events Calendar, April-July 2017

[SPH = San Pedro House; FSH = Fairbank School House; 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—April 1, 8, 15, 22, 29
- » 8 am—May 6, 13, 20, 27
- » 8 am—June 3, 10, 17, 24
- » 8 am—July 1, 8, 15, 22, 29

### ***FSPR Bird Walks***

Some Wednesdays & 4th Saturday at SPH

- » 7 am—April 5, 12, 19, 22, 26
- » 7 am—May 3, 10, 27
- » 7 am—June 14, 24
- » 7 am—July 12, 22

### ***FSPR/SABO Bird Walks***

Every Sunday at Sierra Vista Environmental Operations Park (EOP)

- » 7 am—April 2, 9, 16, 23, 30
- » 7 am—May 7, 8, 15, 22, 29
- » 7 am—June 4, 11, 18, 25
- » 7 am—July 2, 9, 16, 23, 30

### ***History Walks***

- » April 1—Presidio Santa Cruz de Terrenate, 9 am
- » April 8—Millville Ruins & Petroglyphs, 9 am
- » April 15—Murray Springs Clovis Site, 9 am
- » April 22—Grand Central Mill, 9 am
- » April 29—Fairbank Townsite, 9 am

## **New & Renewing Members, November 2016-March 2017**

Cynthia Adams; Jerry & Mary Ann Ambrose\*; Catie Armstrong; Richard & Lois Bansberg; Gayle Basso; Bette Bauer; Ginny Bealer\*; Harry & Eloise Bergtholdt\*; Bob Blanchard; Donna Boe; Lisa Breit\*;

Jerry Cagle; Margaret & Bill Case; Glenn & Diane Chambliss; Martha Conant & David Levin; James & Jean Cook; Pam & Charlie Corrado; Duane & Lynn Daugherty; Philip Davis; Kathy & John DeKeizer; Elise Foldare; Barbara Foley; Carol Fox\*; Sheila Gershen; Betty Goble; Barbara Hawke\*; C Vance Haynes; Jon Hazen; Robyn Heffelfinger\*; Marilyn Henley & Steve Johnson; Mary & Vernon Herrick\*; Anna & John Howard\*; Peter & Hank Huisking; Carol Jelinek; Mary Ann Jones; Sandy & Bob Kenny\*; Robert King; Denny Kitchen; Mark & Lorena Krenitsky; Gabrielle LaFargue; Kenneth & Linda Lawson; Patrick Ledger; Marjorie Lundy\*; Kathanne Lynch\*; Maura Mack; John Maier; Cecile McKee & Jesse Zoernig; Jonathan Melk; Ruben & Teresa Miranda; Jennifer Monks; Anne Morris & David Steed; Barbara Morrow\*; Miriam & Michael Moss; Ted & Melanie Mouras; Peter & Sara Natwick & Marian Weaver\*; Fritz Neuhauser; David & Christine Pearson; Marie Pinto; Dee & Al Puff; Mary Raje; Karen Ratte; James & Arlene Ripley; John Rose; Angel Rutherford; Regina Rutledge; Deanna Sanner; Heidi Schubert; Scott & Sarah Sticha\*; Azure Sullivan; Mary & Scott Tillman; Doris & Reg Turner; Allen D Vail; George & Ruth Van Otten\*; SJ Walker\*; Richard Webster; Robert White; Erika Wilson

\* = New member

## **Contact List**

- President—Robert Weissler
- Vice-President—Charles Corrado
- Treasurer—Renell Stewart
- Secretary— Sally Rosén
- Directors—Charles Corrado, Pam Corrado, Tricia Gerrodette, Robert Luce, Steve Ogle, Sally Rosén, Renell Stewart, Ron Stewart, Robert Weissler
- Docent Activities—Ron Stewart
- Education—John Rose
- Membership—Carolyn Santucci
- Newsletter Editor—Sue Leskiw
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- Bookstore Manager—Laura Mackin

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***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.***



**Friends of the San Pedro River**  
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